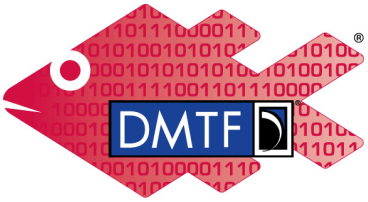

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This document's normative language is English. Translation into other languages is permitted.

Contents

Overview

The Redfish standard comprises a set of specifications maintained by the Redfish Forum, a working group within the DMTF. The standard defines a protocol that uses RESTful interfaces to provide access to data and operations associated with the management of systems and networks. One of the strengths of the Redfish protocol is that it works with a wide range of servers: from stand-alone servers to rack-mount and bladed environments to large-scale data centers and cloud environments.

The Redfish standard addresses several key issues for infrastructures that require scalability. Large infrastructures often consist of many simple servers of different makes and types. This hyper-scale usage model requires a new approach to systems management. The Redfish Scalable Platforms Management ("Redfish") protocol addresses these needs by providing a standard protocol based on out-of-band systems management.

With these goals in mind, the Redfish protocol was designed as an open-industry standard to meet scalability requirements in multi-vendor deployments. It easily integrates with commonly used tools, using RESTful interfaces to perform operations and using JSON and OData formats for data payloads.

Who should read this document?

This document is useful to people who want to understand how to use the Redfish API. This includes application developers who want to create client-side software to communicate with a Redfish Service, and other consumers of the API.

Where can I find more information?

These web sites provide more information about the Redfish standard:

- **Redfish Developer Hub:** http://redfish.dmtf.org Resources for developers building applications usin g Redfish. An interactive schema explorer, hosted schema and other links.
- **Redfish User Forum:** http://www.redfishforum.com User forum monitored by DMTF Redfish person nel to answer questions about any Redfish-related topics:
- **DMTF Github Repositories:** http://www.github.com/DMTF Open source tools and libraries for worki ng with Redfish.
- **Redfish Standards:** http://www.dmtf.org/standards/redfish Schemas, specs, mockups, white paper s, FAQ, educational material and more.
- **DMTF Redfish Forum** (Working group that maintains the Redfish standard): http://www.dmtf.org/sta ndards/spmf Companies involved, upcoming schedules and future work, charter, and information ab out joining.

Using this guide

Every Redfish response consists of a JSON payload containing properties that are strictly defined by a schema for that Resource. The schema defining a particular Resource can be determined from the value of the "@odata.type" property returned in every Redfish response. This guide details the definitions for every Redfish standard schema.

Each schema section contains:

- The schema's name, its current version, and description.
- The schema release history, which lists each minor schema version and the DSP8010 release bundle that includes it.
- The list of URIs where schema-defined Resources appear in a Redfish Service v1.6 and later. For more information, see URI listings.
- The table of properties, which includes additional property details, when available.
- The list of available schema-defined actions.
- The example schema-defined JSON payload for a Resource.

The property-level details include:

Column	Purpose
Property Name	The case-sensitive name of the JSON property as it appears in the JSON payload. For properties added to the schema after the initial v1.0.0 release, the property version appears in parentheses. Deprecated properties are noted with the deprecated property version in parentheses.
Type	The JSON data type for the property. The value is boolean, number, string, or object. String types that use defined enumerations state `(enum)`. Number types state their units, where used.
Attributes	If the implementation supports it, indicates whether the property is read-only or read-write, and whether the Service may return a `null` value if the property value is temporarily unavailable.
Description	The description of the property, as copied directly from the schema Description definition.

URI listings

The Redfish Specification v1.6.0 added mandatory OpenAPI Specification v3.0 support. As part of this support, the URIs for every Redfish Resource are defined to appear at known, fixed locations. Resource Collections also appear at fixed locations, with the members of each collection appearing at URIs constructed by using a fixed path structure, with appropriate path segments equal to the value of Id properties of members along the path.

To determine support for v1.6.0 and OpenAPI, compare the RedfishVersion property value in the Service root (`\redfish\v1\`). Services that report a `1.6.0` or greater value, such as `1.6.1` or `1.7.0`, adhere to the URI definitions shown.

The URI listings do not apply to Redfish Services that report support of versions earlier than Specification v1.6.0. For those Services, clients must use the API's hypermedia features to discover links from the Service root to each Resource. While Services typically match the URIs listed in this documents for many

of their Resources, this is not guaranteed and results in errors.

Common properties

Properties defined for all Redfish schemas

The following properties are defined for inclusion in every Redfish schema, and therefore may be encountered in any response payload. They are documented in this guide to avoid repetition in the Reference Guide property tables. Note that several of these properties are payload annotations, but appear in this guide because they are required for all Redfish Resources.

@odata.context	string	read-only	The URL to a metadata document with a fragment that describes the data, which is typically rooted at the top-level singleton or collection. Technically, the metadata document has to only define, or reference, any of the types that it directly uses, and different payloads could reference different metadata documents. However, because this property provides a root URL for resolving a relative reference, such as `@odata.id`, the API returns the canonical metadata document.
@odata.etag	string	read-only	The current ETag for the Resource.
@odata.id	string	read-only required	The unique ID for the Resource.
@odata.type	string	read-only required	The type of a resource.
Description	string	read-only	The human-readable description for the Resource.
Id	string	read-only	The ID that uniquely identifies the Resource within the collection that contains it. This value is unique within a collection.
Name	string	read-only required	The human-readable moniker for a Resource. The type is string. The value is NOT necessarily unique across Resource instances within a collection.
Oem { }	object		The manufacturer- or provider-specific extension moniker that divides the `Oem` object into sections.

Frequently used properties

In addition, the following properties are frequently defined in Redfish schemas. Their definition and usage is the same throughout the Redfish data model.

Actions { }	object		The Redfish actions available for this Resource.
Links { }	object		The links associated with the Resource, as defined by that Resource's schema definition. All associated reference properties defined for a Resource are nested under the Links property. Find all directly referenced, or subordinate, Resource

			properties from the root of the Resource.
RelatedItem [{	array		An array of links. Each link points to a Resource or part of a Resource as defined by that Resource's schema. This representation is not intended to be a strong linking methodology like other references. Instead, it shows a relationship between elements or subelements in disparate parts of the service. For example, fans may be in one area of the system and processors in another. The relationship between the two might not be obvious. This property can show that one is related to the other. In this example, it might indicate that a specific fan cools a specific processor.
@odata.id }]	string	read-only	The unique identifier for a resource.

Payload annotations

Payload annotations enable a Service to provide additional information about a property or object. Redfish limits usage of these annotations to OData core terms, Redfish extensions, or Redfish messages.

Property-level annotations

A payload annotation for a single property takes the form of an additional property:

`Property@Schema.Term`

where

Variable	Description
`Property`	The JSON property being annotated.
`Schema`	The schema file that contains the definition for the annotation.
`Term`	The name of the annotation.

@Message.ExtendedInfo { }	object		The additional information for a set of message structures for a property. These messages can be useful when a property is `null` due to an error condition and the service wants to convey why the property is `null`.
@odata.count	integer	read-only	The number of items in a collection.
@Redfish.AllowableValues [ ]	array (string)	read-only	The string values that a service accepts for a property or action parameter.

In this example, the ResetType property is annotated with the AllowableValues term, which the Redfish schema defines. Redfish is an alias for RedfishExtensions. This code indicates to the client that the Service supports the `On` and `ForceOff` values for ResetType.

```
{
```

```
    "ResetType@Redfish.AllowableValues": [
        "On",
        "ForceOff"
    ]
}
```

Resource or object-level annotations

A payload annotation for an entire Resource or a JSON object takes the `@Schema.Term` form, where `Namespace` is the schema file where the definition is found and `Term` is the name of the Annotation. These payload annotations are used to provide further information about the object itself.

@Redfish.ActionInfo	string	read-only	The URI to an ActionInfo Resource, which describes the parameters that this Action instance supports.
@Redfish.CollectionCapabilities { }	object		The reference to the Resource that represents the POST capabilities of a collection. *For property details, see CollectionCapabilities.*
@Redfish.MaintenanceWindow { }	object		The maintenance window configuration that defines when to apply settings or operations to a Resource. *For property details, see MaintenanceWindow.*
@Redfish.OperationApplyTime	string (enum)	read-write	The client's requested apply time to complete a create, delete, or action operation. *For the possible property values, see @Redfish.OperationApplyTime in Property Details.*
@Redfish.OperationApplyTimeSupport { }	object		An indication of whether a client can request a specific apply time for a create, delete, or action operation for a Resource through the OperationApplyTime term. *For property details, see OperationApplyTimeSupport.*
@Redfish.Settings { }	object		The reference to the Resource that represents the settings to apply to this object. *For property details, see Settings.*
@Redfish.SettingsApplyTime { }	object		The configuration settings that define when to apply the settings to a Resource. *For property details, see PreferredApplyTime.*

Property Details

@Redfish.OperationApplyTime:

The client's requested apply time to complete a create, delete, or action operation.

string	Description
AtMaintenanceWindowStart	The requested operation is applied within the administrator-specified maintenance window.
Immediate	The requested operation is applied immediately.
InMaintenanceWindowOnReset	The requested operation is applied after a reset but within the administrator-specified maintenance window.
OnReset	The requested operation is applied on a reset.
OnStartUpdateRequest	The requested operation is applied when the StartUpdate action of the Update Service is invoked.

This example annotates the object with the Redfish schema-defined ActionInfo term. Redfish is an alias for RedfishExtensions. This term indicates that the client can find more information about the `#ComputerSystem.Reset` action at the `/redfish/v1/Systems/1/ResetActionInfo` URI:

```
{
    "#ComputerSystem.Reset": {
        "target": "/redfish/v1/Systems/1/Actions/ComputerSystem.Reset",
        "@Redfish.ActionInfo": "/redfish/v1/Systems/1/ResetActionInfo"
    }
}
```

Common objects

Redfish schemas frequently define the following JSON objects. Like the individual common properties listed above, these objects share a common definition that is shown here to avoid repetition in the Reference Guide property tables.

Actions

The Actions object contains descriptions of the defined and available actions for this Resource.

#{action name} {	object		A single Redfish action.
@Redfish.ActionInfo	string	read-only	The URI for an ActionInfo Resource that describes this action.
target }	string	read-only	The target URI for the POST operation to invoke the action.

Capacity

This is the schema definition for the Capacity of a device. It represents the properties for capacity for any data store.

Data {	object		The capacity information relating to the user data.
AllocatedBytes	integer (bytes)	read-write (null)	The number of bytes currently allocated by the storage system in this data store for this data type.
ConsumedBytes	integer (bytes)	read-only (null)	The number of bytes consumed in this data store for this data type.
GuaranteedBytes	integer (bytes)	read-write (null)	The number of bytes the storage system guarantees can be allocated in this data store for this data type.
ProvisionedBytes }	integer (bytes)	read-write (null)	The maximum number of bytes that can be allocated in this data store for this data type.
IsThinProvisioned	boolean	read-only (null)	Marks that the capacity is not necessarily fully allocated.
Metadata {	object		The capacity information relating to metadata.
AllocatedBytes	integer (bytes)	read-write (null)	The number of bytes currently allocated by the storage system in this data store for this data type.
ConsumedBytes	integer (bytes)	read-only (null)	The number of bytes consumed in this data store for this data type.
GuaranteedBytes	integer (bytes)	read-write (null)	The number of bytes the storage system guarantees can be allocated in this data store for this data type.
ProvisionedBytes }	integer (bytes)	read-write (null)	The maximum number of bytes that can be allocated in this data store for this data type.
Snapshot {	object		The capacity information relating to snapshot or backup data.
AllocatedBytes	integer (bytes)	read-write (null)	The number of bytes currently allocated by the storage system in this data store for this data type.
ConsumedBytes	integer (bytes)	read-only (null)	The number of bytes consumed in this data store for this data type.
GuaranteedBytes	integer (bytes)	read-write (null)	The number of bytes the storage system guarantees can be allocated in this data store for this data type.
ProvisionedBytes }	integer (bytes)	read-write (null)	The maximum number of bytes that can be allocated in this data store for this data type.

Identifier

Any additional identifiers for a Resource.

DurableName *(v1.1+)*	string	read-only (null)	The world-wide, persistent name of the Resource.
DurableNameFormat *(v1.1+)*	string (enum)	read-only (null)	The format of the durable name property. *For the possible property values, see DurableNameFormat in Property Details.*

Property Details

DurableNameFormat:

The format of the durable name property.

string	Description
EUI	The IEEE-defined 64-bit Extended Unique Identifier (EUI).
FC_WWN	The Fibre Channel (FC) World Wide Name (WWN).
iQN	The iSCSI Qualified Name (iQN).
NAA	The Name Address Authority (NAA) format.
NQN *(v1.6+)*	The NVMe Qualified Name (NQN).
NSID *(v1.6+)*	The NVM Namespace Identifier (NSID).
UUID	The Universally Unique Identifier (UUID).

IOStatistics

The properties of this type represent IO statistics.

NonIORequests	integer ({tot})	read-write (null)	Count of non IO requests.
NonIORequestTime	string	read-write (null)	The time that the resource is busy processing write requests.
ReadHitIORequests	integer ({tot})	read-write (null)	Count of read IO requests satisfied from memory.
ReadIOKiBytes	integer (KiBy)	read-write (null)	Number of kibibytes read.
ReadIORequests	integer ({tot})	read-write (null)	Count of read IO requests.
ReadIORequestTime	string	read-write (null)	The time that the resource is busy processing read requests.
WriteHitIORequests	integer ({tot})	read-write (null)	Count of write IO requests coallesced into memory.
WriteIOKiBytes	integer	read-write	Number of kibibytes written.

	(KiBy)	(null)	
WriteIORequests	integer ({tot})	read-write (null)	Count of write IO requests.
WriteIORequestTime	string	read-write (null)	The time that the resource is busy processing write requests.

IPv4Address

This type describes an IPv4 address.

Address	string	read-write (null)	The IPv4 address.
AddressOrigin	string (enum)	read-only (null)	This indicates how the address was determined. *For the possible property values, see AddressOrigin in Property Details.*
Gateway	string	read-write (null)	The IPv4 gateway for this address.
Oem { }	object		See the Oem object definition in the Common properties section.
SubnetMask	string	read-write (null)	The IPv4 subnet mask.

Property Details

AddressOrigin:

This indicates how the address was determined.

string	Description
BOOTP	A BOOTP service-provided address.
DHCP	A DHCPv4 service-provided address.
IPv4LinkLocal	The address is valid for only this network segment, or link.
Static	A user-configured static address.

IPv6Address

This type describes an IPv6 address.

Address	string	read-write (null)	The IPv6 address.

AddressOrigin	string (enum)	read-only (null)	This indicates how the address was determined. *For the possible property values, see AddressOrigin in Property Details.*
AddressState	string (enum)	read-only (null)	The current RFC4862-defined state of this address. *For the possible property values, see AddressState in Property Details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PrefixLength	integer	read-only (null)	The IPv6 address prefix Length.

Property Details

AddressOrigin:

This indicates how the address was determined.

string	Description
DHCPv6	A DHCPv6 service-provided address.
LinkLocal	The address is valid for only this network segment, or link.
SLAAC	A stateless autoconfiguration (SLAAC) service-provided address.
Static	A static user-configured address.

AddressState:

The current RFC4862-defined state of this address.

string	Description
Deprecated	This address is currently within its valid lifetime but is now outside its RFC4862-defined preferred lifetime.
Failed	This address has failed Duplicate Address Detection (DAD) testing, as defined in RFC4862, section 5.4, and is not currently in use.
Preferred	This address is currently within both its RFC4862-defined valid and preferred lifetimes.
Tentative	This address is currently undergoing Duplicate Address Detection (DAD) testing, as defined in RFC4862, section 5.4.

IPv6GatewayStaticAddress

This type represents a single IPv6 static address to be assigned on a network interface.

Address *(v1.1+)*	string	read-write required (null)	A valid IPv6 address.

Oem *(v1.1+)* { }	object		See the Oem object definition in the Common properties section.
PrefixLength *(v1.1+)*	integer	read-write (null)	The IPv6 network prefix length, in bits, for this address.

IPv6StaticAddress

This type represents a single IPv6 static address to be assigned on a network interface.

Address	string	read-write required (null)	A valid IPv6 address.
Oem { }	object		See the Oem object definition in the Common properties section.
PrefixLength	integer	read-write required (null)	The prefix length, in bits, of this IPv6 address.

Location

The location of a Resource.

AltitudeMeters *(v1.6+)*	number (meters)	read-write (null)	The altitude of the Resource in meters.
Contacts *(v1.7+)* [{	array		An array of contact information.
ContactName	string	read-write (null)	Name of this contact.
EmailAddress	string	read-write (null)	Email address for this contact.
PhoneNumber }]	string	read-write (null)	Phone number for this contact.
Info *(v1.1+, deprecated v1.5)*	string	read-only (null)	The location of the Resource. *Deprecated in v1.5 and later. This property has been deprecated in favor of the PostalAddress, Placement, and PartLocation properties.*
InfoFormat *(v1.1+, deprecated v1.5)*	string	read-only (null)	The format of the Info property. *Deprecated in v1.5 and later. This property has been deprecated in favor of the PostalAddress, Placement, and PartLocation properties.*
Latitude *(v1.6+)*	number (deg)	read-write (null)	The latitude of the Resource.

Longitude *(v1.6+)*	number (deg)	read-write (null)	The longitude of the Resource in degrees.
Oem *(v1.1+)* {	object		See the Oem object definition in the Common properties section.
(pattern) { } }	object		Property names follow regular expression pattern "^[A-Za-z0-9_]+$"
PartLocation *(v1.5+)* {	object		The part location within the placement.
LocationOrdinalValue	integer	read-only (null)	The number that represents the location of the part. If LocationType is `slot` and this unit is in slot 2, the LocationOrdinalValue is 2.
LocationType	string (enum)	read-only (null)	The type of location of the part, such as slot, bay, socket and slot. *For the possible property values, see LocationType in Property Details.*
Orientation	string (enum)	read-only (null)	The orientation for the ordering of the slot enumeration used by the LocationOrdinalValue property. *For the possible property values, see Orientation in Property Details.*
Reference	string (enum)	read-only (null)	The reference point for the part location. Provides guidance about the general location of the part. *For the possible property values, see Reference in Property Details.*
ServiceLabel }	string	read-only (null)	The label of the part location, such as a silk-screened name or a printed label.
Placement *(v1.3+)* {	object		A place within the addressed location.
AdditionalInfo *(v1.7+)*	string	read-write (null)	Area designation or other additional info.
Rack	string	read-write (null)	The name of a rack location within a row.
RackOffset	integer	read-write (null)	The vertical location of the item, in terms of RackOffsetUnits.
RackOffsetUnits	string (enum)	read-write (null)	The type of rack units in use. *For the possible property values, see RackOffsetUnits in Property Details.*
Row }	string	read-write (null)	The name of the row.
PostalAddress *(v1.3+)* {	object		The postal address of the addressed Resource.
AdditionalCode	string	read-write (null)	The additional code.

AdditionalInfo *(v1.7+)*	string	read-write (null)	The room designation or other additional information.
Building	string	read-write (null)	The name of the building.
City	string	read-write (null)	City, township, or shi (JP).
Community	string	read-write (null)	The postal community name.
Country	string	read-write (null)	The country.
District	string	read-write (null)	A county, parish, gun (JP), or district (IN).
Division	string	read-write (null)	City division, borough, dity district, ward, or chou (JP).
Floor	string	read-write (null)	The floor.
GPSCoords *(deprecated v1.6)*	string	read-write (null)	The GPS coordinates of the part. *Deprecated in v1.6 and later. This property has been deprecated in favor of the Longitude and Latitude properties.*
HouseNumber	integer	read-write (null)	The numeric portion of house number.
HouseNumberSuffix	string	read-write (null)	The house number suffix.
Landmark	string	read-write (null)	The landmark.
LeadingStreetDirection	string	read-write (null)	A leading street direction.
Location *(deprecated v1.7)*	string	read-write (null)	The room designation or other additional information. *Deprecated in v1.7 and later. This property has been deprecated in favor of the AdditionalInfo property.*
Name	string	read-write (null)	The name.
Neighborhood	string	read-write (null)	Neighborhood or block.
PlaceType	string	read-write (null)	The description of the type of place that is addressed.
POBox	string	read-write (null)	The post office box (PO box).

PostalCode	string	read-write (null)	The postal code or zip code.
Road	string	read-write (null)	The primary road or street.
RoadBranch	string	read-write (null)	The road branch.
RoadPostModifier	string	read-write (null)	The road post-modifier.
RoadPreModifier	string	read-write (null)	The road pre-modifier.
RoadSection	string	read-write (null)	The road section.
RoadSubBranch	string	read-write (null)	The road sub branch.
Room	string	read-write (null)	The name or number of the room.
Seat	string	read-write (null)	The seat, such as the desk, cubicle, or workstation.
Street	string	read-write (null)	Street name.
StreetSuffix	string	read-write (null)	Avenue, Platz, Street, Circle.
Territory	string	read-write (null)	A top-level subdivision within a country.
TrailingStreetSuffix	string	read-write (null)	A trailing street suffix.
Unit }	string	read-write (null)	The name or number of the apartment unit or suite.

Property Details

LocationType:

The type of location of the part, such as slot, bay, socket and slot.

string	Description
Bay	The bay as the type of location.
Connector	The connector as the type of location.
Slot	The slot as the type of location.
Socket	The socket as the type of location.

Orientation:

The orientation for the ordering of the slot enumeration used by the LocationOrdinalValue property.

string	Description
BackToFront	The ordering for the LocationOrdinalValue is back to front.
BottomToTop	The ordering for LocationOrdinalValue is bottom to top.
FrontToBack	The ordering for LocationOrdinalValue is front to back.
LeftToRight	The ordering for the LocationOrdinalValue is left to right.
RightToLeft	The ordering for the LocationOrdinalValue is right to left.
TopToBottom	The ordering for the LocationOrdinalValue is top to bottom.

RackOffsetUnits:

The type of rack units in use.

string	Description
EIA_310	A rack unit that is equal to 1.75 in (44.45 mm).
OpenU	A rack unit that is equal to 48 mm (1.89 in).

Reference:

The reference point for the part location. Provides guidance about the general location of the part.

string	Description
Bottom	The part is in the bottom of the unit.
Front	The part is in the front of the unit.
Left	The part is on the left side of of the unit.
Middle	The part is in the middle of the unit.
Rear	The part is in the rear of the unit.
Right	The part is on the right side of the unit.
Top	The part is in the top of the unit.

MaintenanceWindow

The maintenance window assignment for applying settings or operations to a Resource.

MaintenanceWindowDurationInSeconds *(v1.2+)*	integer (seconds)	read-write required	The expiry time of maintenance window in

			seconds.
MaintenanceWindowStartTime *(v1.2+)*	string	read-write required	The start time of a maintenance window.

Message

The message that the Redfish Service returns.

Message	string	read-only (null)	The human-readable message, if provided.
MessageArgs [ ]	array (string)	read-only	This array of message arguments are substituted for the arguments in the message when looked up in the Message Registry.
MessageId	string	read-only required	The key for this message used to find the message in a Message Registry.
Oem { }	object		See the Oem object definition in the Common properties section.
RelatedProperties [ ]	array (string)	read-only	A set of properties described by the message.
Resolution	string	read-only (null)	Used to provide suggestions on how to resolve the situation that caused the error.
Severity	string	read-only (null)	The severity of the errors.

OperationApplyTimeSupport

The client can request a specific apply time of a create, delete, or action operation of a Resource.

MaintenanceWindowDurationInSeconds *(v1.2+)*	integer (seconds)	read-only	The expiry time of maintenance window in seconds.
MaintenanceWindowResource *(v1.2+)* {	object		The location of the maintenance window settings.
@odata.id }	string	read-only	The unique identifier for a resource.
MaintenanceWindowStartTime *(v1.2+)*	string	read-only	The start time of a maintenance window.
SupportedValues *(v1.2+)* [ ]	array (string (enum))	read-only	The types of apply times that the client can request when performing

			a create, delete, or action operation. *For the possible property values, see SupportedValues in Property Details.*

Property Details

SupportedValues:

The types of apply times that the client can request when performing a create, delete, or action operation.

string	Description
AtMaintenanceWindowStart	The requested operation is applied within the administrator-specified maintenance window.
Immediate	The requested operation is applied immediately.
InMaintenanceWindowOnReset	The requested operation is applied after a reset but within the administrator-specified maintenance window.
OnReset	The requested operation is applied on a reset.
OnStartUpdateRequest	The requested operation is applied when the StartUpdate action of the Update Service is invoked.

PreferredApplyTime

The preferred time to apply configuration settings.

ApplyTime *(v1.1+)*	string (enum)	read-write	The time when to apply the settings. *For the possible property values, see ApplyTime in Property Details.*
MaintenanceWindowDurationInSeconds *(v1.1+)*	integer (seconds)	read-write	The expiry time of maintenance window in seconds.
MaintenanceWindowStartTime *(v1.1+)*	string	read-write	The start time of a maintenance window.

Property Details

ApplyTime:

The time when to apply the settings.

string	Description
AtMaintenanceWindowStart	Apply during a maintenance window as specified by an administrator.
Immediate	Apply immediately.
InMaintenanceWindowOnReset	Apply after a reset but within maintenance window as specified by an adminstrator.
OnReset	Apply on a reset.

Redundancy

A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common objects section.

@odata.id	string	read-only required	The unique identifier for a resource.
Actions *(v1.2+)* { }	object		The available actions for this Resource.
MaxNumSupported	integer	read-only (null)	The maximum number of members allowable for this particular redundancy group.
MemberId	string	read-only required	The identifier for the member within the collection.
MinNumNeeded	integer	read-only required (null)	The minumum number of members needed for this group to be redundant.
Mode	string (enum)	read-write required (null)	The redundancy mode of the group. *For the possible property values, see Mode in Property Details.*
Name	string	read-only required	The name of the Resource or array member.
Oem { }	object		See the Oem object definition in the Common properties section.
RedundancyEnabled *(v1.1+)*	boolean	read-write (null)	An indication of whether redundancy is enabled.
RedundancySet [{	array	required	The links to components of this redundancy set.
@odata.id }]	string	read-only	The unique identifier for a resource.
Status { }	object	required	The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Property Details

Mode:

The redundancy mode of the group.

string	Description
Failover	Failure of one unit automatically causes a standby or offline unit in the redundancy set to take over its functions.
N+m	Multiple units are available and active such that normal operation will continue if one or more units fail.
NotRedundant *(v1.3+)*	The subsystem is not configured in a redundancy mode, either due to configuration or the functionality has been disabled by the user.
Sharing	Multiple units contribute or share such that operation will continue, but at a reduced capacity, if one or more units fail.
Sparing	One or more spare units are available to take over the function of a failed unit, but takeover is not automatic.

ReplicaInfo

Defines the characteristics of a replica of a source.

ConsistencyEnabled	boolean	read-only (null)	True if consistency is enabled.
ConsistencyState	string (enum)	read-only (null)	The current state of consistency. *For the possible property values, see ConsistencyState in Property Details.*
ConsistencyStatus	string (enum)	read-only (null)	The current status of consistency. *For the possible property values, see ConsistencyStatus in Property Details.*
ConsistencyType	string (enum)	read-only (null)	Indicates the consistency type used by the source and its associated target group. *For the possible property values, see ConsistencyType in Property Details.*
DataProtectionLineOfService *(v1.1+)* {	object		A pointer to the DataProtection line of service element that describes this replica.
@odata.id }	string	read-only	The unique identifier for a resource.
FailedCopyStopsHostIO	boolean	read-only (null)	If true, the storage array tells host to stop sending data to source element if copying to a remote element fails.

PercentSynced	integer (%)	read-only (null)	Specifies the percent of the work completed to reach synchronization.
Replica {	object		Deprecated - Use Source Replica. The resource that is the source of this replica.
@odata.id }	string	read-only	The unique identifier for a resource.
ReplicaFaultDomain *(v1.3+)*	string (enum)	read-only (null)	ReplicaFaultDomain describes the fault domain (local or remote) of the replica relationship. *For the possible property values, see ReplicaFaultDomain in Property Details.*
ReplicaPriority	string (enum)	read-only (null)	The priority of background copy engine I/O to be managed relative to host I/O operations during a sequential background copy operation. *For the possible property values, see ReplicaPriority in Property Details.*
ReplicaProgressStatus	string (enum)	read-only (null)	The status of the session with respect to Replication activity. *For the possible property values, see ReplicaProgressStatus in Property Details.*
ReplicaReadOnlyAccess	string (enum)	read-only (null)	This property specifies whether the source, the target, or both elements are read only to the host. *For the possible property values, see ReplicaReadOnlyAccess in Property Details.*
ReplicaRecoveryMode	string (enum)	read-only (null)	Describes whether the copy operation continues after a broken link is restored. *For the possible property values, see ReplicaRecoveryMode in Property Details.*
ReplicaRole	string (enum)	read-only (null)	The source or target role of this replica. *For the possible property values, see ReplicaRole in Property Details.*
ReplicaSkewBytes	integer (bytes)	read-only (null)	Applies to Adaptive mode and it describes maximum number of bytes the SyncedElement (target) can be out of sync.
ReplicaState	string (enum)	read-only (null)	ReplicaState describes the state of the relationship with respect to Replication activity.

			For the possible property values, see ReplicaState in Property Details.
ReplicaType	string (enum)	read-only (null)	ReplicaType describes the intended outcome of the replication. *For the possible property values, see ReplicaType in Property Details.*
ReplicaUpdateMode	string (enum)	read-only (null)	Describes whether the target elements will be updated synchronously or asynchronously. *For the possible property values, see ReplicaUpdateMode in Property Details.*
RequestedReplicaState	string (enum)	read-only (null)	The last requested or desired state for the relationship. *For the possible property values, see RequestedReplicaState in Property Details.*
SourceReplica *(v1.2+)* {	object		The resource that is the source of this replica.
@odata.id }	string	read-only	The unique identifier for a resource.
SyncMaintained	boolean	read-only (null)	Synchronization is maintained.
UndiscoveredElement	string (enum)	read-only (null)	This property specifies whether the source, the target, or both elements involved in a copy operation are undiscovered. *For the possible property values, see UndiscoveredElement in Property Details.*
WhenActivated	string (%)	read-only (null)	Specifies when point-in-time copy was taken or when the replication relationship is activated, reactivated, resumed or re-established.
WhenDeactivated	string (%)	read-only (null)	Specifies when the replication relationship is deactivated.
WhenEstablished	string (%)	read-only (null)	Specifies when the replication relationship is established.
WhenSuspended	string (%)	read-only (null)	Specifies when the replication relationship is suspended.
WhenSynced	string	read-only (null)	The point in time that the Elements were synchronized.
WhenSynchronized	string (%)	read-only (null)	Specifies when the replication relationship is synchronized.

Property Details

ConsistencyState:

The current state of consistency.

string	Description
Consistent	Consistent.
Inconsistent	Not consistent.

ConsistencyStatus:

The current status of consistency.

string	Description
Consistent	Consistent.
Disabled	Consistency disabled.
InError	Consistency error.
InProgress	Becoming consistent.

ConsistencyType:

Indicates the consistency type used by the source and its associated target group.

string	Description
SequentiallyConsistent	Sequentially consistent.

ReplicaFaultDomain:

ReplicaFaultDomain describes the fault domain (local or remote) of the replica relationship.

string	Description
Local	Local indicates that the source and target replicas are contained within a single fault domain.
Remote	Remote indicates that the source and target replicas are in separate fault domains.

ReplicaPriority:

The priority of background copy engine I/O to be managed relative to host I/O operations during a sequential background copy operation.

string	Description
High	Copy engine I/O has higher priority than host I/O.
Low	Copy engine I/O lower priority than host I/O.
Same	Copy engine I/O has the same priority as host I/O.

string	Description
Urgent	Copy operation to be performed as soon as possible, regardless of the host I/O requests.

ReplicaProgressStatus:

The status of the session with respect to Replication activity.

string	Description
Aborting	Abort in progress.
Completed	The request is completed. Data flow is idle.
Detaching	Detach in progress.
Dormant	Indicates that the data flow is inactive, suspended or quiesced.
FailingBack	Undoing the result of failover.
FailingOver	In the process of switching source and target.
Fracturing	Fracture in progress.
Initializing	In the process of establishing source/replica relationship and the data flow has not started.
Mixed	Applies to groups with element pairs with different statuses. Generally, the individual statuses need to be examined.
Pending	The flow of data has stopped momentarily due to limited bandwidth or a busy system.
Preparing	Preparation in progress.
RequiresActivate	The requested operation has completed, however, the synchronization relationship needs to be activated before further copy operations can be issued.
RequiresDetach	The requested operation has completed, however, the synchronization relationship needs to be detached before further copy operations can be issued.
RequiresFracture	The requested operation has completed, however, the synchronization relationship needs to be fractured before further copy operations can be issued.
RequiresResume	The requested operation has completed, however, the synchronization relationship needs to be resumed before further copy operations can be issued.
RequiresResync	The requested operation has completed, however, the synchronization relationship needs to be resynced before further copy operations can be issued.
RequiresSplit	The requested operation has completed, however, the synchronization relationship needs to be split before further copy operations can be issued.

string	Description
Restoring	Restore in progress.
Resyncing	Resync in progess.
Splitting	Split in progress.
Suspending	The copy operation is in the process of being suspended.
Synchronizing	Sync in progress.
Terminating	The relationship is in the process of terminating.

ReplicaReadOnlyAccess:

This property specifies whether the source, the target, or both elements are read only to the host.

string	Description
Both	Both the source and the target elements are read only to the host.
ReplicaElement	The replica element.
SourceElement	The source element.

ReplicaRecoveryMode:

Describes whether the copy operation continues after a broken link is restored.

string	Description
Automatic	Copy operation resumes automatically.
Manual	ReplicaState is set to Suspended after the link is restored. It is required to issue the Resume operation to continue.

ReplicaRole:

The source or target role of this replica.

string	Description
Source	The source element.
Target	The target element.

ReplicaState:

ReplicaState describes the state of the relationship with respect to Replication activity.

string	Description
Aborted	The copy operation is aborted with the Abort operation. Use the Resync Replica operation to restart the copy operation.
Broken	The relationship is non-functional due to errors in the source, the target,

string	Description
	the path between the two or space constraints.
Failedover	Reads and writes are sent to the target element. Source element is not reachable.
Fractured	Target is split from the source.
Inactive	Data flow has stopped, writes to source element will not be sent to target element.
Initialized	The link to enable replication is established and source/replica elements are associated, but the data flow has not started.
Invalid	The array is unable to determine the state of the replication relationship, for example, after the connection is restored; however, either source or target elements have an unknown status.
Mixed	Applies to the ReplicaState of GroupSynchronized. It indicates the StorageSynchronized relationships of the elements in the groups have different ReplicaState values.
Partitioned	State of replication relationship can not be determined, for example, due to a connection problem.
Prepared	Initialization is completed, however, the data flow has not started.
Restored	It indicates the source element was restored from the target element.
Skewed	The target has been modified and is no longer synchronized with the source element or the point-in-time view.
Split	The target element was gracefully (or systematically) split from its source element -- consistency is guaranteed.
Suspended	Data flow between the source and target elements has stopped. Writes to source element are held until the relationship is Resumed.
Synchronized	For the Mirror, Snapshot, or Clone replication, the target represents a copy of the source.
Unsynchronized	Not all the source element data has been copied to the target element.

ReplicaType:

ReplicaType describes the intended outcome of the replication.

string	Description
Clone	Create a point in time, full copy the source.
Mirror	Create and maintain a copy of the source.
Snapshot	Create a point in time, virtual copy of the source.
TokenizedClone	Create a token based clone.

ReplicaUpdateMode:

Describes whether the target elements will be updated synchronously or asynchronously.

string	Description
Active	Active-Active (i.e. bidirectional) synchronous updates.
Adaptive	Allows implementation to switch between synchronous and asynchronous modes.
Asynchronous	Asynchronous updates.
Synchronous	Synchronous updates.

RequestedReplicaState:

The last requested or desired state for the relationship.

string	Description
Aborted	The copy operation is aborted with the Abort operation. Use the Resync Replica operation to restart the copy operation.
Broken	The relationship is non-functional due to errors in the source, the target, the path between the two or space constraints.
Failedover	Reads and writes are sent to the target element. Source element is not reachable.
Fractured	Target is split from the source.
Inactive	Data flow has stopped, writes to source element will not be sent to target element.
Initialized	The link to enable replication is established and source/replica elements are associated, but the data flow has not started.
Invalid	The array is unable to determine the state of the replication relationship, for example, after the connection is restored; however, either source or target elements have an unknown status.
Mixed	Applies to the ReplicaState of GroupSynchronized. It indicates the StorageSynchronized relationships of the elements in the groups have different ReplicaState values.
Partitioned	State of replication relationship can not be determined, for example, due to a connection problem.
Prepared	Initialization is completed, however, the data flow has not started.
Restored	It indicates the source element was restored from the target element.
Skewed	The target has been modified and is no longer synchronized with the source element or the point-in-time view.
Split	The target element was gracefully (or systematically) split from its source element -- consistency is guaranteed.
Suspended	Data flow between the source and target elements has stopped. Writes

string	Description
	to source element are held until the relationship is Resumed.
Synchronized	For the Mirror, Snapshot, or Clone replication, the target represents a copy of the source.
Unsynchronized	Not all the source element data has been copied to the target element.

UndiscoveredElement:

This property specifies whether the source, the target, or both elements involved in a copy operation are undiscovered.

string	Description
ReplicaElement	The replica element is undiscovered.
SourceElement	The source element is undiscovered.

Schedule

Schedule a series of occurrences.

EnabledDaysOfMonth [ ]	array (integer, null)	read-write	Days of the month when scheduled occurrences are enabled. `0` indicates that every day of the month is enabled.
EnabledDaysOfWeek [ ]	array (string (enum))	read-write (null)	Days of the week when scheduled occurrences are enabled, for enabled days of the month and months of the year. If not present, all days of the week are enabled. Days of the week. *For the possible property values, see EnabledDaysOfWeek in Property Details.*
EnabledIntervals *(v1.1+)* [ ]	array (string, null)	read-write	Intervals when scheduled occurrences are enabled.
EnabledMonthsOfYear [ ]	array (string (enum))	read-write (null)	The months of the year when scheduled occurrences are enabled. If not present, all months of the year are enabled. Months of the year. *For the possible property values, see EnabledMonthsOfYear in Property Details.*
InitialStartTime	string	read-write (null)	The date and time when the initial occurrence is scheduled to occur.
Lifetime	string	read-write (null)	The time after provisioning when the schedule as a whole expires.
MaxOccurrences	integer	read-write (null)	The maximum number of scheduled occurrences.

Name	string	read-write (null)	The schedule name.
RecurrenceInterval	string	read-write (null)	The amount of time until the next occurrence occurs.

Property Details

EnabledDaysOfWeek:

Days of the week when scheduled occurrences are enabled, for enabled days of the month and months of the year. If not present, all days of the week are enabled. Days of the week.

string	Description
Every	Every day of the week.
Friday	Friday.
Monday	Monday.
Saturday	Saturday.
Sunday	Sunday.
Thursday	Thursday.
Tuesday	Tuesday.
Wednesday	Wednesday.

EnabledMonthsOfYear:

The months of the year when scheduled occurrences are enabled. If not present, all months of the year are enabled. Months of the year.

string	Description
April	April.
August	August.
December	December.
Every	Every month of the year.
February	February.
January	January.
July	July.
June	June.
March	March.
May	May.

string	Description
November	November.
October	October.
September	September.

Settings

The Resource settings.

ETag	string	read-only (null)	The entity tag (ETag) of the Resource to which the settings were applied, after the application.
MaintenanceWindowResource *(v1.2+)* {	object		The location of the maintenance window settings.
@odata.id }	string	read-only	The unique identifier for a resource.
Messages [{ }]	array (object)		An array of messages associated with the settings. The message that the Redfish Service returns. *For property details, see Message (v1.0.8).*
SettingsObject {	object		The link to the Resource that the client may PUT or PATCH to modify the Resource.
@odata.id }	string	read-only	The unique identifier for a resource.
SupportedApplyTimes *(v1.1+)* [ ]	array (string (enum))	read-only	The time when the settings can be applied. *For the possible property values, see SupportedApplyTimes in Property Details.*
Time	string	read-only (null)	The time when the settings were applied.

Property Details

SupportedApplyTimes:

The time when the settings can be applied.

string	Description
AtMaintenanceWindowStart	Apply during a maintenance window as specified by an administrator.

string	Description
Immediate	Apply immediately.
InMaintenanceWindowOnReset	Apply after a reset but within maintenance window as specified by an adminstrator.
OnReset	Apply on a reset.

Status

The status and health of a Resource and its children.

Health	string (enum)	read-only (null)	The health state of this Resource in the absence of its dependent Resources. *For the possible property values, see Health in Property Details.*
HealthRollup	string (enum)	read-only (null)	The overall health state from the view of this Resource. *For the possible property values, see HealthRollup in Property Details.*
Oem {	object		See the Oem object definition in the Common properties section.
(pattern) { } }	object		Property names follow regular expression pattern "^[A-Za-z0-9_]+$"
State	string (enum)	read-only (null)	The known state of the Resource, such as, enabled. *For the possible property values, see State in Property Details.*

Property Details

Health:

The health state of this Resource in the absence of its dependent Resources.

string	Description
Critical	A critical condition requires immediate attention.
OK	Normal.
Warning	A condition requires attention.

HealthRollup:

The overall health state from the view of this Resource.

string	Description
Critical	A critical condition requires immediate attention.

string	Description
OK	Normal.
Warning	A condition requires attention.

State:

The known state of the Resource, such as, enabled.

string	Description
Absent	This function or Resource is either not present or detected.
Deferring *(v1.2+)*	The element does not process any commands but queues new requests.
Disabled	This function or Resource is disabled.
Enabled	This function or Resource is enabled.
InTest	This function or Resource is undergoing testing, or is in the process of capturing information for debugging.
Qualified *(v1.9+)*	The element quality is within the acceptable range of operation.
Quiesced *(v1.2+)*	The element is enabled but only processes a restricted set of commands.
StandbyOffline	This function or Resource is enabled but awaits an external action to activate it.
StandbySpare	This function or Resource is part of a redundancy set and awaits a failover or other external action to activate it.
Starting	This function or Resource is starting.
UnavailableOffline *(v1.1+)*	This function or Resource is present but cannot be used.
Updating *(v1.2+)*	The element is updating and may be unavailable or degraded.

Resource collections

A core concept in Redfish is a collection of Resources. A collection is a group of like Resources where the number of instances in the group can shrink or grow depending on the scope of the Redfish Service or the configuration of the devices being managed. Every Resource in a collection has the same set of supported properties, and all contain `Collection` in the name of their schema. Every Resource linked in the Members array within a Resource Collection have the same Resource type, or the same schema with the same major version, but can vary in minor or errata schema versions, which are all compatible.

The properties of a Resource Collection are as follows:

@odata.context	string	read-only	The OData description of a payload.
@odata.id	string	read-only	The unique identifier for a resource.

		required	
@odata.type	string	read-only required	The type of a resource.
Description	string	read-only (null)	The description of this Resource. Used for commonality in the schema definitions.
Members [{	array	required	The members of this collection.
@odata.id }]	string	read-only	The link to a Resource instance, which is a member of this collection.
Members@odata.count	integer	read-only	The number of items in a collection.
Members@odata.navigationLink	string	read-write	
Name	string	read-only required	The name of the Resource or array member.
Oem { }	object		The manufacturer- or provider-specific extension moniker that divides the `Oem` object into sections.

As shown in the following example, a Redfish Service may provide management functionality for several Computer Systems, and therefore a ComputerSystemCollection Resource is provided. This example shows a Service with multiple ComputerSystem instances, or members.


```
{
    "@odata.type": "#ComputerSystemCollection.ComputerSystemCollection",
    "Name": "Computer System Collection",
    "Members@odata.count": 4,
    "Members": [{
            "@odata.id": "/redfish/v1/Systems/529QB9450R6"
        },
        {
            "@odata.id": "/redfish/v1/Systems/529QB9451R6"
        },
        {
            "@odata.id": "/redfish/v1/Systems/529QB9452R6"
        },
        {
            "@odata.id": "/redfish/v1/Systems/529QB9453R6"
        }
    ],
    "@odata.context": "/redfish/v1/$metadata#ComputerSystemCollection.ComputerSystemCollect
    "@odata.id": "/redfish/v1/Systems"
}
```

Resource collection URIs (Redfish v1.6 and later)

The following table lists all of the Redfish-defined Resource Collections and the URIs where they can appear. NOTE: The URIs listed are valid for Redfish Services conforming to the Redfish Specification v1.6.0 or higher. Services built on earlier versions of the Specification may use different URIs. To discover these URIs, follow the links from the Service Root (`/redfish/v1/`).

Collection Type	URIs
AccelerationFunctionCollection	/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/AccelerationFunctions /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/AccelerationFunctions /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/AccelerationFunctions /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/AccelerationFunctions /redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/AccelerationFunctions
AddressPoolCollection	/redfish/v1/Fabrics/*{FabricId}*/AddressPools
BootOptionCollection	/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/BootOptions /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/BootOptions /redfish/v1/Systems/*{ComputerSystemId}*/BootOptions
CertificateCollection	/redfish/v1/AccountService/Accounts/*{ManagerAccountId}*/Certificates /redfish/v1/AccountService/ActiveDirectory/Certificates /redfish/v1/AccountService/ExternalAccountProviders/*{ExternalAccountProviderId}*/Certificates /redfish/v1/AccountService/LDAP/Certificates /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Boot/Certificates /redfish/v1/Managers/*{ManagerId}*/NetworkProtocol/HTTPS/Certificates /redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/Accounts/*{ManagerAccountId}*/Certificates /redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/ActiveDirectory/Certificates /redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/ExternalAccountProviders/*{ExternalAccountProviderId}*/Certificates /redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/LDAP/Certificates /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Boot/Certificates /redfish/v1/Systems/*{ComputerSystemId}*/Boot/Certificates
ChassisCollection	/redfish/v1/Chassis
CircuitCollection	/redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Branches /redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Mains /redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Su

Collection Type	URIs
	bfeeds /redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Branches /redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Mains /redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Branches /redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Feeders /redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Mains
ComputerSystemCollection	/redfish/v1/Systems
EndpointCollection	/redfish/v1/Fabrics/*{FabricId}*/Endpoints
EthernetInterfaceCollection	/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces /redfish/v1/Managers/*{ManagerId}*/EthernetInterfaces /redfish/v1/Managers/*{ManagerId}*/HostInterfaces/*{HostInterfaceId}*/HostEthernetInterfaces /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces /redfish/v1/Systems/*{ComputerSystemId}*/EthernetInterfaces
EventDestinationCollection	/redfish/v1/EventService/Subscriptions
ExternalAccountProviderCollection	/redfish/v1/AccountService/ExternalAccountProviders /redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/ExternalAccountProviders
FabricAdapterCollection	/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters
FabricCollection	/redfish/v1/Fabrics
FacilityCollection	/redfish/v1/Facilities
HostInterfaceCollection	/redfish/v1/Managers/*{ManagerId}*/HostInterfaces
JobCollection	/redfish/v1/JobService/Jobs /redfish/v1/JobService/Jobs/*{JobId}*/Steps
JsonSchemaFileCollection	/redfish/v1/JsonSchemas
LogEntryCollection	/redfish/v1/Chassis/*{ChassisId}*/LogServices/*{LogServiceId}*/Entries /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*/Entries /redfish/v1/JobService/Log/Entries /redfish/v1/Managers/*{ManagerId}*/LogServices/*{LogServiceId}*/Entries /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*/Entries /redfish/v1/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*/Entries

Collection Type	URIs /redfish/v1/TelemetryService/LogService/Entries
LogServiceCollection	/redfish/v1/Chassis/*{ChassisId}*/LogServices /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices /redfish/v1/Managers/*{ManagerId}*/LogServices /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices /redfish/v1/Systems/*{ComputerSystemId}*/LogServices
ManagerAccountCollection	/redfish/v1/AccountService/Accounts /redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/Accounts
ManagerCollection	/redfish/v1/Managers
MediaControllerCollection	/redfish/v1/Chassis/*{ChassisId}*/MediaControllers
MemoryChunksCollection	/redfish/v1/Chassis/*{ChassisId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks /redfish/v1/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks
MemoryCollection	/redfish/v1/Chassis/*{ChassisId}*/Memory /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory /redfish/v1/Systems/*{ComputerSystemId}*/Memory
MemoryDomainCollection	/redfish/v1/Chassis/*{ChassisId}*/MemoryDomains /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains /redfish/v1/Systems/*{ComputerSystemId}*/MemoryDomains
MessageRegistryCollection	
MessageRegistryFileCollection	/redfish/v1/Registries
MetricDefinitionCollection	/redfish/v1/TelemetryService/MetricDefinitions
MetricReportCollection	/redfish/v1/TelemetryService/MetricReports
MetricReportDefinitionCollection	/redfish/v1/TelemetryService/MetricReportDefinitions
NetworkAdapterCollection	/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters
NetworkDeviceFunctionCollection	/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkDeviceFunctions

Collection Type	URIs
	/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkDeviceFunctions /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkDeviceFunctions /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkDeviceFunctions /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkDeviceFunctions /redfish/v1/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkDeviceFunctions
NetworkInterfaceCollection	/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces /redfish/v1/Systems/*{ComputerSystemId}*/NetworkInterfaces
NetworkPortCollection	/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkPorts /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkPorts /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkPorts /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkPorts /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkPorts /redfish/v1/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkPorts
OutletCollection	/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Outlets /redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Outlets
OutletGroupCollection	/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/OutletGroups /redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/OutletGroups
PCIeDeviceCollection	/redfish/v1/Chassis/*{ChassisId}*/PCIeDevices /redfish/v1/Systems/*{ComputerSystemId}*/PCIeDevices
PCIeFunctionCollection	/redfish/v1/Chassis/*{ChassisId}*/PCIeDevices/*{PCIeDeviceId}*/PCIeFunctions /redfish/v1/Systems/*{ComputerSystemId}*/PCIeDevices/*{PCIeDeviceId}*/PCIeFunctions
PortCollection	/redfish/v1/Chassis/*{ChassisId}*/MediaControllers/*{MediaControllerId}*/Ports /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlock*

Collection Type	URIs
	Id}/Storage/{StorageId}/StorageControllers/{StorageControllerMemberId}/Ports /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Storage/{StorageId}/StorageControllers/{StorageControllerMemberId}/Ports /redfish/v1/Fabrics/{FabricId}/Switches/{SwitchId}/Ports /redfish/v1/ResourceBlocks/{ResourceBlockId}/Storage/{StorageId}/StorageControllers/{StorageControllerMemberId}/Ports /redfish/v1/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Storage/{StorageId}/StorageControllers/{StorageControllerMemberId}/Ports /redfish/v1/Systems/{ComputerSystemId}/FabricAdapters/{FabricAdapterId}/Ports /redfish/v1/Systems/{ComputerSystemId}/Storage/{StorageId}/StorageControllers/{StorageControllerMemberId}/Ports
PowerDistributionCollection	/redfish/v1/PowerEquipment/FloorPDUs /redfish/v1/PowerEquipment/RackPDUs /redfish/v1/PowerEquipment/Switchgear /redfish/v1/PowerEquipment/TransferSwitches
PowerDomainCollection	/redfish/v1/Facilities/{FacilityId}/PowerDomains
ProcessorCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Processors/{ProcessorId}/SubProcessors /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Processors /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Processors/{ProcessorId}/SubProcessors /redfish/v1/ResourceBlocks/{ResourceBlockId}/Processors/{ProcessorId}/SubProcessors /redfish/v1/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Processors /redfish/v1/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Processors/{ProcessorId}/SubProcessors /redfish/v1/Systems/{ComputerSystemId}/Processors /redfish/v1/Systems/{ComputerSystemId}/Processors/{ProcessorId}/SubProcessors
ResourceBlockCollection	/redfish/v1/CompositionService/ResourceBlocks /redfish/v1/ResourceBlocks
RoleCollection	/redfish/v1/AccountService/Roles /redfish/v1/Managers/{ManagerId}/RemoteAccountService/Roles
RouteEntryCollection	/redfish/v1/Fabrics/{FrabricId}/Switches/{SwitchId}/Ports/{PortId}/LPRT /redfish/v1/Fabrics/{FrabricId}/Switches/{SwitchId}/Ports/{PortId}/MPRT /redfish/v1/Systems/{ComputerSystemId}/FabricAdapters/{FabricAdapterId}/MSDT /redfish/v1/Systems/{ComputerSystemId}/FabricAdapters/{FabricAdapterId}/Ports/{PortId}/LPRT /redfish/v1/Systems/{ComputerSystemId}/FabricAdapters/{FabricAdapterId}/Ports/{PortId}/MPRT

Collection Type	URIs
	/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/SSDT
RouteSetEntryCollection	/redfish/v1/Fabrics/*{FrabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/LPRT/*{LPRTId}*/RouteSet /redfish/v1/Fabrics/*{FrabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/MPRT/*{MPRTId}*/RouteSet /redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/MSDT/*{MSDTId}*/RouteSet /redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/LPRT/*{LPRTId}*/RouteSet /redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/MPRT/*{MPRTId}*/RouteSet /redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/SSDT/*{SSDTId}*/RouteSet
SensorCollection	/redfish/v1/Chassis/*{ChassisId}*/Sensors /redfish/v1/Facilities/*{FacilityId}*/Sensors /redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Sensors /redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Sensors /redfish/v1/PowerEquipment/Switchgear/*{PowerDistributionId}*/Sensors /redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Sensors
SerialInterfaceCollection	/redfish/v1/Managers/*{ManagerId}*/SerialInterfaces
SessionCollection	/redfish/v1/SessionService/Sessions
SimpleStorageCollection	/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/SimpleStorage /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/SimpleStorage /redfish/v1/Systems/*{ComputerSystemId}*/SimpleStorage
SoftwareInventoryCollection	/redfish/v1/UpdateService/FirmwareInventory /redfish/v1/UpdateService/SoftwareInventory
StorageCollection	/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage /redfish/v1/Systems/*{ComputerSystemId}*/Storage
SwitchCollection	/redfish/v1/Fabrics/*{FabricId}*/Switches
TaskCollection	/redfish/v1/TaskService/Tasks
TriggersCollection	/redfish/v1/TelemetryService/Triggers
VCATEntryCollection	/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/

Collection Type	URIs
	VCAT /redfish/v1/Systems/*{SystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/VCAT /redfish/v1/Systems/*{SystemId}*/FabricAdapters/*{FabricAdapterId}*/REQ-VCAT /redfish/v1/Systems/*{SystemId}*/FabricAdapters/*{FabricAdapterId}*/RSP-VCAT
VirtualMediaCollection	/redfish/v1/Managers/*{ManagerId}*/VirtualMedia
VLanNetworkInterfaceCollection	/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkDeviceFunctions/*{NetworkDeviceFunctionId}*/Ethernet/VLANs /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs /redfish/v1/Managers/*{ManagerId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs /redfish/v1/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs
VolumeCollection	/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Volumes /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Volumes /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Volumes /redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Volumes /redfish/v1/StorageServices/*{StorageServiceId}*/ConsistencyGroups/*{ConsistencyGroupId}*/Volumes /redfish/v1/StorageServices/*{StorageServiceId}*/FileSystems/*{FileSystemId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes /redfish/v1/StorageServices/*{StorageServiceId}*/StoragePools/*{StoragePoolId}*/AllocatedVolumes /redfish/v1/StorageServices/*{StorageServiceId}*/StoragePools/*{StoragePoolId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes /redfish/v1/StorageServices/*{StorageServiceId}*/Volumes /redfish/v1/StorageServices/*{StorageServiceId}*/Volumes/*{VolumeId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes /redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/ConsistencyGroups/*{ConsistencyGroupId}*/Volumes /redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/FileSystems/*{FileSystemId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes /redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/St

Collection Type	URIs
	oragePools/*{StoragePoolId}*/AllocatedVolumes /redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/St oragePools/*{StoragePoolId}*/CapacitySources/*{CapacitySource Id}*/ProvidingVolumes /redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Vo lumes
ZoneCollection	/redfish/v1/CompositionService/ResourceZones /redfish/v1/Fabrics/*{FabricId}*/Zones

Reference Guide

This guide was produced by using DMTF's Redfish Documentation Generator to merge the contents of the schema files from DMTF Redfish Schema bundle (DSP8010) with supplemental text.

AccelerationFunction 1.0.2

v1.0
2018.3

The AccelerationFunction schema describes an acceleration function that a processor implements. This can include functions such as audio processing, compression, encryption, packet inspection, packet switching, scheduling, or video processing.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/AccelerationFunctions/*{AccelerationFunctionId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/AccelerationFunctions/*{AccelerationFunctionId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/AccelerationFunctions/*{AccelerationFunctionId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/AccelerationFunctions/*{AccelerationFunctionId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/AccelerationFunctions/*{AccelerationFunctionId}*

AccelerationFunctionType	string (enum)	read-only (null)	The acceleration function type. *For the possible property values, see AccelerationFunctionType in Property Details.*
FpgaReconfigurationSlots [ ]	array (string)	read-only	An array of the reconfiguration slot identifiers of the FPGA that this acceleration function occupies.
Links {	object		The links to other Resources that are related to this Resource.
Endpoints [{	array		An array of links to the endpoints that connect to this acceleration function.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeFunctions [{	array		An array of links to the PCIeFunctions associated with this acceleration function.
@odata.id	string	read-only	*Link to a PCIeFunction resource. See the Links*

}] }			*section and the PCIeFunction schema for details.*
Manufacturer	string	read-only	The acceleration function code manufacturer.
PowerWatts	integer (Watts)	read-only	The acceleration function power consumption, in watts.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UUID	string	read-only (null)	The UUID for this acceleration function.
Version	string	read-only	The acceleration function version.

Property Details

AccelerationFunctionType:

The acceleration function type.

string	Description
AudioProcessing	An audio processing function.
Compression	A compression function.
Encryption	An encryption function.
OEM	An OEM-defined acceleration function.
PacketInspection	A packet inspection function.
PacketSwitch	A packet switch function.
Scheduler	A scheduler function.
VideoProcessing	A video processing function.

Example Response


```
{
    "@odata.type": "#AccelerationFunction.v1_0_2.AccelerationFunction",
    "Id": "Compression",
    "Name": "Compression Accelerator",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "FpgaReconfigurationSlots": [
        "AFU0"
    ],
    "AccelerationFunctionType": "Compression",
    "Manufacturer": "Intel (R) Corporation",
    "Version": "Green Compression Type 1 v.1.00.86",
```

```
    "PowerWatts": 15,
    "Links": {
        "Endpoints": [],
        "PCIeFunctions": []
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Systems/1/Processors/FPGA1/AccelerationFunctions/Compression"
}
```


AccountService 1.7.0

v1.7	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.2	2019.1	2018.3	2018.1	2017.1	2016.3	1.0

The AccountService schema defines an Account Service. The properties are common to, and enable management of, all user accounts. The properties include the password requirements and control features, such as account lockout. The schema also contains links to the manager accounts and roles.

URIs:

/redfish/v1/AccountService

/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService

AccountLockoutCounterResetAfter	integer (seconds)	read-write	The period of time, in seconds, between the last failed login attempt and the reset of the lockout threshold counter. This value must be less than or equal to the AccountLockoutDuration value. A reset sets the counter to `0`.
AccountLockoutCounterResetEnabled *(v1.5+)*	boolean	read-write	An indication of whether the threshold counter is reset after AccountLockoutCounterResetAfter expires. If `true`, it is reset. If `false`, only a successful login resets the threshold counter and if the user reaches the AccountLockoutThreshold limit, the account will be locked out indefinitely and only an administrator-issued reset clears the threshold counter. If this property is absent, the default is `true`.
AccountLockoutDuration	integer (seconds)	read-write (null)	The period of time, in seconds, that an account is locked after the number of failed login attempts reaches the account lockout threshold, within the period between the last failed login attempt and the reset of the lockout threshold counter. If this value is `0`, no lockout will occur. If the

			AccountLockoutCounterResetEnabled value is `false`, this property is ignored.
AccountLockoutThreshold	integer	read-write (null)	The number of allowed failed login attempts before a user account is locked for a specified duration. If `0`, the account is never locked.
Accounts {	object		The collection of manager accounts. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of ManagerAccount. See the ManagerAccount schema for details.*
ActiveDirectory *(v1.3+)* {	object		The first Active Directory external account provider that this Account Service supports.
AccountProviderType *(deprecated v1.5)*	string (enum)	read-only (null)	The type of external account provider to which this Service connects. *For the possible property values, see AccountProviderType in Property Details. Deprecated in v1.5 and later. This property is deprecated because the account provider type is known when used in the LDAP and ActiveDirectory objects.*
Authentication {	object		The authentication information for the external account provider.
AuthenticationType	string (enum)	read-write (null)	The type of authentication used to connect to the external account provider. *For the possible property values, see AuthenticationType in Property Details.*
KerberosKeytab	string	read-write (null)	The Base64-encoded version of the Kerberos keytab for this Service. A PATCH or PUT operation writes the keytab. This property is `null` in responses.
Oem { }	object		See the Oem object definition in the Common properties section.
Password	string	read-write (null)	The password for this Service. A PATCH or PUT request writes the password. This property is `null` in responses.
Token	string	read-write (null)	The token for this Service. A PATCH or PUT operation writes the token. This property is `null` in responses.

Username }	string	read-write	The user name for the Service.
Certificates *(v1.4+)* {	object		The link to a collection of certificates that the external account provider uses. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Certificate. See the Certificate schema for details.*
LDAPService {	object		The additional mapping information needed to parse a generic LDAP service.
Oem { }	object		See the Oem object definition in the Common properties section.
SearchSettings {	object		The required settings to search an external LDAP service.
BaseDistinguishedNames [ ]	array (string, null)	read-write	The base distinguished names to use to search an external LDAP service.
GroupNameAttribute	string	read-write (null)	The attribute name that contains the LDAP group name entry.
GroupsAttribute	string	read-write (null)	The attribute name that contains the groups for a user on the LDAP user entry.
UsernameAttribute } }	string	read-write (null)	The attribute name that contains the LDAP user name entry.
PasswordSet *(v1.7+)*	boolean	read-only	Indicates if the Password property is set.
RemoteRoleMapping [{	array		The mapping rules to convert the external account providers account information to the local Redfish Role.
LocalRole	string	read-write (null)	The name of the local Redfish Role to which to map the remote user or group.
Oem { }	object		See the Oem object definition in the Common properties section.
RemoteGroup	string	read-write (null)	The name of the remote group, or the remote role in the case of a Redfish Service, that maps to the local Redfish Role to which this entity links.
RemoteUser }]	string	read-write (null)	The name of the remote user that maps to the local Redfish Role to which this entity links.

ServiceAddresses [ ]	array (string, null)	read-write	The addresses of the user account providers to which this external account provider links. The format of this field depends on the type of external account provider.
ServiceEnabled }	boolean	read-write (null)	An indication of whether this service is enabled.
AdditionalExternalAccountProviders *(v1.3+)* {	object		The additional external account providers that this Account Service uses. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of ExternalAccountProvider. See the ExternalAccountProvider schema for details.*
AuthFailureLoggingThreshold	integer	read-write	The number of authorization failures that are allowed before the failed attempt is logged to the manager log.
LDAP *(v1.3+)* {	object		The first LDAP external account provider that this Account Service supports.
AccountProviderType *(deprecated v1.5)*	string (enum)	read-only (null)	The type of external account provider to which this Service connects. *For the possible property values, see AccountProviderType in Property Details. Deprecated in v1.5 and later. This property is deprecated because the account provider type is known when used in the LDAP and ActiveDirectory objects.*
Authentication {	object		The authentication information for the external account provider.
AuthenticationType	string (enum)	read-write (null)	The type of authentication used to connect to the external account provider. *For the possible property values, see AuthenticationType in Property Details.*
KerberosKeytab	string	read-write (null)	The Base64-encoded version of the Kerberos keytab for this Service. A PATCH or PUT operation writes the keytab. This property is `null` in responses.
Oem { }	object		See the Oem object definition in the Common properties section.
Password	string	read-write (null)	The password for this Service. A PATCH or PUT request writes the

			password. This property is `null` in responses.
Token	string	read-write (null)	The token for this Service. A PATCH or PUT operation writes the token. This property is `null` in responses.
Username }	string	read-write	The user name for the Service.
Certificates *(v1.4+)* {	object		The link to a collection of certificates that the external account provider uses. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Certificate. See the Certificate schema for details.*
LDAPService {	object		The additional mapping information needed to parse a generic LDAP service.
Oem { }	object		See the Oem object definition in the Common properties section.
SearchSettings {	object		The required settings to search an external LDAP service.
BaseDistinguishedNames [ ]	array (string, null)	read-write	The base distinguished names to use to search an external LDAP service.
GroupNameAttribute	string	read-write (null)	The attribute name that contains the LDAP group name entry.
GroupsAttribute	string	read-write (null)	The attribute name that contains the groups for a user on the LDAP user entry.
UsernameAttribute } }	string	read-write (null)	The attribute name that contains the LDAP user name entry.
PasswordSet *(v1.7+)*	boolean	read-only	Indicates if the Password property is set.
RemoteRoleMapping [{	array		The mapping rules to convert the external account providers account information to the local Redfish Role.
LocalRole	string	read-write (null)	The name of the local Redfish Role to which to map the remote user or group.
Oem { }	object		See the Oem object definition in the Common properties section.
RemoteGroup	string	read-write (null)	The name of the remote group, or the remote role in the case of a Redfish

			Service, that maps to the local Redfish Role to which this entity links.
RemoteUser }]	string	read-write (null)	The name of the remote user that maps to the local Redfish Role to which this entity links.
ServiceAddresses [ ]	array (string, null)	read-write	The addresses of the user account providers to which this external account provider links. The format of this field depends on the type of external account provider.
ServiceEnabled }	boolean	read-write (null)	An indication of whether this service is enabled.
LocalAccountAuth *(v1.3+)*	string (enum)	read-write	An indication of how the Service uses the accounts collection within this Account Service as part of authentication. The enumerated values describe the details for each mode. *For the possible property values, see LocalAccountAuth in Property Details.*
MaxPasswordLength	integer	read-only	The maximum password length for this Account Service.
MinPasswordLength	integer	read-only	The minimum password length for this Account Service.
PrivilegeMap *(v1.1+)* {	object		The link to the mapping of the privileges required to complete a requested operation on a URI associated with this Service. *See the PrivilegeRegistry schema for details on this property.*
@odata.id }	string	read-only	*Link to a PrivilegeRegistry resource. See the Links section and the PrivilegeRegistry schema for details.*
Roles {	object		The collection of Redfish Roles. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Role. See the Role schema for details.*
ServiceEnabled	boolean	read-write (null)	An indication of whether the Account Service is enabled. If `true`, it is enabled. If `false`, it is disabled and users cannot be created, deleted, or modified, and new sessions cannot be started. However, established sessions may still continue to run. Any service, such as the Session Service, that attempts to access the disabled Account Service fails. However, this

			does not affect HTTP Basic Authentication connections.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Property Details

AccountProviderType:

The type of external account provider to which this Service connects.

string	Description
ActiveDirectoryService	An external Active Directory service.
LDAPService	A generic external LDAP service.
OEM	An OEM-specific external authentication or directory service.
RedfishService	An external Redfish Service.

AuthenticationType:

The type of authentication used to connect to the external account provider.

string	Description
KerberosKeytab	A Kerberos keytab.
OEM	An OEM-specific authentication mechanism.
Token	An opaque authentication token.
UsernameAndPassword	A user name and password combination.

LocalAccountAuth:

An indication of how the Service uses the accounts collection within this Account Service as part of authentication. The enumerated values describe the details for each mode.

string	Description
Disabled	The service never authenticates users based on the Account Service-defined accounts collection.
Enabled	The service authenticates users based on the Account Service-defined accounts collection.
Fallback	The service authenticates users based on the Account Service-defined accounts collection only if any external account providers are currently unreachable.
LocalFirst *(v1.6+)*	The service first authenticates users based on the Account Service-defined accounts collection. If authentication fails, the Service authenticates by using

string	Description
	external account providers.

Example Response


```
{
    "@odata.type": "#AccountService.v1_7_0.AccountService",
    "Id": "AccountService",
    "Name": "Account Service",
    "Description": "Local Manager Account Service",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "ServiceEnabled": true,
    "AuthFailureLoggingThreshold": 3,
    "MinPasswordLength": 8,
    "AccountLockoutThreshold": 5,
    "AccountLockoutDuration": 30,
    "AccountLockoutCounterResetAfter": 30,
    "AccountLockoutCounterResetEnabled": true,
    "Accounts": {
        "@odata.id": "/redfish/v1/AccountService/Accounts"
    },
    "Roles": {
        "@odata.id": "/redfish/v1/AccountService/Roles"
    },
    "LocalAccountAuth": "Enabled",
    "LDAP": {
        "AccountProviderType": "LDAPService",
        "ServiceEnabled": false,
        "ServiceAddresses": [
            "ldaps://ldap.example.org:636"
        ],
        "Authentication": {
            "AuthenticationType": "UsernameAndPassword",
            "Username": "cn=Manager,dc=example,dc=org",
            "Password": null
        },
        "LDAPService": {
            "SearchSettings": {
                "BaseDistinguishedNames": [
                    "dc=example,dc=org"
                ],
                "UsernameAttribute": "uid",
                "GroupsAttribute": "memberof"
            }
        },
        "RemoteRoleMapping": [
            {
                "RemoteUser": "cn=Manager,dc=example,dc=org",
                "LocalRole": "Administrator"
            },
            {
                "RemoteGroup": "cn=Admins,ou=Groups,dc=example,dc=org",
                "LocalRole": "Administrator"
```

```
            },
            {
                "RemoteGroup": "cn=PowerUsers,ou=Groups,dc=example,dc=org",
                "LocalRole": "Operator"
            },
            {
                "RemoteGroup": "(cn=*)",
                "LocalRole": "ReadOnly"
            }
        ]
    },
    "ActiveDirectory": {
        "AccountProviderType": "ActiveDirectoryService",
        "ServiceEnabled": true,
        "ServiceAddresses": [
            "ad1.example.org",
            "ad2.example.org",
            null,
            null
        ],
        "Authentication": {
            "AuthenticationType": "KerberosKeytab",
            "KerberosKeytab": null
        },
        "RemoteRoleMapping": [
            {
                "RemoteGroup": "Administrators",
                "LocalRole": "Administrator"
            },
            {
                "RemoteUser": "DOMAIN\\Bob",
                "LocalRole": "Operator"
            },
            {
                "RemoteGroup": "PowerUsers",
                "LocalRole": "Operator"
            },
            {
                "RemoteGroup": "Everybody",
                "LocalRole": "ReadOnly"
            }
        ]
    },
    "AdditionalExternalAccountProviders": {
        "@odata.id": "/redfish/v1/AccountService/ExternalAccountProviders"
    },
    "@odata.id": "/redfish/v1/AccountService"
}
```


ActionInfo 1.1.2

v1.1	*v1.0*
2018.2	2016.2

The ActionInfo schema defines the supported parameters and other information for a Redfish action. Supported parameters can differ among vendors and even among Resource instances. This data can ensure that action requests from applications contain supported parameters.

Parameters [{	array		The list of parameters included in the specified Redfish action.
AllowableValues [ ]	array (string, null)	read-only	The allowable values for this parameter as applied to this action target.
DataType	string (enum)	read-only (null)	The JSON property type for this parameter. *For the possible property values, see DataType in Property Details.*
MaximumValue *(v1.1+)*	number	read-only (null)	The maximum supported value for this parameter.
MinimumValue *(v1.1+)*	number	read-only (null)	The minimum supported value for this parameter.
Name	string	read-only required	The name of the parameter for this action.
ObjectDataType	string	read-only (null)	The data type of an object-based parameter.
Required }]	boolean	read-only	An indication of whether the parameter is required to complete this action.

Property Details

DataType:

The JSON property type for this parameter.

string	Description
Boolean	A boolean.
Number	A number.
NumberArray	An array of numbers.
Object	An embedded JSON object.
ObjectArray	An array of JSON objects.
String	A string.
StringArray	An array of strings.

Example Response


```
{
    "@odata.type": "#ActionInfo.v1_1_2.ActionInfo",
    "Id": "ResetActionInfo",
    "Name": "Reset Action Info",
```

```
    "Parameters": [
        {
            "Name": "ResetType",
            "Required": true,
            "DataType": "String",
            "AllowableValues": [
                "On",
                "ForceOff",
                "GracefulShutdown",
                "GracefulRestart",
                "ForceRestart",
                "Nmi",
                "ForceOn",
                "PushPowerButton"
            ]
        }
    ],
    "Oem": {},
    "@odata.id": "/redfish/v1/Systems/1/ResetActionInfo"
}
```


AddressPool 1.0.0

v1.0
2019.4

The schema definition of an address pool and its configuration.

URIs:

/redfish/v1/Fabrics/*{FabricId}*/AddressPools/*{AddressPoolId}*

GenZ {	object		The Gen-Z related properties for this address pool.
AccessKey	string	read-write (null)	The Access Key required for this address pool.
MaxCID	integer	read-write (null)	The maximum value for the Component Identifier (CID).
MaxSID	integer	read-write (null)	The maximum value for the Subnet Identifier (SID).
MinCID	integer	read-write (null)	The minimum value for the Component Identifier (CID).
MinSID }	integer	read-write (null)	The minimum value for the Subnet Identifier (SID).
Links {	object		The links to other Resources that are related to this Resource.
Endpoints [{	array		An array of links to the endpoints that this address pool contains.

@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
Zones [{	array		An array of links to the zones that this address pool contains.
@odata.id }] }	string	read-only	*Link to a Zone resource. See the Links section and the Zone schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Assembly 1.2.3

v1.2	*v1.1*	*v1.0*
2018.2	2018.1	2017.3

The Assembly schema defines an assembly. Assembly information contains details about a device, such as part number, serial number, manufacturer, and production date. It also provides access to the original data for the assembly.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/Assembly

/redfish/v1/Chassis/*{ChassisId}*/Drives/*{DriveId}*/Assembly

/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/Assembly

/redfish/v1/Chassis/*{ChassisId}*/PCIeDevices/*{PCIeDeviceId}*/Assembly

/redfish/v1/Chassis/*{ChassisId}*/Power/PowerSupplies/*{PowerSupplyId}*/Assembly

/redfish/v1/Chassis/*{ChassisId}*/Thermal/Fans/*{FanId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Drives/*{DriveId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Memory/*{MemoryId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Drives/*{DriveId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Assembly

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Drives/*{DriveId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Drives/*{DriveId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Memory/*{MemoryId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Drives/*{DriveId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Assembly

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Drives/*{DriveId}*/Assembly

/redfish/v1/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*/Assembly

/redfish/v1/Systems/*{ComputerSystemId}*/PCIeDevices/*{PCIeDeviceId}*/Assembly

/redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/Assembly

/redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/Assembly

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Assembly

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Drives/*{DriveId}*/Assembly

Assemblies [{	array		The assembly records.
@odata.id	string	read-only required	The unique identifier for a resource.
Actions { }	object		The available actions for this Resource.
BinaryDataURI	string	read-only (null)	The URI at which to access an image of the assembly information.
Description	string	read-only (null)	The description of the assembly.
EngineeringChangeLevel	string	read-only (null)	The engineering change level of the assembly.
MemberId	string	read-only required	The identifier for the member within the collection.

Model	string	read-only (null)	The model number of the assembly.
Name	string	read-only (null)	The name of the assembly.
Oem { }	object		See the Oem object definition in the Common properties section.
PartNumber	string	read-only (null)	The part number of the assembly.
PhysicalContext *(v1.2+)*	string (enum)	read-only	The area or device to which the assembly data applies. *For the possible property values, see PhysicalContext in Property Details.*
Producer	string	read-only (null)	The producer or manufacturer of the assembly.
ProductionDate	string	read-only (null)	The production date of the assembly.
SerialNumber *(v1.2+)*	string	read-only (null)	The serial number of the assembly.
SKU	string	read-only (null)	The SKU of the assembly.
SparePartNumber	string	read-only (null)	The spare part number of the assembly.
Status *(v1.1+)* { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Vendor	string	read-only (null)	The vendor of the assembly.
Version }]	string	read-only (null)	The hardware version of the assembly.

Property Details

PhysicalContext:

The area or device to which the assembly data applies.

string	Description
Accelerator	An accelerator.
ACInput	An AC input.
ACMaintenanceBypassInput	An AC maintenance bypass input.
ACOutput	An AC output.

string	Description
ACStaticBypassInput	An AC static bypass input.
ACUtilityInput	An AC utility input.
ASIC	An ASIC device, such as a networking chip or chipset component.
Back	The back of the chassis.
Backplane	A backplane within the chassis.
Chassis	The entire chassis.
ComputeBay	Within a compute bay.
CoolingSubsystem	The entire cooling, or air and liquid, subsystem.
CPU	A processor (CPU).
CPUSubsystem	The entire processor (CPU) subsystem.
DCBus	A DC bus.
Exhaust	The air exhaust point or points or region of the chassis.
ExpansionBay	Within an expansion bay.
Fan	A fan.
FPGA	An FPGA.
Front	The front of the chassis.
GPU	A graphics processor (GPU).
GPUSubsystem	The entire graphics processor (GPU) subsystem.
Intake	The air intake point or points or region of the chassis.
LiquidInlet	The liquid inlet point of the chassis.
LiquidOutlet	The liquid outlet point of the chassis.
Lower	The lower portion of the chassis.
Memory	A memory device.
MemorySubsystem	The entire memory subsystem.
Motor	A motor.
NetworkBay	Within a networking bay.
NetworkingDevice	A networking device.
PowerSubsystem	The entire power subsystem.
PowerSupply	A power supply.

string	Description
PowerSupplyBay	Within a power supply bay.
Rectifier	A rectifier device.
Room	The room.
StorageBay	Within a storage bay.
StorageDevice	A storage device.
SystemBoard	The system board (PCB).
Transformer	A transformer.
Upper	The upper portion of the chassis.
VoltageRegulator	A voltage regulator device.

Example Response


```
{
    "@odata.type": "#Assembly.v1_2_3.Assembly",
    "Id": "Assembly",
    "Name": "System-related Assembly data",
    "Assemblies": [
        {
            "@odata.id": "/redfish/v1/Chassis/1/Assembly#/Assemblies/0",
            "MemberId": "0",
            "Name": "System Board",
            "Description": "PCA System Board",
            "Model": "345TTT",
            "PartNumber": "923943",
            "SparePartNumber": "55-434",
            "SKU": "55ZZATR",
            "SerialNumber": "345394834",
            "Vendor": "Contoso",
            "ProductionDate": "2017-04-01T14:55:33+03:00",
            "Producer": "Contoso Supply Co.",
            "Version": "1.44B",
            "EngineeringChangeLevel": "9",
            "BinaryDataURI": "/dumpster/434",
            "Oem": {
                "Contoso": {
                    "Region": "C",
                    "Packaging": "Retail"
                }
            }
        },
        {
            "@odata.id": "/redfish/v1/Chassis/1/Assembly#/Assemblies/1",
            "MemberId": "1",
            "Name": "Fan Controller",
            "Description": "PCA Fan Controller",
            "Model": "F58AS",
            "PartNumber": "3434-149",
            "Vendor": "Contoso",
```

```
            "Version": "2.4.481",
            "BinaryDataURI": "/dumpster/422",
            "Status": {
                "State": "Enabled",
                "Health": "Warning"
            }
        }
    ],
    "@odata.id": "/redfish/v1/Chassis/1/Assembly"
}
```


AttributeRegistry 1.3.2

v1.3	*v1.2*	*v1.1*	*v1.0*
2018.3	2018.1	2017.1	2016.1

The AttributeRegistry schema contains a set of key-value pairs that represent the structure of an Attribute Registry. It includes mechanisms for building user interfaces, or menus, allowing consistent navigation of the contents. The Attribute Registry is specific to an implementation or product. The attributes and property names are not standardized.

Language	string	read-only required	The RFC5646-conformant language code for the Attribute Registry.
OwningEntity	string	read-only required	The organization or company that publishes this Attribute Registry.
RegistryEntries {	object		The list of all attributes and their metadata for this component.
Attributes [{	array		An array of attributes and their possible values in the Attribute Registry.
AttributeName	string	read-only required	The unique name for the attribute.
CurrentValue	string, boolean, number	read-only (null)	The placeholder of the current value for the attribute.
DefaultValue	string, boolean, number	read-only (null)	The default value for the attribute.
DisplayName	string	read-only (null)	The user-readable display string for the attribute in the defined language.
DisplayOrder	integer	read-only (null)	The ascending order, as a number, in which this attribute appears relative to other attributes.
GrayOut	boolean	read-only (null)	An indication of whether this attribute is grayed out. A grayed-out attribute is not active and is grayed out in user

			interfaces but the attribute value can be modified.
HelpText	string	read-only (null)	The help text for the attribute.
Hidden	boolean	read-only (null)	An indication of whether this attribute is hidden in user interfaces.
Immutable	boolean	read-only (null)	An indication of whether this attribute is immutable. Immutable attributes shall not be modified and typically reflect a hardware state.
IsSystemUniqueProperty	boolean	read-only (null)	An indication of whether this attribute is unique for this system and should not be replicated.
LowerBound	integer	read-only (null)	The lower limit for an integer attribute.
MaxLength	integer	read-only (null)	The maximum character length of a string attribute.
MenuPath	string	read-only (null)	The path that describes the menu hierarchy of this attribute.
MinLength	integer	read-only (null)	The minimum character length of the string attribute.
Oem *(v1.3+)* { }	object		See the Oem object definition in the Common properties section.
ReadOnly	boolean	read-only (null)	An indication of whether this attribute is read-only. A read-only attribute cannot be modified, and should be grayed out in user interfaces.
ResetRequired *(v1.2+)*	boolean	read-only (null)	An indication of whether a system or device reset is required for this attribute value change to take effect.
ScalarIncrement	integer	read-only (null)	The amount to increment or decrement an integer attribute each time a user requests a value change. The `0` value indicates a free-form numeric user-input attribute.
Type	string (enum)	read-only	The attribute type. *For the possible property values, see Type in Property Details.*
UefiDevicePath *(v1.2+)*	string	read-only (null)	The UEFI device path that qualifies this attribute.
UefiKeywordName *(v1.2+)*	string	read-only	The UEFI keyword string for this attribute.
UefiNamespaceId *(v1.2+)*	string	read-only	The UEFI namespace ID for the attribute.

UpperBound	integer	read-only (null)	The upper limit for an integer attribute.
Value [{	array		An array of the possible values for enumerated attribute values.
ValueDisplayName	string	read-only (null)	A user-readable display string of the value for the attribute in the defined language.
ValueName }]	string	read-only required	The unique value name for the attribute.
ValueExpression	string	read-only (null)	A valid regular expression, according to the Perl regular expression dialect, that validates the attribute value. Applies to only string and integer attributes.
WarningText	string	read-only (null)	The warning text for the attribute.
WriteOnly }]	boolean	read-only (null)	An indication of whether this attribute is write-only. A write-only attribute reverts to its initial value after settings are applied.
Dependencies [{	array		An array of dependencies of attributes on this component.
Dependency {	object		The dependency expression for one or more attributes in this Attribute Registry.
MapFrom [{	array		An array of the map-from conditions for a mapping dependency.
MapFromAttribute	string	read-only	The attribute to use to evaluate this dependency expression.
MapFromCondition	string (enum)	read-only	The condition to use to evaluate this dependency expression. *For the possible property values, see MapFromCondition in Property Details.*
MapFromProperty	string (enum)	read-only	The metadata property for the attribute that the MapFromAttribute property specifies to use to evaluate this dependency expression. *For the possible property values, see MapFromProperty in Property Details.*
MapFromValue	string, boolean, number	read-only (null)	The value to use to evaluate this dependency expression.
MapTerms }]	string (enum)	read-only	The logical term that combines two or more map-from conditions in this dependency expression. For example, `AND` for logical AND, or `OR` for logical OR.

			For the possible property values, see MapTerms in Property Details.
MapToAttribute	string	read-only	The AttributeName of the attribute that is affected by this dependency expression.
MapToProperty	string (enum)	read-only	The metadata property for the attribute that contains the map-from condition that evaluates this dependency expression. *For the possible property values, see MapToProperty in Property Details.*
MapToValue }	string, boolean, number	read-only (null)	The value that the map-to property changes to if the dependency expression evaluates to `true`.
DependencyFor	string	read-only	The AttributeName of the attribute whose change triggers the evaluation of this dependency expression.
Type }]	string (enum)	read-only	The type of the dependency structure. *For the possible property values, see Type in Property Details.*
Menus [{	array		An array for the attributes menus and their hierarchy in the Attribute Registry.
DisplayName	string	read-only (null)	The user-readable display string of this menu in the defined language.
DisplayOrder	integer	read-only (null)	The ascending order, as a number, in which this menu appears relative to other menus.
GrayOut	boolean	read-only (null)	An indication of whether this menu is grayed out. A grayed-only menu is not accessible in user interfaces.
Hidden *(v1.3+)*	boolean	read-only (null)	An indication of whether this menu is hidden in user interfaces.
MenuName	string	read-only	The unique name string of this menu.
MenuPath	string	read-only (null)	The path to the menu names that describes this menu hierarchy relative to other menus.
Oem *(v1.3+)* { }	object		See the Oem object definition in the Common properties section.
ReadOnly }] }	boolean	read-only (null)	An indication of whether this menu is read-only. A read-only menu, its properties, and sub-menus are not accessible in user interfaces.
RegistryVersion	string	read-only required	The Attribute Registry version.
SupportedSystems [{	array		An array of systems that this Attribute

			Registry supports.
FirmwareVersion *(v1.1+)*	string	read-only (null)	Firmware version.
ProductName	string	read-only (null)	The product name of the computer system to which this Attribute Registry applies.
SystemId }]	string	read-only (null)	The ID of the systems to which this Attribute Registry applies.

Property Details

MapFromCondition:

The condition to use to evaluate this dependency expression.

string	Description
EQU	The logical operation for 'Equal'.
GEQ	The logical operation for 'Greater than or Equal'.
GTR	The logical operation for 'Greater than'.
LEQ	The logical operation for 'Less than or Equal'.
LSS	The logical operation for 'Less than'.
NEQ	The logical operation for 'Not Equal'.

MapFromProperty:

The metadata property for the attribute that the MapFromAttribute property specifies to use to evaluate this dependency expression.

string	Description
CurrentValue	The dependency on an attribute's CurrentValue.
DefaultValue	The dependency on an attribute's DefaultValue.
GrayOut	The dependency on an attribute's GrayOut state.
Hidden	The dependency on an attribute's Hidden state.
LowerBound	The dependency on an attribute's LowerBound.
MaxLength	The dependency on an attribute's MaxLength.
MinLength	The dependency on an attribute's MinLength.
ReadOnly	The dependency on an attribute's ReadOnly state.
ScalarIncrement	The dependency on an attribute's ScalarIncrement.
UpperBound	The dependency on an attribute's UpperBound.

string	Description
WriteOnly	The dependency on an attribute's WriteOnly state.

MapTerms:

The logical term that combines two or more map-from conditions in this dependency expression. For example, `AND` for logical AND, or `OR` for logical OR.

string	Description
AND	The operation used for logical 'AND' of dependency terms.
OR	The operation used for logical 'OR' of dependency terms.

MapToProperty:

The metadata property for the attribute that contains the map-from condition that evaluates this dependency expression.

string	Description
CurrentValue	The dependency that affects an attribute's CurrentValue.
DefaultValue	The dependency that affects an attribute's DefaultValue.
DisplayName	The dependency that affects an attribute's DisplayName.
DisplayOrder	The dependency that affects an attribute's DisplayName.
GrayOut	The dependency that affects an attribute's GrayOut state.
HelpText	The dependency that affects an attribute's HelpText.
Hidden	The dependency that affects an attribute's Hidden state.
Immutable	The dependency that affects an attribute's Immutable state.
LowerBound	The dependency that affects an attribute's LowerBound.
MaxLength	The dependency that affects an attribute's MaxLength.
MinLength	The dependency that affects an attribute's MinLength.
ReadOnly	The dependency that affects an attribute's ReadOnly state.
ScalarIncrement	The dependency that affects an attribute's ScalarIncrement.
UpperBound	The dependency that affects an attribute's UpperBound.
ValueExpression	The dependency that affects an attribute's ValueExpression.
WarningText	The dependency that affects an attribute's WarningText.
WriteOnly	The dependency that affects an attribute's WriteOnly state.

Type:

The type of the dependency structure.

string	Description
Map	A simple mapping dependency. If the condition evaluates to `true`, the attribute or state changes to the mapped value.

Example Response


```
{
    "@odata.type": "#AttributeRegistry.v1_3_2.AttributeRegistry",
    "Description": "This registry defines a representation of BIOS Attribute instances",
    "Id": "BiosAttributeRegistryG9000.v1_0_0",
    "Language": "en",
    "Name": "G9000 BIOS Attribute Registry",
    "OwningEntity": "Contoso",
    "RegistryVersion": "1.0.0",
    "SupportedSystems": [
        {
            "ProductName": "Contoso Server GLH9000",
            "SystemId": "G9000",
            "FirmwareVersion": "v1.00 (06/02/2014)"
        }
    ],
    "RegistryEntries": {
        "Attributes": [
            {
                "CurrentValue": null,
                "DisplayName": "Embedded NIC 1 Boot",
                "DisplayOrder": 5,
                "HelpText": "Select this option to enable network boot (PXE, iSCSI, or FCoE
                "MenuPath": "./SystemOptions/NetworkBootOptions",
                "AttributeName": "NicBoot1",
                "ReadOnly": false,
                "Hidden": false,
                "Type": "Enumeration",
                "Value": [
                    {
                        "ValueDisplayName": "Network Boot",
                        "ValueName": "NetworkBoot"
                    },
                    {
                        "ValueDisplayName": "Disabled",
                        "ValueName": "Disabled"
                    }
                ],
                "WarningText": "Important: When enabling network boot support for an embedd
            },
            {
                "CurrentValue": null,
                "DisplayName": "Embedded SATA Configuration",
                "DisplayOrder": 74,
                "HelpText": "Important: Select this option to configure the embedded chipse
                "MenuPath": "./SystemOptions/SataOptions",
                "AttributeName": "EmbeddedSata",
                "ReadOnly": false,
                "Hidden": false,
                "Type": "Enumeration",
                "Value": [
```

```
                    {
                        "ValueDisplayName": "Enable SATA AHCI Support",
                        "ValueName": "Ahci"
                    },
                    {
                        "ValueDisplayName": "Enable Software RAID Support",
                        "ValueName": "Raid"
                    }
                ],
                "WarningText": "Important: Software RAID is not supported when the Boot Mod
            }
        ],
        "Dependencies": [
            {
                "Dependency": {
                    "MapFrom": [
                        {
                            "MapFromAttribute": "BootMode",
                            "MapFromCondition": "EQU",
                            "MapFromProperty": "CurrentValue",
                            "MapFromValue": "LegacyBios"
                        }
                    ],
                    "MapToAttribute": "EmbeddedSata",
                    "MapToProperty": "ReadOnly",
                    "MapToValue": true
                },
                "DependencyFor": "EmbeddedSata",
                "Type": "Map"
            }
        ],
        "Menus": [
            {
                "DisplayName": "BIOS Configuration",
                "DisplayOrder": 1,
                "MenuPath": "./",
                "MenuName": "BiosMainMenu",
                "Hidden": false,
                "ReadOnly": false
            },
            {
                "DisplayName": "System Options",
                "DisplayOrder": 2,
                "MenuPath": "./SystemOptions",
                "MenuName": "SystemOptions",
                "Hidden": false,
                "ReadOnly": false
            }
        ]
    }
}
```

Bios 1.1.0

v1.1	*v1.0*
2019.2	2016.1

The Bios schema contains properties related to the BIOS Attribute Registry. The Attribute Registry describes the system-specific BIOS attributes and actions for changing to BIOS settings. Changes to the BIOS typically require a system reset before they take effect. It is likely that a client finds the `@Redfish.Settings` term in this Resource, and if it is found, the client makes requests to change BIOS settings by modifying the Resource identified by the `@Redfish.Settings` term.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Bios

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Bios

/redfish/v1/Systems/*{ComputerSystemId}*/Bios

AttributeRegistry	string	read-only (null)	The Resource ID of the Attribute Registry that has the system-specific information about a BIOS Resource.
Attributes {	object		The list of BIOS attributes specific to the manufacturer or provider.
(pattern) }	string, boolean, number	read-write (null)	Property names follow regular expression pattern "^[A-Za-z][A-Za-z0-9_]+$"
Links *(v1.1+)* {	object		The links to other Resources that are related to this Resource.
ActiveSoftwareImage {	object		The link to the SoftwareInventory that represents the active BIOS firmware image. *See the SoftwareInventory schema for details on this property.*
@odata.id }	string	read-only	*Link to a SoftwareInventory resource. See the Links section and the SoftwareInventory schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
SoftwareImages [{	array		The images that are associated with this BIOS.
@odata.id }] }	string	read-only	*Link to a SoftwareInventory resource. See the Links section and the SoftwareInventory schema for details.*

Actions

ChangePassword

This action changes a BIOS password.

Action URI: {Base URI of target resource}/Actions/Bios.ChangePassword

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
NewPassword	string	required	The new BIOS password.
OldPassword	string	required	The existing BIOS password.
PasswordName }	string	required	The name of the BIOS password to change.

ResetBios

This action resets the BIOS attributes to default.

Action URI: {Base URI of target resource}/Actions/Bios.ResetBios

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Example Response


```
{
    "@odata.type": "#Bios.v1_1_0.Bios",
    "Id": "BIOS",
    "Name": "BIOS Configuration Current Settings",
    "AttributeRegistry": "BiosAttributeRegistryP89.v1_0_0",
    "Attributes": {
        "AdminPhone": "",
        "BootMode": "Uefi",
        "EmbeddedSata": "Raid",
        "NicBoot1": "NetworkBoot",
        "NicBoot2": "Disabled",
        "PowerProfile": "MaxPerf",
        "ProcCoreDisable": 0,
        "ProcHyperthreading": "Enabled",
        "ProcTurboMode": "Enabled",
        "UsbControl": "UsbEnabled"
    },
    "@Redfish.Settings": {
        "@odata.type": "#Settings.v1_3_0.Settings",
        "ETag": "9234ac83b9700123cc32",
        "Messages": [
            {
                "MessageId": "Base.1.0.SettingsFailed",
                "RelatedProperties": [
                    "#/Attributes/ProcTurboMode"
                ]
            }
        ],
        "SettingsObject": {
            "@odata.id": "/redfish/v1/Systems/437XR1138R2/Bios/Settings"
        },
        "Time": "2016-03-07T14:44.30-05:00"
    },
```

```
    "Actions": {
        "#Bios.ResetBios": {
            "target": "/redfish/v1/Systems/437XR1138R2/Bios/Actions/Bios.ResetBios"
        },
        "#Bios.ChangePassword": {
            "target": "/redfish/v1/Systems/437XR1138R2/Bios/Actions/Bios.ChangePassword"
        }
    },
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Bios"
}
```


BootOption 1.0.3

v1.0
2017.3

The BootOption schema describes a boot option. It represents the properties of a bootable device available in the system.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/BootOptions/*{BootOptionId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/BootOptions/*{BootOptionId}*

/redfish/v1/Systems/*{ComputerSystemId}*/BootOptions/*{BootOptionId}*

Alias	string (enum)	read-only (null)	The alias of this boot source. *For the possible property values, see Alias in Property Details.*
BootOptionEnabled	boolean	read-write (null)	An indication of whether the boot option is enabled. If `true`, it is enabled. If `false`, the boot option that the boot order array on the computer system contains is skipped. In the UEFI context, this property shall influence the load option active flag for the boot option.
BootOptionReference	string	read-only required (null)	The unique boot option.
DisplayName	string	read-only (null)	The user-readable display name of the boot option that appears in the boot order list in the user interface.
RelatedItem [{	array		An array of one or more IDs for the Resources associated with this boot option.
@odata.id }]	string	read-only	The unique identifier for a resource.
UefiDevicePath	string	read-only	The UEFI device path to access this UEFI Boot

		(null)	Option.

Property Details

Alias:

The alias of this boot source.

string	Description
BiosSetup	Boot to the BIOS setup utility.
Cd	Boot from the CD or DVD.
Diags	Boot to the manufacturer's diagnostics program.
Floppy	Boot from the floppy disk drive.
Hdd	Boot from a hard drive.
None	Boot from the normal boot device.
Pxe	Boot from the Pre-Boot EXecution (PXE) environment.
RemoteDrive	Boot from a remote drive, such as an iSCSI target.
SDCard	Boot from an SD card.
UefiBootNext	Boot to the UEFI device that the BootNext property specifies.
UefiHttp	Boot from a UEFI HTTP network location.
UefiShell	Boot to the UEFI Shell.
UefiTarget	Boot to the UEFI device specified in the UefiTargetBootSourceOverride property.
Usb	Boot from a system BIOS-specified USB device.
Utilities	Boot to the manufacturer's utilities program or programs.

Example Response


```
{
    "@odata.id": "/redfish/v1/Systems/1/BootOptions/1",
    "@odata.type": "#BootOption.v1_0_3.BootOption",
    "Id": "1",
    "Name": "Boot Option",
    "Description": "UEFI Boot Option",
    "BootOptionReference": "Boot0000",
    "DisplayName": "Windows Boot Manager",
    "UefiDevicePath": "PciRoot(0x0)/Pci(0x1,0x0)/Pci(0x0,0x0)/Scsi(0x0,0x0)/HD(2,GPT,B02BF4
    "Alias": "Hdd",
    "RelatedItem": [
        {
            "@odata.id": "/redfish/v1/Systems/1/SimpleStorage/1"
        }
```

```
    ],
    "Oem": {}
}
```

Certificate 1.1.1

v1.1	*v1.0*
2019.1	2018.3

The Certificate schema describes a certificate that proves the identify of a component, account, or service.

URIs:

/redfish/v1/AccountService/Accounts/*{ManagerAccountId}*/Certificates/*{CertificateId}*

/redfish/v1/AccountService/ActiveDirectory/Certificates/*{CertificateId}*

/redfish/v1/AccountService/ExternalAccountProviders/*{ExternalAccountProviderId}*/Certificates/*{CertificateId}*

/redfish/v1/AccountService/LDAP/Certificates/*{CertificateId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Boot/Certificates/*{CertificateId}*

/redfish/v1/Managers/*{ManagerId}*/NetworkProtocol/HTTPS/Certificates/*{CertificateId}*

/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/Accounts/*{ManagerAccountId}*/Certificates/*{CertificateId}*

/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/ActiveDirectory/Certificates/*{CertificateId}*

/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/ExternalAccountProviders/*{ExternalAccountProviderId}*/Certificates/*{CertificateId}*

/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/LDAP/Certificates/*{CertificateId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Boot/Certificates/*{CertificateId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Boot/Certificates/*{CertificateId}*

CertificateString	string	read-only required on create (null)	The string for the certificate.
CertificateType	string (enum)	read-only required on create (null)	The format of the certificate. *For the possible property values, see CertificateType in Property Details.*
Issuer {	object		The issuer of the certificate.
City	string	read-only	The city or locality of the organization of the entity.
CommonName	string	read-only	The fully qualified domain name of the entity.
Country	string	read-only	The country of the organization of the entity.

Email	string	read-only (null)	The email address of the contact within the organization of the entity.
Organization	string	read-only	The name of the organization of the entity.
OrganizationalUnit	string	read-only	The name of the unit or division of the organization of the entity.
State }	string	read-only	The state, province, or region of the organization of the entity.
KeyUsage [ ]	array (string (enum))	read-only (null)	The key usage extension, which defines the purpose of the public keys in this certificate. The usages of a key contained within a certificate. *For the possible property values, see KeyUsage in Property Details.*
Subject {	object		The subject of the certificate.
City	string	read-only	The city or locality of the organization of the entity.
CommonName	string	read-only	The fully qualified domain name of the entity.
Country	string	read-only	The country of the organization of the entity.
Email	string	read-only (null)	The email address of the contact within the organization of the entity.
Organization	string	read-only	The name of the organization of the entity.
OrganizationalUnit	string	read-only	The name of the unit or division of the organization of the entity.
State }	string	read-only	The state, province, or region of the organization of the entity.
ValidNotAfter	string	read-only	The date when the certificate is no longer valid.
ValidNotBefore	string	read-only	The date when the certificate becomes valid.

Actions

Rekey

This action generates a new key-pair for a certificate and produces a certificate signing request.

Action URI: {Base URI of target resource}/Actions/Certificate.Rekey

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ChallengePassword	string	optional	The challenge password to apply to the

			certificate for revocation requests.
KeyBitLength	integer	optional	The length of the key, in bits, if needed based on the KeyPairAlgorithm parameter value.
KeyCurveId	string	optional	The curve ID to use with the key, if needed based on the KeyPairAlgorithm parameter value.
KeyPairAlgorithm }	string	optional	The type of key-pair for use with signing algorithms.

Renew

This action generates a certificate signing request by using the existing information and key-pair of the certificate.

Action URI: {Base URI of target resource}/Actions/Certificate.Renew

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ChallengePassword }	string	optional	The challenge password to apply to the certificate for revocation requests.

Property Details

CertificateType:

The format of the certificate.

string	Description
PEM	A Privacy Enhanced Mail (PEM)-encoded certificate.
PKCS7	A Privacy Enhanced Mail (PEM)-encoded PKCS7 certificate.

KeyUsage:

The key usage extension, which defines the purpose of the public keys in this certificate. The usages of a key contained within a certificate.

string	Description
ClientAuthentication	TLS WWW client authentication.
CodeSigning	Signs downloadable executable code.
CRLSigning	Verifies signatures on certificate revocation lists (CLRs).
DataEncipherment	Directly enciphers raw user data without an intermediate symmetric cipher.
DecipherOnly	Deciphers data while performing a key agreement.

string	Description
DigitalSignature	Verifies digital signatures, other than signatures on certificates and CRLs.
EmailProtection	Email protection.
EncipherOnly	Enciphers data while performing a key agreement.
KeyAgreement	Key agreement.
KeyCertSign	Verifies signatures on public key certificates.
KeyEncipherment	Enciphers private or secret keys.
NonRepudiation	Verifies digital signatures, other than signatures on certificates and CRLs, and provides a non-repudiation service that protects against the signing entity falsely denying some action.
OCSPSigning	Signs OCSP responses.
ServerAuthentication	TLS WWW server authentication.
Timestamping	Binds the hash of an object to a time.

Example Response


```
{
    "@odata.type": "#Certificate.v1_1_1.Certificate",
    "Id": "1",
    "Name": "HTTPS Certificate",
    "CertificateString": "-----BEGIN CERTIFICATE-----\nMIIFsTCC [**truncated example**] GXG
    "CertificateType": "PEM",
    "Issuer": {
        "Country": "US",
        "State": "Oregon",
        "City": "Portland",
        "Organization": "Contoso",
        "OrganizationalUnit": "ABC",
        "CommonName": "manager.contoso.org"
    },
    "Subject": {
        "Country": "US",
        "State": "Oregon",
        "City": "Portland",
        "Organization": "Contoso",
        "OrganizationalUnit": "ABC",
        "CommonName": "manager.contoso.org"
    },
    "ValidNotBefore": "2018-09-07T13:22:05Z",
    "ValidNotAfter": "2019-09-07T13:22:05Z",
    "KeyUsage": [
        "KeyEncipherment",
        "ServerAuthentication"
    ],
    "Oem": {},
    "@odata.id": "/redfish/v1/Managers/BMC/NetworkProtocol/HTTPS/Certificates/1"
}
```

CertificateLocations 1.0.2

v1.0
2018.3

The CertificateLocations schema describes a Resource that an administrator can use in order to locate all certificates installed on a given service.

URIs:

/redfish/v1/CertificateService/CertificateLocations

Links {	object		The links to other Resources that are related to this Resource.
Certificates [{	array		An array of links to the certificates installed on this service.
@odata.id }]	string	read-only	*Link to a Certificate resource. See the Links section and the Certificate schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.

Example Response

```
{
    "@odata.type": "#CertificateLocations.v1_0_2.CertificateLocations",
    "Id": "CertificateLocations",
    "Name": "Certificate Locations",
    "Links": {
        "Certificates": [
            {
                "@odata.id": "/redfish/v1/Managers/BMC/NetworkProtocol/HTTPS/Certificates/1
            }
        ]
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/CertificateService/CertificateLocations"
}
```

CertificateService 1.0.2

v1.0
2018.3

The CertificateService schema describes a Certificate Service that represents the actions available to manage certificates and links to the certificates.

URIs:

/redfish/v1/CertificateService

CertificateLocations {	object		The information about the location of certificates. *See the CertificateLocations schema for details on this property.*
@odata.id }	string	read-only	*Link to a CertificateLocations resource. See the Links section and the CertificateLocations schema for details.*

Actions

GenerateCSR

This action makes a certificate signing request.

Action URI: {Base URI of target resource}/Actions/CertificateService.GenerateCSR

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
AlternativeNames [ ]	array (string)	optional	The additional host names of the component to secure.
CertificateCollection {	object	required	The URI of the Certificate Resource Collection where the certificate is installed after the certificate authority (CA) signs the certificate. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Certificate. See the Certificate schema for details.*
ChallengePassword	string	optional	The challenge password to apply to the certificate for revocation requests.
City	string	required	The city or locality of the organization making the request.
CommonName	string	required	The fully qualified domain name of the component to secure.
ContactPerson	string	optional	The name of the user making the request.
Country	string	required	The two-letter country code of the organization making the request.
Email	string	optional	The email address of the contact within the organization making the request.
GivenName	string	optional	The given name of the user making the request.
Initials	string	optional	The initials of the user making the request.
KeyBitLength	integer	optional	The length of the key, in bits, if needed

			based on the KeyPairAlgorithm parameter value.
KeyCurveId	string	optional	The curve ID to use with the key, if needed based on the KeyPairAlgorithm parameter value.
KeyPairAlgorithm	string	optional	The type of key-pair for use with signing algorithms.
KeyUsage [ ]	array (string (enum))	read-write	The usage of the key contained in the certificate. The usages of a key contained within a certificate. *For the possible property values, see KeyUsage in Property Details.*
Organization	string	required	The name of the organization making the request.
OrganizationalUnit	string	required	The name of the unit or division of the organization making the request.
State	string	required	The state, province, or region of the organization making the request.
Surname	string	optional	The surname of the user making the request.
UnstructuredName }	string	optional	The unstructured name of the subject.

ReplaceCertificate

This action replaces a certificate.

Action URI: {Base URI of target resource}/Actions/CertificateService.ReplaceCertificate

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
CertificateString	string	required	The string for the certificate.
CertificateType	string (enum)	required	The format of the certificate. *For the possible property values, see CertificateType in Property Details.*
CertificateUri {	object	required	The link to the certificate that is being replaced. *See the Certificate schema for details on this property.*
@odata.id } }	string	read-only	*Link to a Certificate resource. See the Links section and the Certificate schema for details.*

Property Details

CertificateType:

The format of the certificate.

string	Description
PEM	A Privacy Enhanced Mail (PEM)-encoded certificate.
PKCS7	A Privacy Enhanced Mail (PEM)-encoded PKCS7 certificate.

KeyUsage:

The usage of the key contained in the certificate. The usages of a key contained within a certificate.

string	Description
ClientAuthentication	TLS WWW client authentication.
CodeSigning	Signs downloadable executable code.
CRLSigning	Verifies signatures on certificate revocation lists (CLRs).
DataEncipherment	Directly enciphers raw user data without an intermediate symmetric cipher.
DecipherOnly	Deciphers data while performing a key agreement.
DigitalSignature	Verifies digital signatures, other than signatures on certificates and CRLs.
EmailProtection	Email protection.
EncipherOnly	Enciphers data while performing a key agreement.
KeyAgreement	Key agreement.
KeyCertSign	Verifies signatures on public key certificates.
KeyEncipherment	Enciphers private or secret keys.
NonRepudiation	Verifies digital signatures, other than signatures on certificates and CRLs, and provides a non-repudiation service that protects against the signing entity falsely denying some action.
OCSPSigning	Signs OCSP responses.
ServerAuthentication	TLS WWW server authentication.
Timestamping	Binds the hash of an object to a time.

Example Response


```
{
    "@odata.type": "#CertificateService.v1_0_2.CertificateService",
    "Id": "CertificateService",
    "Name": "Certificate Service",
```

```
    "Actions": {
        "#CertificateService.GenerateCSR": {
            "target": "/redfish/v1/CertificateService/Actions/CertificateService.GenerateCS
            "@Redfish.ActionInfo": "/redfish/v1/CertificateService/GenerateCSRActionInfo"
        },
        "#CertificateService.ReplaceCertificate": {
            "target": "/redfish/v1/CertificateService/Actions/CertificateService.ReplaceCer
            "@Redfish.ActionInfo": "/redfish/v1/CertificateService/ReplaceCertificateAction
        }
    },
    "CertificateLocations": {
        "@odata.id": "/redfish/v1/CertificateService/CertificateLocations"
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/CertificateService"
}
```


Chassis 1.11.0

v1.11	*v1.10*	*v1.9*	*v1.8*	*v1.7*	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	...
2019.4	2019.2	2018.3	2018.2	2018.1	2017.3	2017.1	2016.3	2016.2	2016.1	1.1	...

The Chassis schema represents the physical components of a system. This Resource represents the sheet-metal confined spaces and logical zones such as racks, enclosures, chassis and all other containers. Subsystems, such as sensors, that operate outside of a system's data plane are linked either directly or indirectly through this Resource. A subsystem that operates outside of a system's data plane are not accessible to software that runs on the system.

URIs:

/redfish/v1/Chassis/*{ChassisId}*

Assembly *(v1.6+)* {	object		The link to the Assembly associated with this chassis. *See the Assembly schema for details on this property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the Links section and the Assembly schema for details.*
AssetTag	string	read-write (null)	The user-assigned asset tag of this chassis.
ChassisType	string (enum)	read-only required	The type of physical form factor of the chassis. *For the possible property values, see ChassisType in Property Details.*
DepthMm *(v1.4+)*	number (mm)	read-only (null)	The depth of the chassis.
EnvironmentalClass *(v1.9+)*	string	read-only	The ASHRAE Environmental

	(enum)	(null)	Class for this chassis. *For the possible property values, see EnvironmentalClass in Property Details.*
HeightMm *(v1.4+)*	number (mm)	read-only (null)	The height of the chassis.
IndicatorLED	string (enum)	read-write (null)	The state of the indicator LED, which identifies the chassis. *For the possible property values, see IndicatorLED in Property Details.*
Links {	object		The links to other Resources that are related to this Resource.
ComputerSystems [{	array		An array of links to the computer systems that this chassis directly and wholly contains.
@odata.id }]	string	read-only	*Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details.*
ContainedBy {	object		The link to the chassis that contains this chassis.
@odata.id }	string	read-only	*Link to another Chassis resource.*
Contains [{	array		An array of links to any other chassis that this chassis has in it.
@odata.id }]	string	read-only	*Link to another Chassis resource.*
CooledBy [{	array		An array of one or more IDs of Resources that cool this chassis. Normally, the ID is for either a chassis or a specific set of fans.
@odata.id }]	string	read-only	The unique identifier for a resource.
Drives *(v1.2+)* [{	array		An array of links to the drives located in this chassis.
@odata.id }]	string	read-only	*Link to a Drive resource. See the Links section and the Drive schema for details.*

Facility *(v1.11+)* {	object		The link to the facility that contains this chassis. *See the Facility schema for details on this property.*
@odata.id }	string	read-only	*Link to a Facility resource. See the Links section and the Facility schema for details.*
ManagedBy [{	array		An array of links to the Managers responsible for managing this chassis.
@odata.id }]	string	read-only	*Link to a Manager resource. See the Links section and the Manager schema for details.*
ManagersInChassis *(v1.2+)* [{	array		An array of links to the managers located in this chassis.
@odata.id }]	string	read-only	*Link to a Manager resource. See the Links section and the Manager schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeDevices *(v1.4+, deprecated v1.10)* [{	array		An array of links to the PCIe devices located in this chassis. *Deprecated in v1.10 and later. This property has been deprecated in favor of the PCIeDevices Resource Collection in the root of this Resource.*
@odata.id }]	string	read-only	*Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details.*
PoweredBy [{	array		An array of one or more IDs of Resources that power this chassis. Normally, the ID is for either a chassis or a specific set of power supplies.
@odata.id }]	string	read-only	The unique identifier for a resource.
Processors *(v1.9+)* [{	array		An array of links to the processors located in this chassis.
@odata.id }]	string	read-only	*Link to a Processor resource. See the Links section and the*

			Processor schema for details.
ResourceBlocks *(v1.5+)* [{	array		An array of links to the Resource Blocks located in this chassis.
@odata.id }]	string	read-only	*Link to a ResourceBlock resource. See the Links section and the ResourceBlock schema for details.*
Storage *(v1.2+)* [{	array		An array of links to the storage subsystems connected to or inside this chassis.
@odata.id }]	string	read-only	*Link to a Storage resource. See the Links section and the Storage schema for details.*
Switches *(v1.7+)* [{	array		An array of links to the Switches located in this chassis.
@odata.id }] }	string	read-only	*Link to a Switch resource. See the Links section and the Switch schema for details.*
Location *(v1.2+)* { }	object		The location of the chassis. *For property details, see Location.*
LogServices {	object		The link to the logs for this chassis. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of LogService. See the LogService schema for details.*
Manufacturer	string	read-only (null)	The manufacturer of this chassis.
MediaControllers *(v1.11+)* {	object		The link to the collection of media controllers located in this chassis. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of MediaController. See the MediaController schema for details.*
Memory *(v1.11+)* {	object		The link to the collection of memory located in this chassis. *Contains a link to a resource.*

@odata.id }	string	read-only	*Link to Collection of Memory. See the Memory schema for details.*
MemoryDomains *(v1.11+)* {	object		The link to the collection of memory domains located in this chassis. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of MemoryDomain. See the MemoryDomain schema for details.*
Model	string	read-only (null)	The model number of the chassis.
NetworkAdapters *(v1.4+)* {	object		The link to the collection of Network Adapters associated with this chassis. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of NetworkAdapter. See the NetworkAdapter schema for details.*
PartNumber	string	read-only (null)	The part number of the chassis.
PCIeDevices *(v1.10+)* {	object		The link to the collection of PCIe devices located in this chassis. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of PCIeDevice. See the PCIeDevice schema for details.*
PCIeSlots *(v1.8+)* {	object		The link to the PCIe slot properties for this chassis. *See the PCIeSlots schema for details on this property.*
@odata.id }	string	read-only	*Link to a PCIeSlots resource. See the Links section and the PCIeSlots schema for details.*
PhysicalSecurity *(v1.1+)* {	object		The state of the physical security sensor.
IntrusionSensor	string (enum)	read-write (null)	This indicates the known state of the physical security sensor, such as if it is hardware intrusion detected. *For the possible property values, see IntrusionSensor in*

			Property Details.
IntrusionSensorNumber	integer	read-only (null)	A numerical identifier to represent the physical security sensor.
IntrusionSensorReArm }	string (enum)	read-only (null)	The method that restores this physical security sensor to the normal state. *For the possible property values, see IntrusionSensorReArm in Property Details.*
Power {	object		The link to the power properties, or power supplies, power policies, and sensors, for this chassis. *See the Power schema for details on this property.*
@odata.id }	string	read-only	*Link to a Power resource. See the Links section and the Power schema for details.*
PowerState *(v1.0.1+)*	string (enum)	read-only (null)	The current power state of the chassis. *For the possible property values, see PowerState in Property Details.*
Sensors *(v1.9+)* {	object		The naivgation pointer to the collection of sensors located in the equipment and sub-components. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Sensor. See the Sensor schema for details.*
SerialNumber	string	read-only (null)	The serial number of the chassis.
SKU	string	read-only (null)	The SKU of the chassis.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Thermal {	object		The link to the thermal properties, such as fans, cooling, and sensors, for this chassis. *See the Thermal schema for*

			details on this property.
@odata.id }	string	read-only	*Link to a Thermal resource. See the Links section and the Thermal schema for details.*
UUID *(v1.7+)*	string	read-only (null)	The Universal Unique Identifier (UUID) for this chassis.
WeightKg *(v1.4+)*	number (kg)	read-only (null)	The weight of the chassis.
WidthMm *(v1.4+)*	number (mm)	read-only (null)	The width of the chassis.

Actions

Reset

This action resets the chassis but does not reset systems or other contained Resources, although side effects may occur that affect those Resources.

Action URI: {Base URI of target resource}/Actions/Chassis.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

Property Details

ChassisType:

The type of physical form factor of the chassis.

string	Description
Blade	An enclosed or semi-enclosed, typically vertically-oriented, system chassis that must be plugged into a multi-system chassis to function normally.
Card	A loose device or circuit board intended to be installed in a system or other enclosure.
Cartridge	A small self-contained system intended to be plugged into a multi-system chassis.
Component	A small chassis, card, or device that contains devices for a particular subsystem or function.
Drawer	An enclosed or semi-enclosed, typically horizontally-oriented, system chassis that may be slid into a multi-system chassis.

string	Description
Enclosure	A generic term for a chassis that does not fit any other description.
Expansion	A chassis that expands the capabilities or capacity of another chassis.
IPBasedDrive *(v1.3+)*	A chassis in a drive form factor with IP-based network connections.
Module	A small, typically removable, chassis or card that contains devices for a particular subsystem or function.
Other	A chassis that does not fit any of these definitions.
Pod	A collection of equipment racks in a large, likely transportable, container.
Rack	An equipment rack, typically a 19-inch wide freestanding unit.
RackGroup *(v1.4+)*	A group of racks that form a single entity or share infrastructure.
RackMount	A single-system chassis designed specifically for mounting in an equipment rack.
Row	A collection of equipment racks.
Shelf	An enclosed or semi-enclosed, typically horizontally-oriented, system chassis that must be plugged into a multi-system chassis to function normally.
Sidecar	A chassis that mates mechanically with another chassis to expand its capabilities or capacity.
Sled	An enclosed or semi-enclosed, system chassis that must be plugged into a multi-system chassis to function normally similar to a blade type chassis.
StandAlone	A single, free-standing system, commonly called a tower or desktop chassis.
StorageEnclosure *(v1.6+)*	A chassis that encloses storage.
Zone	A logical division or portion of a physical chassis that contains multiple devices or systems that cannot be physically separated.

EnvironmentalClass:

The ASHRAE Environmental Class for this chassis.

string	Description
A1	ASHRAE Environmental Class 'A1'.
A2	ASHRAE Environmental Class 'A2'.
A3	ASHRAE Environmental Class 'A3'.

string	Description
A4	ASHRAE Environmental Class 'A4'.

IndicatorLED:

The state of the indicator LED, which identifies the chassis.

string	Description
Blinking	The indicator LED is blinking.
Lit	The indicator LED is lit.
Off	The indicator LED is off.
Unknown *(deprecated v1.2)*	The state of the indicator LED cannot be determined. *This value has been deprecated in favor of returning null if the state is unknown.*

IntrusionSensor:

This indicates the known state of the physical security sensor, such as if it is hardware intrusion detected.

string	Description
HardwareIntrusion	A door, lock, or other mechanism protecting the internal system hardware from being accessed is detected to be in an insecure state.
Normal	No abnormal physical security condition is detected at this time.
TamperingDetected	Physical tampering of the monitored entity is detected.

IntrusionSensorReArm:

The method that restores this physical security sensor to the normal state.

string	Description
Automatic	Because no abnormal physical security condition is detected, this sensor is automatically restored to the normal state.
Manual	A manual re-arm of this sensor restores it to the normal state.

PowerState:

The current power state of the chassis.

string	Description
Off	The components within the chassis have no power, except some components may continue to have AUX power, such as the management controller.
On	The components within the chassis have power.
PoweringOff	A temporary state between on and off. The components within the chassis

string	Description
	can take time to process the power off action.
PoweringOn	A temporary state between off and on. The components within the chassis can take time to process the power on action.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

Example Response


```
{
    "@odata.type": "#Chassis.v1_11_0.Chassis",
    "Id": "1U",
    "Name": "Computer System Chassis",
    "ChassisType": "RackMount",
    "AssetTag": "Chicago-45Z-2381",
    "Manufacturer": "Contoso",
    "Model": "3500RX",
    "SKU": "8675309",
    "SerialNumber": "437XR1138R2",
    "PartNumber": "224071-J23",
    "PowerState": "On",
    "IndicatorLED": "Lit",
    "HeightMm": 44.45,
    "WidthMm": 431.8,
    "DepthMm": 711,
    "WeightKg": 15.31,
    "Location": {
        "PostalAddress": {
            "Country": "US",
            "Territory": "OR",
            "City": "Portland",
            "Street": "1001 SW 5th Avenue",
```

```
            "HouseNumber": 1100,
            "Name": "DMTF",
            "PostalCode": "97204"
        },
        "Placement": {
            "Row": "North",
            "Rack": "WEB43",
            "RackOffsetUnits": "EIA_310",
            "RackOffset": 12
        }
    },
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Thermal": {
        "@odata.id": "/redfish/v1/Chassis/1U/Thermal"
    },
    "Power": {
        "@odata.id": "/redfish/v1/Chassis/1U/Power"
    },
    "Assembly": {
        "@odata.id": "/redfish/v1/Chassis/1U/Assembly"
    },
    "Links": {
        "ComputerSystems": [
            {
                "@odata.id": "/redfish/v1/Systems/437XR1138R2"
            }
        ],
        "ManagedBy": [
            {
                "@odata.id": "/redfish/v1/Managers/BMC"
            }
        ],
        "ManagersInChassis": [
            {
                "@odata.id": "/redfish/v1/Managers/BMC"
            }
        ]
    },
    "@odata.id": "/redfish/v1/Chassis/1U"
}
```


Circuit 1.0.0

v1.0
2019.4

This is the schema definition for an electrical circuit.

URIs:

/redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Branches/*{CircuitId}*

/redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Mains/*{CircuitId}*

/redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Subfeeds/*{CircuitId}*

/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Branches/*{CircuitId}*

/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Mains/*{CircuitId}*

/redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Branches/*{CircuitId}*

/redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Feeders/*{CircuitId}*

/redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Mains/*{CircuitId}*

BreakerState	string (enum)	read-only (null)	The state of the over current protection device. *For the possible property values, see BreakerState in Property Details.*
CircuitType	string (enum)	read-only (null)	The type of circuit. *For the possible property values, see CircuitType in Property Details.*
CriticalCircuit	boolean	read-write (null)	Designates if this is a critical circuit.
CurrentAmps {	object (excerpt)		The current reading for this single phase circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
ElectricalContext	string (enum)	read-only (null)	The combination of current-carrying conductors. *For the possible property values, see ElectricalContext in Property Details.*
EnergykWh {	object (excerpt)		The energy reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.

SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.
FrequencyHz {	object (excerpt)		The frequency reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading }	number	read-only (null)	The sensor value.
IndicatorLED	string (enum)	read-write (null)	The state of the indicator LED, which identifies the circuit. *For the possible property values, see IndicatorLED in Property Details.*
Links {	object		The links to other resources that are related to this resource.
BranchCircuit {	object	(null)	A reference to the branch circuit related to this circuit.
@odata.id }	string	read-only	*Link to another Circuit resource.*
Oem { }	object		See the Oem object definition in the Common properties section.
Outlets [{	array		An array of references to the outlets contained by this circuit.
@odata.id }] }	string	read-only	*Link to a Outlet resource. See the Links section and the Outlet schema for details.*
NominalVoltage	string (enum)	read-only (null)	The nominal voltage for this circuit. *For the possible property values, see NominalVoltage in Property Details.*
PhaseWiringType	string (enum)	read-only (null)	The number of ungrounded current-carrying conductors (phases) and the total number of conductors (wires). *For the possible property values, see PhaseWiringType in Property Details.*
PlugType	string (enum)	read-only (null)	The type of plug according to NEMA, IEC, or regional standards. *For the possible property values, see PlugType in Property Details.*
PolyPhaseCurrentAmps {	object	(null)	The current readings for this circuit.
Line1 {	object (excerpt)		Line 1 current sensor. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*

CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line2 {	object (excerpt)		Line 2 current sensor. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line3 {	object (excerpt)		Line 3 current sensor. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Neutral {	object (excerpt)		Neutral line current sensor. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.

THDPercent *(v1.1+)* } }	number	read-only (null)	The total harmonic distortion (THD).
PolyPhaseEnergykWh {	object	(null)	The energy readings for this circuit.
Line1ToLine2 {	object (excerpt)		The Line 1 to Line 2 energy reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.
Line1ToNeutral {	object (excerpt)		The Line 1 to Neutral energy reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.
Line2ToLine3 {	object (excerpt)		The Line 2 to Line 3 energy reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.

Line2ToNeutral {	object (excerpt)		The Line 2 to Neutral energy reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.
Line3ToLine1 {	object (excerpt)		The Line 3 to Line 1 energy reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.
Line3ToNeutral {	object (excerpt)		The Line 3 to Neutral energy reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime } }	string	read-only (null)	The date and time when the time-based properties were last reset.
PolyPhasePowerWatts {	object	(null)	The power readings for this circuit.
Line1ToLine2 {	object (excerpt)		The Line 1 to Line 2 power reading for this circuit.

			This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.
Line1ToNeutral {	object (excerpt)		The Line 1 to Neutral power reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.
Line2ToLine3 {	object (excerpt)		The Line 2 to Line 3 power reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power

			(Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.
Line2ToNeutral {	object (excerpt)		The Line 2 to Neutral power reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.
Line3ToLine1 {	object (excerpt)		The Line 3 to Line 1 power reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.
Line3ToNeutral {	object (excerpt)		The Line 3 to Neutral power reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only	The link to the Resource that provides the

		(null)	data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading } }	number	read-only (null)	The sensor value.
PolyPhaseVoltage {	object	(null)	The voltage readings for this circuit.
Line1ToLine2 {	object (excerpt)		The Line 1 to Line 2 voltage reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line1ToNeutral {	object (excerpt)		The Line 1 to Neutral voltage reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line2ToLine3 {	object (excerpt)		The Line 2 to Line 3 voltage reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.

DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)*	number	read-only (null)	The total harmonic distortion (THD).
}			
Line2ToNeutral {	object (excerpt)		The Line 2 to Neutral voltage reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)*	number	read-only (null)	The total harmonic distortion (THD).
}			
Line3ToLine1 {	object (excerpt)		The Line 3 to Line 1 voltage reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)*	number	read-only (null)	The total harmonic distortion (THD).
}			
Line3ToNeutral {	object (excerpt)		The Line 3 to Neutral voltage reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.

THDPercent *(v1.1+)* } }	number	read-only (null)	The total harmonic distortion (THD).
PowerCycleDelaySeconds	number	read-write (null)	The number of seconds to delay power on after a PowerControl action to cycle power. Zero seconds indicates no delay.
PowerEnabled	boolean	read-only (null)	Indicates if the circuit can be powered.
PowerOffDelaySeconds	number	read-write (null)	The number of seconds to delay power off after a PowerControl action. Zero seconds indicates no delay to power off.
PowerOnDelaySeconds	number	read-write (null)	The number of seconds to delay power up after a power cycle or a PowerControl action. Zero seconds indicates no delay to power up.
PowerRestoreDelaySeconds	number	read-write (null)	The number of seconds to delay power on after power has been restored. Zero seconds indicates no delay.
PowerRestorePolicy	string (enum)	read-write	The desired power state of the circuit when power is restored after a power loss. *For the possible property values, see PowerRestorePolicy in Property Details.*
PowerState	string (enum)	read-only (null)	The power state of the circuit. *For the possible property values, see PowerState in Property Details.*
PowerWatts {	object (excerpt)		The power reading for this circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.
RatedCurrentAmps	number (A)	read-only (null)	The rated maximum current allowed for this circuit.
Status { }	object		The status and health of the resource and its subordinate or dependent resources.

			For property details, see Status.
Voltage {	object (excerpt)		The voltage reading for this single phase circuit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
VoltageType	string (enum)	read-only (null)	The type of voltage applied to the circuit. *For the possible property values, see VoltageType in Property Details.*

Actions

BreakerControl

This action attempts to reset the circuit breaker.

Action URI: {Base URI of target resource}/Actions/Circuit.BreakerControl

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
PowerState }	string (enum)	optional	The desired power state of the circuit if the breaker is reset successfully. *For the possible property values, see PowerState in Property Details.*

PowerControl

This action turns the circuit on or off.

Action URI: {Base URI of target resource}/Actions/Circuit.PowerControl

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
PowerState }	string (enum)	optional	The desired power state of the circuit. *For the possible property values, see PowerState in Property Details.*

ResetMetrics

This action resets metrics related to this circuit.

Action URI: {Base URI of target resource}/Actions/Circuit.ResetMetrics

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

BreakerState:

The state of the over current protection device.

string	Description
Normal	The breaker is powered on.
Off	The breaker is off.
Tripped	The breaker has been tripped.

CircuitType:

The type of circuit.

string	Description
Branch	A branch (output) circuit.
Feeder	A feeder (output) circuit.
Mains	A mains input or utility circuit.
Subfeed	A subfeed (output) circuit.

ElectricalContext:

The combination of current-carrying conductors.

string	Description
Line1	The circuits that share the L1 current-carrying conductor.
Line1ToLine2	The circuit formed by L1 and L2 current-carrying conductors.
Line1ToNeutral	The circuit formed by L1 and neutral current-carrying conductors.
Line1ToNeutralAndL1L2	The circuit formed by L1, L2, and neutral current-carrying conductors.
Line2	The circuits that share the L2 current-carrying conductor.
Line2ToLine3	The circuit formed by L2 and L3 current-carrying conductors.
Line2ToNeutral	The circuit formed by L2 and neutral current-carrying conductors.

string	Description
Line2ToNeutralAndL1L2	The circuit formed by L1, L2, and Neutral current-carrying conductors.
Line2ToNeutralAndL2L3	The circuits formed by L2, L3, and neutral current-carrying conductors.
Line3	The circuits that share the L3 current-carrying conductor.
Line3ToLine1	The circuit formed by L3 and L1 current-carrying conductors.
Line3ToNeutral	The circuit formed by L3 and neutral current-carrying conductors.
Line3ToNeutralAndL3L1	The circuit formed by L3, L1, and neutral current-carrying conductors.
LineToLine	The circuit formed by two current-carrying conductors.
LineToNeutral	The circuit formed by a line and neutral current-carrying conductor.
Neutral	The grounded current-carrying return circuit of current-carrying conductors.
Total	The circuit formed by all current-carrying conductors.

IndicatorLED:

The state of the indicator LED, which identifies the circuit.

string	Description
Blinking	The indicator LED is blinking.
Lit	The indicator LED is lit.
Off	The indicator LED is off.

NominalVoltage:

The nominal voltage for this circuit.

string	Description
AC100To240V	AC 100-240V nominal.
AC100To277V	AC 100-277V nominal.
AC120V	AC 120V nominal.
AC200To240V	AC 200-240V nominal.
AC200To277V	AC 200-277V nominal.
AC208V	AC 208V nominal.
AC230V	AC 230V nominal.

string	Description
AC240AndDC380V	AC 200-240V and DC 380V.
AC240V	AC 240V nominal.
AC277AndDC380V	AC 200-277V and DC 380V.
AC277V	AC 277V nominal.
AC400V	AC 400V or 415V nominal.
AC480V	AC 480V nominal.
DC240V	DC 240V nominal.
DC380V	High Voltage DC (380V).
DCNeg48V	-48V DC.

PhaseWiringType:

The number of ungrounded current-carrying conductors (phases) and the total number of conductors (wires).

string	Description
OneOrTwoPhase3Wire	Single or Two-Phase / 3-Wire (Line1, Line2 or Neutral, Protective Earth).
OnePhase3Wire	Single-phase / 3-Wire (Line1, Neutral, Protective Earth).
ThreePhase4Wire	Three-phase / 4-Wire (Line1, Line2, Line3, Protective Earth).
ThreePhase5Wire	Three-phase / 5-Wire (Line1, Line2, Line3, Neutral, Protective Earth).
TwoPhase3Wire	Two-phase / 3-Wire (Line1, Line2, Protective Earth).
TwoPhase4Wire	Two-phase / 4-Wire (Line1, Line2, Neutral, Protective Earth).

PlugType:

The type of plug according to NEMA, IEC, or regional standards.

string	Description
California_CS8265	California Standard CS8265 (Single-phase 250V; 50A; 2P3W).
California_CS8365	California Standard CS8365 (Three-phase 250V; 50A; 3P4W).
Field_208V_3P4W_60A	Field-wired; Three-phase 200-250V; 60A; 3P4W.
Field_400V_3P5W_32A	Field-wired; Three-phase 200-240/346-415V; 32A; 3P5W.
IEC_60309_316P6	IEC 60309 316P6 (Single-phase 200-250V; 16A; 1P3W; Blue, 6-hour).
IEC_60309_332P6	IEC 60309 332P6 (Single-phase 200-250V; 32A; 1P3W; Blue,

string	Description
	6-hour).
IEC_60309_363P6	IEC 60309 363P6 (Single-phase 200-250V; 63A; 1P3W; Blue, 6-hour).
IEC_60309_460P9	IEC 60309 460P9 (Three-phase 200-250V; 60A; 3P4W; Blue; 9-hour).
IEC_60309_516P6	IEC 60309 516P6 (Three-phase 200-240/346-415V; 16A; 3P5W; Red; 6-hour).
IEC_60309_532P6	IEC 60309 532P6 (Three-phase 200-240/346-415V; 32A; 3P5W; Red; 6-hour).
IEC_60309_560P9	IEC 60309 560P9 (Three-phase 120-144/208-250V; 60A; 3P5W; Blue; 9-hour).
IEC_60309_563P6	IEC 60309 563P6 (Three-phase 200-240/346-415V; 63A; 3P5W; Red; 6-hour).
IEC_60320_C14	IEC C14 (Single-phase 250V; 10A; 1P3W).
IEC_60320_C20	IEC C20 (Single-phase 250V; 16A; 1P3W).
NEMA_5_15P	NEMA 5-15P (Single-phase 125V; 15A; 1P3W).
NEMA_5_20P	NEMA 5-20P (Single-phase 125V; 20A; 1P3W).
NEMA_6_15P	NEMA 6-15P (Single-phase 250V; 15A; 2P3W).
NEMA_6_20P	NEMA 6-20P (Single-phase 250V; 20A; 2P3W).
NEMA_L14_20P	NEMA L14-20P (Split-phase 125/250V; 20A; 2P4W).
NEMA_L14_30P	NEMA L14-30P (Split-phase 125/250V; 30A; 2P4W).
NEMA_L15_20P	NEMA L15-20P (Three-phase 250V; 20A; 3P4W).
NEMA_L15_30P	NEMA L15-30P (Three-phase 250V; 30A; 3P4W).
NEMA_L21_20P	NEMA L21-20P (Three-phase 120/208V; 20A; 3P5W).
NEMA_L21_30P	NEMA L21-30P (Three-phase 120/208V; 30A; 3P5W).
NEMA_L22_20P	NEMA L22-20P (Three-phase 277/480V; 20A; 3P5W).
NEMA_L22_30P	NEMA L22-30P (Three-phase 277/480V; 30A; 3P5W).
NEMA_L5_15P	NEMA L5-15P (Single-phase 125V; 15A; 1P3W).
NEMA_L5_20P	NEMA L5-20P (Single-phase 125V; 20A; 1P3W).
NEMA_L5_30P	NEMA L5-30P (Single-phase 125V; 30A; 1P3W).
NEMA_L6_15P	NEMA L6-15P (Single-phase 250V; 15A; 2P3W).
NEMA_L6_20P	NEMA L6-20P (Single-phase 250V; 20A; 2P3W).

string	Description
NEMA_L6_30P	NEMA L6-30P (Single-phase 250V; 30A; 2P3W).

PowerRestorePolicy:

The desired power state of the circuit when power is restored after a power loss.

string	Description
AlwaysOff	Always remain powered off when external power is applied.
AlwaysOn	Always power on when external power is applied.
LastState	Return to the last power state (on or off) when external power is applied.

PowerState:

The power state of the circuit.

string	Description
Off	The state is powered off.
On	The state is powered on.
PoweringOff	A temporary state between on and off.
PoweringOn	A temporary state between off and on.

VoltageType:

The type of voltage applied to the circuit.

string	Description
AC	Alternating Current (AC) circuit.
DC	Direct Current (DC) circuit.

Example Response


```
{
    "@odata.type": "#Circuit.v1_0_0.Circuit",
    "Id": "A",
    "Name": "Branch Circuit A",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "CircuitType": "Branch",
    "PhaseWiringType": "TwoPhase3Wire",
    "NominalVoltage": "AC200To240V",
    "RatedCurrentAmps": 16,
    "BreakerState": "Normal",
    "PolyPhaseVoltage": {
        "Line1ToNeutral": {
```

```
            "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/VoltageAL1N",
            "Reading": 118.2
        },
        "Line1ToLine2": {
            "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/VoltageAL1L2",
            "Reading": 203.5
        }
    },
    "CurrentAmps": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/CurrentA",
        "Reading": 5.19
    },
    "PolyPhaseCurrentAmps": {
        "Line1": {
            "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/CurrentA",
            "Reading": 5.19
        }
    },
    "PowerWatts": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/PowerA",
        "Reading": 937.4,
        "ApparentVA": 937.4,
        "ReactiveVAR": 0,
        "PowerFactor": 1
    },
    "PolyPhasePowerWatts": {
        "Line1ToNeutral": {
            "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/PowerA1",
            "Reading": 937.4,
            "PeakReading": 1000.5,
            "ApparentVA": 937.4,
            "ReactiveVAR": 0,
            "PowerFactor": 1
        }
    },
    "FrequencyHz": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/FrequencyA",
        "Reading": 60
    },
    "EnergykWh": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/EnergyA",
        "Reading": 325675
    },
    "Links": {
        "Outlets": [
            {
                "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A1"
            },
            {
                "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A2"
            },
            {
                "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A3"
            }
        ]
    },
    "Actions": {
        "#Circuit.BreakerControl": {
```

```
            "target": "/redfish/v1/PowerEquipment/RackPDUs/1/Branches/A/Circuit.BreakerCont
        },
        "#Outlet.ResetMetrics": {
            "target": "/redfish/v1/PowerEquipment/RackPDUs/1/Branches/A/Circuit.ResetMetric
        }
    },
    "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Branches/A"
}
```


CompositionService 1.1.2

v1.1	*v1.0*
2018.2	2017.1

The CompositionService schema describes a Composition Service and its properties and links to the Resources available for composition.

URIs:

/redfish/v1/CompositionService

AllowOverprovisioning *(v1.1+)*	boolean	read-write (null)	An indication of whether this service is allowed to overprovision a composition relative to the composition request.
AllowZoneAffinity *(v1.1+)*	boolean	read-only (null)	An indication of whether a client can request that a specific Resource Zone fulfill a composition request.
ResourceBlocks {	object		The Resource Blocks available on the service. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of ResourceBlock. See the ResourceBlock schema for details.*
ResourceZones {	object		The Resource Zones available on the service. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Zone. See the Zone schema for details.*
ServiceEnabled	boolean	read-write (null)	An indication of whether this service is enabled.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Example Response


```
{
    "@odata.type": "#CompositionService.v1_1_2.CompositionService",
```

```
    "Id": "CompositionService",
    "Name": "Composition Service",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "ServiceEnabled": true,
    "AllowOverprovisioning": true,
    "AllowZoneAffinity": true,
    "ResourceBlocks": {
        "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks"
    },
    "ResourceZones": {
        "@odata.id": "/redfish/v1/CompositionService/ResourceZones"
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/CompositionService"
}
```


ComputerSystem 1.10.0

v1.10	*v1.9*	*v1.8*	*v1.7*	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.3	2019.2	2019.1	2018.3	2017.3	2017.1	2016.3	2016.2	2016.1	1.0

The ComputerSystem schema represents a computer or system instance and the software-visible Resources, or items within the data plane, such as memory, CPU, and other devices that it can access. Details of those Resources or subsystems are also linked through this Resource.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*

/redfish/v1/Systems/*{ComputerSystemId}*

AssetTag	string	read-write (null)	The user-definable tag that can track this computer system for inventory or other client purposes.
Bios *(v1.1+)* {	object		The link to the BIOS settings associated with this system. *See the Bios schema for details on this property.*
@odata.id }	string	read-only	*Link to a Bios resource. See the Links section and the Bios schema for details.*
BiosVersion	string	read-only (null)	The version of the system BIOS or primary system firmware.
Boot {	object		The boot settings for this

			system.
AliasBootOrder *(v1.6+)* [ ]	array (string (enum))	read-write (null)	Ordered array of boot source aliases representing the persistent boot order associated with this computer system. *For the possible property values, see AliasBootOrder in Property Details.*
BootNext *(v1.5+)*	string	read-write (null)	The BootOptionReference of the Boot Option to perform a one-time boot from when BootSourceOverrideTarget is `UefiBootNext`.
BootOptions *(v1.5+)* {	object		The link to the collection of the UEFI boot options associated with this computer system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of BootOption. See the BootOption schema for details.*
BootOrder *(v1.5+)* [ ]	array (string, null)	read-write	An array of BootOptionReference strings that represent the persistent boot order for with this computer system.
BootOrderPropertySelection *(v1.6+)*	string (enum)	read-write (null)	The name of the boot order property that the system uses for the persistent boot order. *For the possible property values, see BootOrderPropertySelection in Property Details.*
BootSourceOverrideEnabled	string (enum)	read-write (null)	The state of the boot source override feature. *For the possible property values, see BootSourceOverrideEnabled in Property Details.*
BootSourceOverrideMode *(v1.1+)*	string (enum)	read-write (null)	The BIOS boot mode to use when the system boots from the BootSourceOverrideTarget boot source. *For the possible property values, see*

			BootSourceOverrideMode in Property Details.
BootSourceOverrideTarget	string (enum)	read-write (null)	The current boot source to use at the next boot instead of the normal boot device, if BootSourceOverrideEnabled is `true`. *For the possible property values, see BootSourceOverrideTarget in Property Details.*
Certificates *(v1.7+)* {	object		The link to a collection of certificates used for booting through HTTPS by this computer system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Certificate. See the Certificate schema for details.*
HttpBootUri *(v1.9+)*	string	read-write (null)	The URI to boot from when BootSourceOverrideTarget is set to `UefiHttp`.
UefiTargetBootSourceOverride }	string	read-write (null)	The UEFI device path of the device from which to boot when BootSourceOverrideTarget is `UefiTarget`.
EthernetInterfaces {	object		The link to the collection of Ethernet interfaces associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of EthernetInterface. See the EthernetInterface schema for details.*
FabricAdapters *(v1.10+)* {	object		The link to the collection of fabric adapters associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of FabricAdapter. See the FabricAdapter schema for details.*
HostedServices *(v1.2+)* {	object		The services that this

			computer system supports.
Oem { }	object		See the Oem object definition in the Common properties section.
StorageServices {	object		The link to a collection of storage services that this computer system supports.
@odata.id } }	string	read-only	The unique identifier for a resource.
HostingRoles *(v1.2+)* [ ]	array (string (enum))	read-only	The hosting roles that this computer system supports. The enumerations of HostingRoles specify different features that the hosting ComputerSystem supports. *For the possible property values, see HostingRoles in Property Details.*
HostName	string	read-write (null)	The DNS host name, without any domain information.
HostWatchdogTimer *(v1.5+)* {	object		The host watchdog timer functionality for this system.
FunctionEnabled	boolean	read-write required (null)	An indication of whether a user has enabled the host watchdog timer functionality. This property indicates only that a user has enabled the timer. To activate the timer, installation of additional host-based software is necessary; an update to this property does not initiate the timer.
Oem { }	object		See the Oem object definition in the Common properties section.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
TimeoutAction	string (enum)	read-write required (null)	The action to perform when the watchdog timer reaches its timeout value.

			For the possible property values, see TimeoutAction in Property Details.
WarningAction }	string (enum)	read-write (null)	The action to perform when the watchdog timer is close to reaching its timeout value. This action typically occurs from three to ten seconds before to the timeout value, but the exact timing is dependent on the implementation. *For the possible property values, see WarningAction in Property Details.*
IndicatorLED	string (enum)	read-write (null)	The state of the indicator LED, which identifies the system. *For the possible property values, see IndicatorLED in Property Details.*
Links {	object		The links to other Resources that are related to this Resource.
Chassis [{	array		An array of links to the chassis that contains this system.
@odata.id }]	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
ConsumingComputerSystems *(v1.5+)* [{	array		An array of links to ComputerSystems that are realized, in whole or in part, from this ComputerSystem.
@odata.id }]	string	read-only	*Link to another ComputerSystem resource.*
CooledBy [{	array		An array of one or more IDs for Resources that cool this computer system. Normally, the ID is for either a chassis or a specific set of fans.
@odata.id }]	string	read-only	The unique identifier for a resource.
Endpoints *(v1.2+)* [{	array		An array of links to the endpoints that connect to this system.

@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
ManagedBy [{	array		An array of links to the managers responsible for this system.
@odata.id }]	string	read-only	*Link to a Manager resource. See the Links section and the Manager schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PoweredBy [{	array		An array of one or more IDs for Resources that power this computer system. Normally, the ID is for either a chassis or a specific set of power supplies.
@odata.id }]	string	read-only	The unique identifier for a resource.
ResourceBlocks *(v1.4+)* [{	array		An array of links to the Resource Blocks that are used in this computer system.
@odata.id }]	string	read-only	*Link to a ResourceBlock resource. See the Links section and the ResourceBlock schema for details.*
SupplyingComputerSystems *(v1.5+)* [{	array		An array of links to ComputerSystems that contribute, in whole or in part, to the implementation of this ComputerSystem.
@odata.id }] }	string	read-only	*Link to another ComputerSystem resource.*
LogServices {	object		The link to the collection of Log Services associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of LogService. See the LogService schema for*

			details.
Manufacturer	string	read-only (null)	The manufacturer or OEM of this system.
Memory *(v1.1+)* {	object		The link to the collection of memory associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Memory. See the Memory schema for details.*
MemoryDomains *(v1.2+)* {	object		The link to the collection of memory domains associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of MemoryDomain. See the MemoryDomain schema for details.*
MemorySummary {	object		The central memory of the system in general detail.
MemoryMirroring *(v1.1+)*	string (enum)	read-only (null)	The ability and type of memory mirroring that this computer system supports. *For the possible property values, see MemoryMirroring in Property Details.*
Metrics *(v1.8+)* {	object		The link to the metrics associated with all memory in this system. *See the MemoryMetrics schema for details on this property.*
@odata.id }	string	read-only	*Link to a MemoryMetrics resource. See the Links section and the MemoryMetrics schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
TotalSystemMemoryGiB	number	read-only	The total configured

	(GiBy)	(null)	operating system-accessible memory (RAM), measured in GiB.
TotalSystemPersistentMemoryGiB *(v1.4+)* }	number (GiBy)	read-only (null)	The total configured, system-accessible persistent memory, measured in GiB.
Model	string	read-only (null)	The product name for this system, without the manufacturer name.
NetworkInterfaces *(v1.3+)* {	object		The link to the collection of Network Interfaces associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of NetworkInterface. See the NetworkInterface schema for details.*
PartNumber	string	read-only (null)	The part number for this system.
PCIeDevices *(v1.2+)* [{	array		The link to a collection of PCIe devices that this computer system uses.
@odata.id }]	string	read-only	*Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details.*
PCIeFunctions *(v1.2+)* [{	array		The link to a collection of PCIe functions that this computer system uses.
@odata.id }]	string	read-only	*Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.*
PowerRestorePolicy *(v1.6+)*	string (enum)	read-write	The desired power state of the system when power is restored after a power loss. *For the possible property values, see PowerRestorePolicy in Property Details.*
PowerState	string (enum)	read-only (null)	The current power state of the system. *For the possible property values, see PowerState in*

			Property Details.
Processors {	object		The link to the collection of processors associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Processor. See the Processor schema for details.*
ProcessorSummary {	object		The central processors of the system in general detail.
Count	integer	read-only (null)	The number of physical processors in the system.
LogicalProcessorCount *(v1.5+)*	integer	read-only (null)	The number of logical processors in the system.
Metrics *(v1.7+)* {	object		The link to the metrics associated with all processors in this system. *See the ProcessorMetrics schema for details on this property.*
@odata.id }	string	read-only	*Link to a ProcessorMetrics resource. See the Links section and the ProcessorMetrics schema for details.*
Model	string	read-only (null)	The processor model for the primary or majority of processors in this system.
Status { } }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Redundancy *(v1.5+)* [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common objects section. *For property details, see Redundancy.*
SecureBoot *(v1.1+)* {	object		The link to the UEFI Secure Boot associated with this

			system. *See the SecureBoot schema for details on this property.*
@odata.id }	string	read-only	*Link to a SecureBoot resource. See the Links section and the SecureBoot schema for details.*
SerialNumber	string	read-only (null)	The serial number for this system.
SimpleStorage {	object		The link to the collection of storage devices associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of SimpleStorage. See the SimpleStorage schema for details.*
SKU	string	read-only (null)	The manufacturer SKU for this system.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Storage *(v1.1+)* {	object		The link to the collection of storage devices associated with this system. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Storage. See the Storage schema for details.*
SubModel *(v1.5+)*	string	read-only (null)	The sub-model for this system.
SystemType	string (enum)	read-only	The type of computer system that this Resource represents. *For the possible property values, see SystemType in Property Details.*
TrustedModules *(v1.1+)* [{	array		An array of trusted modules in the system.
FirmwareVersion	string	read-only (null)	The firmware version of this Trusted Module.

FirmwareVersion2 *(v1.3+)*	string	read-only (null)	The second firmware version of this Trusted Module, if applicable.
InterfaceType	string (enum)	read-only (null)	The interface type of the Trusted Module. *For the possible property values, see InterfaceType in Property Details.*
InterfaceTypeSelection *(v1.3+)*	string (enum)	read-only (null)	The interface type selection supported by this Trusted Module. *For the possible property values, see InterfaceTypeSelection in Property Details.*
Oem { }	object		See the Oem object definition in the Common properties section.
Status { } }]	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UUID	string	read-only (null)	The UUID for this system. *For more information about this property, see Property Details.*

Actions

AddResourceBlock

This action adds a Resource Block to a system.

Action URI: {Base URI of target resource}/Actions/ ComputerSystem.AddResourceBlock

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ComputerSystemETag	string	optional	The current ETag of the system.
ResourceBlock {	object	required	The Resource Block to add to the system. *See the ResourceBlock schema for details on this property.*
@odata.id }	string	read-only	*Link to a ResourceBlock resource. See the Links section and the ResourceBlock schema for details.*

ResourceBlockETag }	string	optional	The current ETag of the Resource Block to add to the system.

RemoveResourceBlock

This action removes a Resource Block from a system.

Action URI: {Base URI of target resource}/Actions/ ComputerSystem.RemoveResourceBlock

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ComputerSystemETag	string	optional	The current ETag of the system.
ResourceBlock {	object	required	The Resource Block to remove from the system. *See the ResourceBlock schema for details on this property.*
@odata.id }	string	read-only	*Link to a ResourceBlock resource. See the Links section and the ResourceBlock schema for details.*
ResourceBlockETag }	string	optional	The current ETag of the Resource Block to remove from the system.

Reset

This action resets the system.

Action URI: {Base URI of target resource}/Actions/ComputerSystem.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

SetDefaultBootOrder

This action sets the BootOrder to the default settings.

Action URI: {Base URI of target resource}/Actions/ ComputerSystem.SetDefaultBootOrder

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

AliasBootOrder:

Ordered array of boot source aliases representing the persistent boot order associated with

this computer system.

string	Description
BiosSetup	Boot to the BIOS setup utility.
Cd	Boot from the CD or DVD.
Diags	Boot to the manufacturer's diagnostics program.
Floppy	Boot from the floppy disk drive.
Hdd	Boot from a hard drive.
None	Boot from the normal boot device.
Pxe	Boot from the Pre-Boot EXecution (PXE) environment.
RemoteDrive	Boot from a remote drive, such as an iSCSI target.
SDCard	Boot from an SD card.
UefiBootNext	Boot to the UEFI device that the BootNext property specifies.
UefiHttp	Boot from a UEFI HTTP network location.
UefiShell	Boot to the UEFI Shell.
UefiTarget	Boot to the UEFI device specified in the UefiTargetBootSourceOverride property.
Usb	Boot from a system BIOS-specified USB device.
Utilities	Boot to the manufacturer's utilities program or programs.

BootOrderPropertySelection:

The name of the boot order property that the system uses for the persistent boot order.

string	Description
AliasBootOrder	The system uses the AliasBootOrder property to specify the persistent boot order.
BootOrder	The system uses the BootOrder property to specify the persistent boot order.

BootSourceOverrideEnabled:

The state of the boot source override feature.

string	Description
Continuous	The system boots to the target specified in the BootSourceOverrideTarget property until this property is `Disabled`.
Disabled	The system boots normally.
Once	On its next boot cycle, the system boots one time to the boot source override

string	Description
	target. Then, the BootSourceOverrideEnabled value is reset to `Disabled`.

BootSourceOverrideMode:

The BIOS boot mode to use when the system boots from the BootSourceOverrideTarget boot source.

string	Description
Legacy	The system boots in non-UEFI boot mode to the boot source override target.
UEFI	The system boots in UEFI boot mode to the boot source override target.

BootSourceOverrideTarget:

The current boot source to use at the next boot instead of the normal boot device, if BootSourceOverrideEnabled is `true`.

string	Description
BiosSetup	Boot to the BIOS setup utility.
Cd	Boot from the CD or DVD.
Diags	Boot to the manufacturer's diagnostics program.
Floppy	Boot from the floppy disk drive.
Hdd	Boot from a hard drive.
None	Boot from the normal boot device.
Pxe	Boot from the Pre-Boot EXecution (PXE) environment.
RemoteDrive *(v1.2+)*	Boot from a remote drive, such as an iSCSI target.
SDCard *(v1.1+)*	Boot from an SD card.
UefiBootNext *(v1.5+)*	Boot to the UEFI device that the BootNext property specifies.
UefiHttp *(v1.1+)*	Boot from a UEFI HTTP network location.
UefiShell	Boot to the UEFI Shell.
UefiTarget	Boot to the UEFI device specified in the UefiTargetBootSourceOverride property.
Usb	Boot from a system BIOS-specified USB device.
Utilities	Boot to the manufacturer's utilities program or programs.

HostingRoles:

The hosting roles that this computer system supports. The enumerations of HostingRoles specify different features that the hosting ComputerSystem supports.

string	Description
Appliance	The system hosts functionality that supports the system acting as an appliance.
ApplicationServer	The system hosts functionality that supports general purpose applications.
BareMetalServer	The system hosts functionality that supports the system acting as a bare metal server.
ContainerServer	The system hosts functionality that supports the system acting as a container server.
StorageServer	The system hosts functionality that supports the system acting as a storage server.
Switch	The system hosts functionality that supports the system acting as a switch.
VirtualMachineServer	The system hosts functionality that supports the system acting as a virtual machine server.

IndicatorLED:

The state of the indicator LED, which identifies the system.

string	Description
Blinking	The indicator LED is blinking.
Lit	The indicator LED is lit.
Off	The indicator LED is off.
Unknown *(deprecated v1.1)*	The state of the indicator LED cannot be determined. *This value has been deprecated in favor of returning null if the state is unknown.*

InterfaceType:

The interface type of the Trusted Module.

string	Description
TCM1_0	Trusted Cryptography Module (TCM) 1.0.
TPM1_2	Trusted Platform Module (TPM) 1.2.
TPM2_0	Trusted Platform Module (TPM) 2.0.

InterfaceTypeSelection:

The interface type selection supported by this Trusted Module.

string	Description
BiosSetting	The TrustedModule supports switching InterfaceType through platform

string	Description
	software, such as a BIOS configuration attribute.
FirmwareUpdate	The TrustedModule supports switching InterfaceType through a firmware update.
None	The TrustedModule does not support switching the InterfaceType.
OemMethod	The TrustedModule supports switching InterfaceType through an OEM proprietary mechanism.

MemoryMirroring:

The ability and type of memory mirroring that this computer system supports.

string	Description
DIMM	The system supports DIMM mirroring at the DIMM level. Individual DIMMs can be mirrored.
Hybrid	The system supports a hybrid mirroring at the system and DIMM levels. Individual DIMMs can be mirrored.
None	The system does not support DIMM mirroring.
System	The system supports DIMM mirroring at the system level. Individual DIMMs are not paired for mirroring in this mode.

PowerRestorePolicy:

The desired power state of the system when power is restored after a power loss.

string	Description
AlwaysOff	The system always remains powered off when power is applied.
AlwaysOn	The system always powers on when power is applied.
LastState	The system returns to its last on or off power state when power is applied.

PowerState:

The current power state of the system.

string	Description
Off	The system is powered off, although some components may continue to have AUX power such as management controller.
On	The system is powered on.
PoweringOff	A temporary state between on and off. The power off action can take time while the OS is in the shutdown process.
PoweringOn	A temporary state between off and on. This temporary state can be very short.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

SystemType:

The type of computer system that this Resource represents.

string	Description
Composed *(v1.4+)*	A computer system constructed by binding Resource Blocks together.
OS	An operating system instance.
Physical	A computer system.
PhysicallyPartitioned	A hardware-based partition of a computer system.
Virtual	A virtual machine instance running on this system.
VirtuallyPartitioned	A virtual or software-based partition of a computer system.

TimeoutAction:

The action to perform when the watchdog timer reaches its timeout value.

string	Description
None	No action taken.
OEM	Perform an OEM-defined action.
PowerCycle	Power cycle the system.
PowerDown	Power down the system.
ResetSystem	Reset the system.

UUID:

The UUID for this system.

The UUID property contains a value that represents the universal unique identifier number (UUID) of a system.

The UUID property is a string data type. The RFC4122-specified 35-character string format is `xxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx`, where each `x` represents a hexadecimal value from `0` to `f`.

Regarding the case of the hexadecimal values, RFC4122 specifies that the hexadecimal values should be lowercase characters. Most modern scripting languages typically also represent hexadecimal values in lowercase characters following the RFC. However, dmidecode, WMI and some Redfish implementations currently use uppercase characters for UUID on output.

WarningAction:

The action to perform when the watchdog timer is close to reaching its timeout value. This action typically occurs from three to ten seconds before to the timeout value, but the exact timing is dependent on the implementation.

string	Description
DiagnosticInterrupt	Raise a (typically non-maskable) Diagnostic Interrupt.
MessagingInterrupt	Raise a legacy IPMI messaging interrupt.
None	No action taken.
OEM	Perform an OEM-defined action.
SCI	Raise an interrupt using the ACPI System Control Interrupt (SCI).
SMI	Raise a Systems Management Interrupt (SMI).

Example Response


```
{
    "@odata.type": "#ComputerSystem.v1_10_0.ComputerSystem",
    "Id": "437XR1138R2",
    "Name": "WebFrontEnd483",
    "SystemType": "Physical",
    "AssetTag": "Chicago-45Z-2381",
    "Manufacturer": "Contoso",
    "Model": "3500RX",
    "SKU": "8675309",
    "SerialNumber": "437XR1138R2",
    "PartNumber": "224071-J23",
    "Description": "Web Front End node",
    "UUID": "38947555-7742-3448-3784-823347823834",
    "HostName": "web483",
    "Status": {
        "State": "Enabled",
        "Health": "OK",
        "HealthRollup": "OK"
    },
    "HostingRoles": [
        "ApplicationServer"
```

```
    ],
    "IndicatorLED": "Off",
    "PowerState": "On",
    "Boot": {
        "BootSourceOverrideEnabled": "Once",
        "BootSourceOverrideTarget": "Pxe",
        "BootSourceOverrideTarget@Redfish.AllowableValues": [
            "None",
            "Pxe",
            "Cd",
            "Usb",
            "Hdd",
            "BiosSetup",
            "Utilities",
            "Diags",
            "SDCard",
            "UefiTarget"
        ],
        "BootSourceOverrideMode": "UEFI",
        "UefiTargetBootSourceOverride": "/0x31/0x33/0x01/0x01"
    },
    "TrustedModules": [
        {
            "FirmwareVersion": "1.13b",
            "InterfaceType": "TPM1_2",
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            }
        }
    ],
    "Oem": {
        "Contoso": {
            "@odata.type": "#Contoso.ComputerSystem",
            "ProductionLocation": {
                "FacilityName": "PacWest Production Facility",
                "Country": "USA"
            }
        },
        "Chipwise": {
            "@odata.type": "#Chipwise.ComputerSystem",
            "Style": "Executive"
        }
    },
    "BiosVersion": "P79 v1.33 (02/28/2015)",
    "ProcessorSummary": {
        "Count": 2,
        "Model": "Multi-Core Intel(R) Xeon(R) processor 7xxx Series",
        "Status": {
            "State": "Enabled",
            "Health": "OK",
            "HealthRollup": "OK"
        }
    },
    "MemorySummary": {
        "TotalSystemMemoryGiB": 96,
        "TotalSystemPersistentMemoryGiB": 0,
        "MemoryMirroring": "None",
```

```
        "Status": {
            "State": "Enabled",
            "Health": "OK",
            "HealthRollup": "OK"
        }
    },
    "Bios": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/BIOS"
    },
    "Processors": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/Processors"
    },
    "Memory": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/Memory"
    },
    "EthernetInterfaces": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/EthernetInterfaces"
    },
    "SimpleStorage": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/SimpleStorage"
    },
    "LogServices": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/LogServices"
    },
    "Links": {
        "Chassis": [
            {
                "@odata.id": "/redfish/v1/Chassis/1U"
            }
        ],
        "ManagedBy": [
            {
                "@odata.id": "/redfish/v1/Managers/BMC"
            }
        ]
    },
    "Actions": {
        "#ComputerSystem.Reset": {
            "target": "/redfish/v1/Systems/437XR1138R2/Actions/ComputerSystem.Reset",
            "ResetType@Redfish.AllowableValues": [
                "On",
                "ForceOff",
                "GracefulShutdown",
                "GracefulRestart",
                "ForceRestart",
                "Nmi",
                "ForceOn",
                "PushPowerButton"
            ]
        },
        "Oem": {
            "#Contoso.Reset": {
                "target": "/redfish/v1/Systems/437XR1138R2/Oem/Contoso/Actions/Contoso.Rese
            }
        }
    },
    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
}
```

Drive 1.9.0

v1.9	*v1.8*	*v1.7*	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.3	2019.2	2019.1	2018.2	2018.1	2017.3	2017.1	2016.2	2016.1

The Drive schema represents a single physical drive for a system, including links to associated volumes.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/Drives/*{DriveId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Drives/*{DriveId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Drives/*{DriveId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Drives/*{DriveId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Drives/*{DriveId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Drives/*{DriveId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Drives/*{DriveId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Drives/*{DriveId}*

Assembly *(v1.3+)* {	object		The link to the assembly associated with this drive. *See the Assembly schema for details on this property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the Links section and the Assembly schema for details.*
AssetTag	string	read-write (null)	The user-assigned asset tag for this drive.
BlockSizeBytes	integer (bytes)	read-only (null)	The size, in bytes, of the smallest addressable unit, or block.
CapableSpeedGbs	number (Gbit/s)	read-only (null)	The speed, in gigabit per second (Gbit/s), at which this drive can communicate to a storage controller in ideal conditions.
CapacityBytes	integer (bytes)	read-only (null)	The size, in bytes, of this drive.
EncryptionAbility	string (enum)	read-only (null)	The encryption ability of this drive. *For the possible property values, see EncryptionAbility in Property Details.*
EncryptionStatus	string (enum)	read-only (null)	The status of the encryption of this drive. *For the possible property values, see EncryptionStatus in Property Details.*

FailurePredicted	boolean	read-only (null)	An indication of whether this drive currently predicts a failure in the near future.
HotspareReplacementMode *(v1.5+)*	string (enum)	read-write (null)	The replacement mode for the hot spare drive. *For the possible property values, see HotspareReplacementMode in Property Details.*
HotspareType	string (enum)	read-only (null)	The type of hot spare that this drive currently serves as. *For the possible property values, see HotspareType in Property Details.*
Identifiers [{ }]	array (object)		The durable names for the drive. Any additional identifiers for a Resource. *For property details, see Identifier.*
IndicatorLED	string (enum)	read-write (null)	The state of the indicator LED, that identifies the drive. *For the possible property values, see IndicatorLED in Property Details.*
Links {	object		The links to other Resources that are related to this Resource.
Chassis *(v1.2+)* {	object		The link to the chassis that contains this drive. *See the Chassis schema for details on this property.*
@odata.id }	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
Endpoints *(v1.1+)* [{	array		An array of links to the endpoints that connect to this drive.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeFunctions *(v1.6+)* [{	array		An array of links to the PCIe functions that the drive produces.
@odata.id }]	string	read-only	*Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.*
StoragePools *(v1.8+)* [{	array		An array of links to the storage pools to which this drive belongs.
@odata.id }]	string	read-only	The unique identifier for a resource.

Volumes [{	array		An array of links to the volumes that this drive either wholly or only partially contains.
@odata.id }] }	string	read-only	The unique identifier for a resource.
Location *(deprecated v1.4)* [{ }]	array (object)		The location of the drive. The location of a Resource. *For property details, see Location. Deprecated in v1.4 and later. This property has been deprecated in favor of the singular property PhysicalLocation found in Drive.v1_4_0.*
Manufacturer	string	read-only (null)	The manufacturer of this drive.
MediaType	string (enum)	read-only (null)	The type of media contained in this drive. *For the possible property values, see MediaType in Property Details.*
Model	string	read-only (null)	The model number for the drive.
Multipath *(v1.9+)*	boolean	read-only (null)	An indication of whether the drive is accessible from multiple paths.
NegotiatedSpeedGbs	number (Gbit/s)	read-only (null)	The speed, in gigabit per second (Gbit/s), at which this drive currently communicates to the storage controller.
Operations *(v1.1+)* [{	array		The operations currently running on the Drive.
AssociatedTask {	object		The link to the task associated with the operation, if any. *See the Task schema for details on this property.*
@odata.id }	string	read-only	*Link to a Task resource. See the Links section and the Task schema for details.*
OperationName	string	read-only (null)	The name of the operation.
PercentageComplete }]	integer (%)	read-only (null)	The percentage of the operation that has been completed.
PartNumber	string	read-only (null)	The part number for this drive.
PhysicalLocation *(v1.4+)* { }	object		The location of the drive. *For property details, see Location.*

PredictedMediaLifeLeftPercent	number (%)	read-only (null)	The percentage of reads and writes that are predicted to be available for the media.
Protocol	string (enum)	read-only (null)	The protocol that this drive currently uses to communicate to the storage controller. *For the possible property values, see Protocol in Property Details.*
Revision	string	read-only (null)	The revision of this drive. This is typically the firmware or hardware version of the drive.
RotationSpeedRPM	number (RPM)	read-only (null)	The rotation speed of this drive, in revolutions per minute (RPM).
SerialNumber	string	read-only (null)	The serial number for this drive.
SKU	string	read-only (null)	The SKU for this drive.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
StatusIndicator	string (enum)	read-write (null)	The state of the status indicator, which communicates status information about this drive. *For the possible property values, see StatusIndicator in Property Details.*
WriteCacheEnabled *(v1.7+)*	boolean	read-write (null)	An indication of whether the drive write cache is enabled.

Actions

Reset

This action resets this drive.

Action URI: {Base URI of target resource}/Actions/Drive.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

SecureErase

This action securely erases the contents of the drive.

Action URI: {Base URI of target resource}/Actions/Drive.SecureErase

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

EncryptionAbility:

The encryption ability of this drive.

string	Description
None	The drive is not capable of self-encryption.
Other	The drive is capable of self-encryption through some other means.
SelfEncryptingDrive	The drive is capable of self-encryption per the Trusted Computing Group's Self Encrypting Drive Standard.

EncryptionStatus:

The status of the encryption of this drive.

string	Description
Foreign	The drive is currently encrypted, the data is not accessible to the user, and the system requires user intervention to expose the data.
Locked	The drive is currently encrypted and the data is not accessible to the user. However, the system can unlock the drive automatically.
Unecrypted *(deprecated v1.1)*	The drive is not currently encrypted. *This value has been deprecated in favor of Unencrypted.*
Unencrypted *(v1.1+)*	The drive is not currently encrypted.
Unlocked	The drive is currently encrypted but the data is accessible to the user in unencrypted form.

HotspareReplacementMode:

The replacement mode for the hot spare drive.

string	Description
NonRevertible	The hot spare drive that is commissioned due to a drive failure remains as a data drive and does not revert to a hot spare if the failed drive is replaced.
Revertible	The hot spare drive that is commissioned due to a drive failure reverts to a hot spare after the failed drive is replaced and rebuilt.

HotspareType:

The type of hot spare that this drive currently serves as.

string	Description
Chassis	The drive is currently serving as a hot spare for all other drives in the chassis.
Dedicated	The drive is currently serving as a hot spare for a user-defined set of drives.
Global	The drive is currently serving as a hot spare for all other drives in the storage system.
None	The drive is not currently a hot spare.

IndicatorLED:

The state of the indicator LED, that identifies the drive.

string	Description
Blinking	The indicator LED is blinking.
Lit	The indicator LED is lit.
Off	The indicator LED is off.

MediaType:

The type of media contained in this drive.

string	Description
HDD	The drive media type is traditional magnetic platters.
SMR	The drive media type is shingled magnetic recording.
SSD	The drive media type is solid state or flash memory.

Protocol:

The protocol that this drive currently uses to communicate to the storage controller.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).

string	Description
I2C	Inter-Integrated Circuit Bus.
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.
NFSv3	Network File System (NFS) version 3.
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).
NVMeOverFabrics	NVMe over Fabrics.
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).
USB	Universal Serial Bus (USB).

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.

string	Description
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

StatusIndicator:

The state of the status indicator, which communicates status information about this drive.

string	Description
Fail	The drive has failed.
Hotspare	The drive has been marked to automatically rebuild and replace a failed drive.
InACriticalArray	The array to which this drive belongs has been degraded.
InAFailedArray	The array to which this drive belongs has failed.
OK	The drive is OK.
PredictiveFailureAnalysis	The drive still works but is predicted to fail soon.
Rebuild	The drive is being rebuilt.

Example Response


```
{
    "@odata.type": "#Drive.v1_9_0.Drive",
    "Id": "3D58ECBC375FD9F2",
    "Name": "Drive Sample",
    "IndicatorLED": "Lit",
    "Model": "C123",
    "Revision": "100A",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "CapacityBytes": 899527000000,
    "FailurePredicted": false,
    "Protocol": "SAS",
    "MediaType": "HDD",
    "Manufacturer": "Contoso",
    "SerialNumber": "1234568",
    "PartNumber": "C123-1111",
    "Identifiers": [
        {
            "DurableNameFormat": "NAA",
            "DurableName": "32ADF365C6C1B7BD"
        }
```

```
    ],
    "HotspareType": "None",
    "EncryptionAbility": "SelfEncryptingDrive",
    "EncryptionStatus": "Unlocked",
    "RotationSpeedRPM": 15000,
    "BlockSizeBytes": 512,
    "CapableSpeedGbs": 12,
    "NegotiatedSpeedGbs": 12,
    "Links": {
        "Volumes": [
            {
                "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Volumes/2"
            },
            {
                "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Volumes/3"
            }
        ]
    },
    "Actions": {
        "#Drive.SecureErase": {
            "target": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/3D58ECBC375FD9F2/Ac
        }
    },
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/3D58ECBC375FD9F2"
}
```


Endpoint 1.4.0

v1.4	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2018.3	2018.2	2017.3	2016.2

The Endpoint schema contains the properties of an Endpoint Resource that represents the properties of an entity that sends or receives protocol-defined messages over a transport.

URIs:

/redfish/v1/Fabrics/*{FabricId}*/Endpoints/*{EndpointId}*

ConnectedEntities [{	array		All the entities connected to this endpoint.
EntityLink		read-only	The link to the associated entity.
EntityPcId {	object		The PCI ID of the connected entity.
ClassCode *(v1.2+)*	string	read-only (null)	The Class Code, Subclass, and Programming Interface code of this PCIe function.
DeviceId	string	read-only (null)	The Device ID of this PCIe function.
FunctionNumber *(v1.2+)*	integer	read-only	The PCI ID of the connected

		(null)	entity.
SubsystemId	string	read-only (null)	The Subsystem ID of this PCIe function.
SubsystemVendorId	string	read-only (null)	The Subsystem Vendor ID of this PCIe function.
VendorId }	string	read-only (null)	The Vendor ID of this PCIe function.
EntityRole	string (enum)	read-only (null)	The role of the connected entity. *For the possible property values, see EntityRole in Property Details.*
EntityType	string (enum)	read-only (null)	The type of the connected entity. *For the possible property values, see EntityType in Property Details.*
GenZ *(v1.4+)* {	object	(null)	The Gen-Z related properties for the entity.
AccessKey	string	read-write (null)	The Access Key for the entity.
GCID {	object	(null)	The Global Component ID (GCID) for the entity.
CID	string	read-write (null)	The component identifier portion of the GCID for the entity.
SID }	string	read-write (null)	The subnet identifier portion of the GCID for the entity.
RegionKey }	string	read-write (null)	The Region Key for the entity.
Identifiers [{ }]	array (object)		Identifiers for the remote entity. Any additional identifiers for a Resource. *For property details, see Identifier.*
Oem { }	object		See the Oem object definition in the Common properties section.
PciClassCode *(deprecated v1.2)*	string	read-only (null)	The Class Code, Subclass, and Programming Interface code of this PCIe function. *Deprecated in v1.2 and later. This property has been deprecated in favor of the ClassCode property inside the EntityPciId object.*
PciFunctionNumber *(deprecated v1.2)* }]	integer	read-only (null)	The PCI ID of the connected entity. *Deprecated in v1.2 and later. This property has been*

			deprecated in favor of the FunctionNumber property inside the EntityPciId object.
EndpointProtocol	string (enum)	read-only (null)	The protocol supported by this endpoint. *For the possible property values, see EndpointProtocol in Property Details.*
HostReservationMemoryBytes	integer (bytes)	read-only (null)	The amount of memory in bytes that the host should allocate to connect to this endpoint.
Identifiers [{ }]	array (object)		Identifiers for this endpoint. Any additional identifiers for a Resource. *For property details, see Identifier.*
IPTransportDetails *(v1.1+)* [{	array		An array of details for each IP transport supported by this endpoint. The array structure can model multiple IP addresses for this endpoint.
IPv4Address { }	object		The IPv4 addresses assigned to the endpoint. *For property details, see IPv4Address.*
IPv6Address { }	object		The IPv6 addresses assigned to the endpoint. *For property details, see IPv6Address.*
Port	number	read-only	The UDP or TCP port number used by the endpoint.
TransportProtocol }]	string (enum)	read-only	The protocol used by the connection entity. *For the possible property values, see TransportProtocol in Property Details.*
Links {	object		The links to other Resources that are related to this Resource.
AddressPools *(v1.4+)* [{	array		An array of links to the address pools associated with this endpoint.
@odata.id }]	string	read-only	*Link to a AddressPool resource. See the Links section and the AddressPool schema for details.*
ConnectedPorts *(v1.4+)* [{	array		An array of links to the ports that connect to this endpoint.

@odata.id }]	string	read-only	*Link to a Port resource. See the Links section and the Port schema for details.*
MutuallyExclusiveEndpoints [{	array		An array of links to the endpoints that may not be used in zones if this endpoint is in a zone.
@odata.id }]	string	read-only	*Link to another Endpoint resource.*
NetworkDeviceFunction *(v1.1+)* [{	array		When NetworkDeviceFunction Resources are present, this array contains links to the network device functions that connect to this endpoint.
@odata.id }]	string	read-only	*Link to a NetworkDeviceFunction resource. See the Links section and the NetworkDeviceFunction schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
Ports [{	array		An array of links to the physical ports associated with this endpoint.
@odata.id }] }	string	read-only	*Link to a Port resource. See the Links section and the Port schema for details.*
PciId {	object		The PCI ID of the endpoint.
ClassCode *(v1.2+)*	string	read-only (null)	The Class Code, Subclass, and Programming Interface code of this PCIe function.
DeviceId	string	read-only (null)	The Device ID of this PCIe function.
FunctionNumber *(v1.2+)*	integer	read-only (null)	The PCI ID of the connected entity.
SubsystemId	string	read-only (null)	The Subsystem ID of this PCIe function.
SubsystemVendorId	string	read-only (null)	The Subsystem Vendor ID of this PCIe function.
VendorId }	string	read-only (null)	The Vendor ID of this PCIe function.
Redundancy [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common

			objects section. *For property details, see Redundancy.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Property Details

EndpointProtocol:

The protocol supported by this endpoint.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
I2C	Inter-Integrated Circuit Bus.
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.
NFSv3	Network File System (NFS) version 3.
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).
NVMeOverFabrics	NVMe over Fabrics.
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.

string	Description
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).
USB	Universal Serial Bus (USB).

EntityRole:

The role of the connected entity.

string	Description
Both	The entity can both send and receive commands, messages, and other requests to or from other entities on the fabric.
Initiator	The entity sends commands, messages, or other types of requests to other entities on the fabric, but cannot receive commands from other entities.
Target	The entity receives commands, messages, or other types of requests from other entities on the fabric, but cannot send commands to other entities.

EntityType:

The type of the connected entity.

string	Description
AccelerationFunction *(v1.3+)*	The entity is an acceleration function realized through a device, such as an FPGA. The EntityLink property, if present, should be an AccelerationFunction type.
Bridge	The entity is a PCI(e) bridge.
DisplayController	The entity is a display controller.
Drive	The entity is a disk drive. The EntityLink property, if present, should be a Drive type.
FabricBridge *(v1.4+)*	The entity is a fabric bridge. The EntityLink property, if present, should be a FabricAdapter type.
MediaController *(v1.4+)*	The entity is a media controller. The EntityLink property, if present, should be a MediaController type.

string	Description
MemoryChunk *(v1.4+)*	The entity is a memory chunk. The EntityLink property, if present, should be a MemoryChunk type.
NetworkController	The entity is a network controller. The EntityLink property, if present, should contain an EthernetInterface type.
Processor	The entity is a processor device.
RootComplex	The entity is a PCI(e) root complex. The EntityLink property, if present, should be a ComputerSystem type.
StorageExpander	The entity is a storage expander. The EntityLink property, if present, should be a Chassis type.
StorageInitiator	The entity is a storage initator. The EntityLink property, if present, should be a StorageController type.
Switch *(v1.4+)*	The entity is a switch, not an expander. Use `Expander` for expanders. The EntityLink property, if present, should be a Switch type.
Volume *(v1.1+)*	The entity is a volume. The EntityLink property, if present, should be a Volume type.

TransportProtocol:

The protocol used by the connection entity.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
I2C	Inter-Integrated Circuit Bus.
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.
NFSv3	Network File System (NFS) version 3.

string	Description
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).
NVMeOverFabrics	NVMe over Fabrics.
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).
USB	Universal Serial Bus (USB).

Example Response


```
{
    "@odata.type": "#Endpoint.v1_4_0.Endpoint",
    "Id": "Drive1",
    "Name": "SAS Drive",
    "Description": "The SAS Drive in Enclosure 2 Bay 0",
    "EndpointProtocol": "SAS",
    "ConnectedEntities": [
        {
            "EntityType": "Drive",
            "EntityRole": "Target",
            "Identifiers": [
                {
                    "DurableNameFormat": "NAA",
                    "DurableName": "32ADF365C6C1B7C3"
                }
            ],
            "Oem": {}
        }
    ],
    "Links": {
        "MutuallyExclusiveEndpoints": [
```

```
            {
                "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints/Enclosure2"
            }
        ],
        "Ports": [
            {
                "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch1/Ports/8"
            },
            {
                "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch2/Ports/8"
            }
        ],
        "Oem": {}
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints/Drive1"
}
```


EthernetInterface 1.5.1

v1.5	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.1	2017.3	2017.1	2016.3	2016.2	1.0

The EthernetInterface schema represents a single, logical Ethernet interface or network interface controller (NIC).

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/EthernetInterfaces/*{EthernetInterfaceId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*

/redfish/v1/Managers/*{ManagerId}*/EthernetInterfaces/*{EthernetInterfaceId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/EthernetInterfaces/*{EthernetInterfaceId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*

/redfish/v1/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*

AutoNeg	boolean	read-write (null)	An indication of whether the speed and duplex are automatically negotiated and configured on this interface.
DHCPv4 *(v1.4+)* {	object		DHCPv4 configuration for this interface.
DHCPEnabled	boolean	read-write (null)	An indication of whether DHCP v4 is enabled on this Ethernet interface.
FallbackAddress *(v1.5+)*	string	read-write	DHCPv4 fallback address method

	(enum)	(null)	for this interface. *For the possible property values, see FallbackAddress in Property Details.*
UseDNSServers	boolean	read-write (null)	An indication of whether this interface uses DHCP v4-supplied DNS servers.
UseDomainName	boolean	read-write (null)	An indication of whether this interface uses a DHCP v4-supplied domain name.
UseGateway	boolean	read-write (null)	An indication of whether this interface uses a DHCP v4-supplied gateway.
UseNTPServers	boolean	read-write (null)	An indication of whether the interface uses DHCP v4-supplied NTP servers.
UseStaticRoutes }	boolean	read-write (null)	An indication of whether the interface uses DHCP v4-supplied static routes.
DHCPv6 *(v1.4+)* {	object		DHCPv6 configuration for this interface.
OperatingMode	string (enum)	read-write (null)	Determines the DHCPv6 operating mode for this interface. *For the possible property values, see OperatingMode in Property Details.*
UseDNSServers	boolean	read-write (null)	An indication of whether the interface uses DHCP v6-supplied DNS servers.
UseDomainName	boolean	read-write (null)	An indication of whether the interface uses a domain name supplied through DHCP v6 stateless mode.
UseNTPServers	boolean	read-write (null)	An indication of whether the interface uses DHCP v6-supplied NTP servers.
UseRapidCommit }	boolean	read-write (null)	An indication of whether the interface uses DHCP v6 rapid commit mode for stateful mode address assignments. Do not enable this option in networks where more than one DHCP v6 server is configured to provide address assignments.
FQDN	string	read-write (null)	The complete, fully qualified domain name that DNS obtains for

			this interface.
FullDuplex	boolean	read-write (null)	An indication of whether full-duplex mode is enabled on the Ethernet connection for this interface.
HostName	string	read-write (null)	The DNS host name, without any domain information.
InterfaceEnabled	boolean	read-write (null)	An indication of whether this interface is enabled.
IPv4Addresses [{ }]	array (object)		The IPv4 addresses currently assigned to this interface. This type describes an IPv4 address. *For property details, see IPv4Address.*
IPv4StaticAddresses *(v1.4+)* [{ }]	array (object)	(null)	The IPv4 static addresses assigned to this interface. This type describes an IPv4 address. *For property details, see IPv4Address.*
IPv6Addresses [{ }]	array (object)		An array of the currently assigned IPv6 addresses on this interface. This type describes an IPv6 address. *For property details, see IPv6Address.*
IPv6AddressPolicyTable [{	array		An array that represents the RFC6724-defined address selection policy table.
Label	integer	read-write (null)	The IPv6 label, as defined in RFC6724, section 2.1.
Precedence	integer	read-write (null)	The IPv6 precedence, as defined in RFC6724, section 2.1.
Prefix }]	string	read-write (null)	The IPv6 address prefix, as defined in RFC6724, section 2.1.
IPv6DefaultGateway	string	read-only (null)	The IPv6 default gateway address in use on this interface.
IPv6StaticAddresses [{ }]	array (object)	(null)	An array of the IPv6 static addresses to assign on this interface. This type represents a single IPv6 static address to be assigned on a network interface. *For property details, see IPv6StaticAddress.*
IPv6StaticDefaultGateways *(v1.4+)* [{ }]	array (object)	(null)	The IPv6 static default gateways for this interface. This type represents a single IPv6 static

			address to be assigned on a network interface. *For property details, see IPv6GatewayStaticAddress (v1.1.2).*
Links *(v1.1+)* {	object		The links to other Resources that are related to this Resource.
Chassis *(v1.3+)* {	object		The link to the chassis that contains this Ethernet interface. *See the Chassis schema for details on this property.*
@odata.id }	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
Endpoints [{	array		An array of links to the endpoints that connect to this Ethernet interface.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
HostInterface *(v1.2+)* {	object		The link to a Host Interface that is associated with this Ethernet interface. *See the HostInterface schema for details on this property.*
@odata.id }	string	read-only	*Link to a HostInterface resource. See the Links section and the HostInterface schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
LinkStatus *(v1.1+)*	string (enum)	read-only (null)	The link status of this interface, or port. *For the possible property values, see LinkStatus in Property Details.*
MACAddress	string	read-write (null)	The currently configured MAC address of the interface, or logical port.
MaxIPv6StaticAddresses	integer	read-only (null)	The maximum number of static IPv6 addresses that can be configured on this interface.
MTUSize	integer	read-write (null)	The currently configured maximum transmission unit (MTU), in bytes, on this interface.
NameServers [ ]	array (string)	read-only	The DNS servers in use on this interface.

PermanentMACAddress	string	read-only (null)	The permanent MAC address assigned to this interface, or port.
SpeedMbps	integer (Mbit/s)	read-write (null)	The current speed, in Mbps, of this interface.
StatelessAddressAutoConfig *(v1.4+)* {	object		Stateless address autoconfiguration (SLAAC) parameters for this interface.
IPv4AutoConfigEnabled	boolean	read-write (null)	An indication of whether IPv4 stateless address autoconfiguration (SLAAC) is enabled for this interface.
IPv6AutoConfigEnabled }	boolean	read-write (null)	An indication of whether IPv6 stateless address autoconfiguration (SLAAC) is enabled for this interface.
StaticNameServers *(v1.4+)* [ ]	array (string, null)	read-write	The statically-defined set of DNS server IPv4 and IPv6 addresses.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UefiDevicePath	string	read-only (null)	The UEFI device path for this interface.
VLAN {	object		If this network interface supports more than one VLAN, this property is absent. VLAN collections appear in the Link section of this Resource. *See the VLanNetworkInterface schema for details on this property.*
@odata.id }	string	read-only	*Link to a VLAN resource. See the Links section and the VLanNetworkInterface schema for details.*
VLANs {	object		The link to a collection of VLANs, which applies only if the interface supports more than one VLAN. If this property applies, the VLANEnabled and VLANId properties do not apply. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of VLanNetworkInterface. See the VLanNetworkInterface schema for details.*

Property Details

FallbackAddress:

DHCPv4 fallback address method for this interface.

string	Description
AutoConfig	Fall back to an autoconfigured address.
None	Continue attempting DHCP without a fallback address.
Static	Fall back to a static address specified by IPv4StaticAddresses.

LinkStatus:

The link status of this interface, or port.

string	Description
LinkDown	No link is detected on this interface, but the interface is connected.
LinkUp	The link is available for communication on this interface.
NoLink	No link or connection is detected on this interface.

OperatingMode:

Determines the DHCPv6 operating mode for this interface.

string	Description
Disabled	DHCPv6 is disabled.
Stateful	DHCPv6 stateful mode.
Stateless	DHCPv6 stateless mode.

Example Response


```
{
    "@odata.type": "#EthernetInterface.v1_5_1.EthernetInterface",
    "Id": "1",
    "Name": "Ethernet Interface",
    "Description": "Manager NIC 1",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "LinkStatus": "LinkUp",
    "PermanentMACAddress": "12:44:6A:3B:04:11",
    "MACAddress": "12:44:6A:3B:04:11",
    "SpeedMbps": 1000,
    "AutoNeg": true,
    "FullDuplex": true,
    "MTUSize": 1500,
    "HostName": "web483",
    "FQDN": "web483.contoso.com",
```

```
    "NameServers": [
        "names.contoso.com"
    ],
    "IPv4Addresses": [
        {
            "Address": "192.168.0.10",
            "SubnetMask": "255.255.252.0",
            "AddressOrigin": "DHCP",
            "Gateway": "192.168.0.1"
        }
    ],
    "DHCPv4": {
        "DHCPEnabled": true,
        "UseDNSServers": true,
        "UseGateway": true,
        "UseNTPServers": false,
        "UseStaticRoutes": true,
        "UseDomainName": true
    },
    "DHCPv6": {
        "OperatingMode": "Stateful",
        "UseDNSServers": true,
        "UseDomainName": false,
        "UseNTPServers": false,
        "UseRapidCommit": false
    },
    "StatelessAddressAutoConfig": {
        "IPv4AutoConfigEnabled": false,
        "IPv6AutoConfigEnabled": true
    },
    "IPv4StaticAddresses": [
        {
            "Address": "192.168.88.130",
            "SubnetMask": "255.255.0.0",
            "Gateway": "192.168.0.1"
        }
    ],
    "IPv6AddressPolicyTable": [
        {
            "Prefix": "::1/128",
            "Precedence": 50,
            "Label": 0
        }
    ],
    "MaxIPv6StaticAddresses": 1,
    "IPv6StaticAddresses": [
        {
            "Address": "fc00:1234::a:b:c:d",
            "PrefixLength": 64
        }
    ],
    "IPv6StaticDefaultGateways": [
        {
            "Address": "fe80::fe15:b4ff:fe97:90cd",
            "PrefixLength": 64
        }
    ],
    "IPv6DefaultGateway": "fe80::214:c1ff:fe4c:5c4d",
```

```
    "IPv6Addresses": [
        {
            "Address": "fe80::1ec1:deff:fe6f:1e24",
            "PrefixLength": 64,
            "AddressOrigin": "SLAAC",
            "AddressState": "Preferred",
            "Oem": {}
        },
        {
            "Address": "fc00:1234::a:b:c:d",
            "PrefixLength": 64,
            "AddressOrigin": "Static",
            "AddressState": "Preferred",
            "Oem": {}
        },
        {
            "Address": "2001:1:3:5::100",
            "PrefixLength": 64,
            "AddressOrigin": "DHCPv6",
            "AddressState": "Preferred",
            "Oem": {}
        },
        {
            "Address": "2002:2:5::1ec1:deff:fe6f:1e24",
            "PrefixLength": 64,
            "AddressOrigin": "SLAAC",
            "AddressState": "Preferred",
            "Oem": {}
        }
    ],
    "StaticNameServers": [
        "192.168.150.1",
        "fc00:1234:200:2500"
    ],
    "VLAN": {
        "VLANEnable": true,
        "VLANId": 101
    },
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/EthernetInterfaces/12446A3B0411"
}
```


Event 1.4.1

v1.4	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.1	2018.2	2017.1	2016.1	1.0

The Event schema describes the JSON payload received by an Event Destination, which has subscribed to event notification, when events occur. This Resource contains data about events, including descriptions, severity, and a MessageId link to a Message Registry that can be accessed for further information.

Context *(v1.1+)*	string	read-only	A context can be supplied at subscription time. This property is the context value

			supplied by the subscriber.
Events [{	array	required	Each event in this array has a set of properties that describe the event. Because this is an array, more than one event can be sent simultaneously.
Actions *(v1.2+)* { }	object		The available actions for this Resource.
Context *(deprecated v1.1)*	string	read-only	A context can be supplied at subscription time. This property is the context value supplied by the subscriber. *Deprecated in v1.1 and later. Events are triggered independently from subscriptions to those events. This property has been deprecated in favor of Context found at the root level of the object.*
EventGroupId *(v1.3+)*	integer	read-only	The identifier that correlates events with the same root cause. If `0`, no other event is related to this event.
EventId	string	read-only	The unique instance identifier of an event.
EventTimestamp	string	read-only	The time the event occurred.
EventType *(deprecated v1.3)*	string (enum)	read-only required	The type of event. *For the possible property values, see EventType in Property Details. Deprecated in v1.3 and later. This property has been deprecated. Starting with Redfish Specification v1.6 (Event v1.3), subscriptions are based on the RegistryPrefix and ResourceType properties and not on the EventType property.*
MemberId	string	read-only required	The identifier for the member within the collection.
Message	string	read-only	The human-readable event message.
MessageArgs [ ]	array (string)	read-only	An array of message arguments that are substituted for the arguments in the message when looked up in the Message Registry.
MessageId	string	read-only required	The key used to find the message in a Message Registry.
Oem { }	object		See the Oem object definition in the Common properties section.
OriginOfCondition {	object		The Resource that originated the condition that caused the event to be generated.
@odata.id }	string	read-only	The unique identifier for a resource.
Severity	string	read-only	The severity of the event.

}]			

Property Details

EventType:

The type of event.

string	Description
Alert	A condition requires attention.
MetricReport *(v1.3+)*	The Telemetry Service is sending a metric report.
Other *(v1.4+)*	Because EventType is deprecated as of Redfish Specification v1.6, the event is based on a registry or Resource but not an EventType.
ResourceAdded	A Resource has been added.
ResourceRemoved	A Resource has been removed.
ResourceUpdated	A Resource has been updated.
StatusChange	The status of a Resource has changed.

EventDestination 1.7.0

v1.7	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.3	2019.2	2019.1	2018.2	2018.1	2017.1	2016.2	1.0

The EventDestination schema defines the target of an event subscription, including the event types and context to provide to the target in the Event payload.

URIs:

/redfish/v1/EventService/Subscriptions/*{EventDestinationId}*

Context	string	read-write required (null)	A client-supplied string that is stored with the event destination subscription.
DeliveryRetryPolicy *(v1.6+)*	string (enum)	read-write (null)	This property shall contain the subscription delivery retry policy for events, where the subscription type is RedfishEvent. *For the possible property values, see DeliveryRetryPolicy in Property Details.*
Destination	string	read-only	The URI of the destination event

		required on create	receiver.
EventFormatType *(v1.4+)*	string (enum)	read-only (null)	The content types of the message that are sent to the EventDestination. *For the possible property values, see EventFormatType in Property Details.*
EventTypes *(deprecated v1.5)* [ ]	array (string (enum))	read-only	The types of events that are sent to the destination. *For the possible property values, see EventTypes in Property Details. Deprecated in v1.5 and later. This property has been deprecated. Starting with Redfish Specification v1.6 (Event v1.3), subscriptions are based on the RegistryPrefix and ResourceType properties and not on the EventType property. Use EventFormatType to create subscriptions for Metric Reports. If the subscription does not include this property, the service shall use a single element with a default of `Other`.*
HttpHeaders [{	array		An array of settings for HTTP headers, such as authorization information. This array is null or an empty array in responses. An empty array is the preferred return value on read operations.
(pattern) }]	string	read-write	Property names follow regular expression pattern "^[^:\\s]+$"
MessageIds *(v1.1+)* [ ]	array (string, null)	read-only	The list of MessageIds that the service sends. If this property is absent or the array is empty, events with any MessageId are sent to the subscriber.
MetricReportDefinitions *(v1.6+)* [{	array		A list of metric report definitions for which the service only sends related metric reports. If this property is absent or the array is empty, metric reports that originate from any metric report definition are sent to the subscriber.
@odata.id }]	string	read-only	*Link to a MetricReportDefinition resource. See the Links section and the MetricReportDefinition schema for details.*

OriginResources *(v1.1+)* [{	array		The array of Resources for which the service sends only related events. If this property is absent or the array is empty, the service sends the events that originate from any Resource to the subscriber.
@odata.id }]	string	read-only	The unique identifier for a resource.
Protocol	string (enum)	read-only required on create	The protocol type of the event connection. *For the possible property values, see Protocol in Property Details.*
RegistryPrefixes *(v1.4+)* [ ]	array (string, null)	read-only	The list of the prefixes for the Message Registries that contain the MessageIds that are sent to this event destination.
ResourceTypes *(v1.4+)* [ ]	array (string, null)	read-only	The list of Resource Type values (Schema names) that correspond to the OriginOfCondition. The version and full namespace should not be specified.
SNMP *(v1.7+)* {	object		Settings for an SNMP event destination.
AuthenticationKey	string	read-write (null)	The secret authentication key for SNMPv3.
AuthenticationProtocol	string (enum)	read-write (null)	The authentication protocol for SNMPv3. *For the possible property values, see AuthenticationProtocol in Property Details.*
EncryptionKey	string	read-write (null)	The secret authentication key for SNMPv3.
EncryptionProtocol	string (enum)	read-write (null)	The encryption protocol for SNMPv3. *For the possible property values, see EncryptionProtocol in Property Details.*
TrapCommunity }	string	read-write (null)	The SNMP trap community string.
Status *(v1.6+)* { }	object		This property shall contain the status of the subscription. *For property details, see Status.*
SubordinateResources *(v1.4+)*	boolean	read-only (null)	An indication of whether the subscription is for events in the

			OriginResources array and its subordinate Resources. If `true` and the OriginResources array is specified, the subscription is for events in the OriginResources array and its subordinate Resources. Note that Resources associated through the Links section are not considered subordinate. If `false` and the OriginResources array is specified, the subscription shall be for events in the OriginResources array only. If the OriginResources array is not present, this property shall have no relevance.
SubscriptionType *(v1.3+)*	string (enum)	read-only required (null)	The subscription type for events. *For the possible property values, see SubscriptionType in Property Details.*

Actions

ResumeSubscription

This action resumes a suspended event subscription.

Action URI: {Base URI of target resource}/Actions/EventDestination.ResumeSubscription

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

AuthenticationProtocol:

The authentication protocol for SNMPv3.

string	Description
CommunityString	Trap community string authentication.
HMAC_MD5	HMAC-MD5-96 authentication.
HMAC_SHA96	HMAC-SHA-96 authentication.
None	No authentication.

DeliveryRetryPolicy:

This property shall contain the subscription delivery retry policy for events, where the subscription type is RedfishEvent.

string	Description
RetryForever	The subscription is not suspended or terminated, and attempts at delivery of future events shall continue even after the after the maximum number of retries is reached.
SuspendRetries	The subscription is suspended after the maximum number of retries is reached.
TerminateAfterRetries	The subscription is terminated after the maximum number of retries is reached.

EncryptionProtocol:

The encryption protocol for SNMPv3.

string	Description
CBC_DES	CBC-DES encryption.
CFB128_AES128	CFB128-AES-128 encryption.
None	No encryption.

EventFormatType:

The content types of the message that are sent to the EventDestination.

string	Description
Event	The subscription destination receives JSON bodies of the Resource of type Event.
MetricReport	The subscription destination receives JSON bodies of the Resource of type MetricReport.

EventTypes:

The types of events that are sent to the destination.

string	Description
Alert	A condition requires attention.
MetricReport	The Telemetry Service is sending a metric report.
Other	Because EventType is deprecated as of Redfish Specification v1.6, the event is based on a registry or Resource but not an EventType.
ResourceAdded	A Resource has been added.
ResourceRemoved	A Resource has been removed.
ResourceUpdated	A Resource has been updated.
StatusChange	The status of a Resource has changed.

Protocol:

The protocol type of the event connection.

string	Description
Redfish	The destination follows the Redfish Specification for event notifications.
SMTP *(v1.7+)*	The destination follows the SMTP specification for event notifications.
SNMPv1 *(v1.7+)*	The destination follows the SNMPv1 protocol for event notifications.
SNMPv2c *(v1.7+)*	The destination follows the SNMPv2c protocol for event notifications.
SNMPv3 *(v1.7+)*	The destination follows the SNMPv3 protocol for event notifications.

SubscriptionType:

The subscription type for events.

string	Description
RedfishEvent	The subscription follows the Redfish Specification for event notifications. To send an event notification, a service sends an HTTP POST to the subscriber's destination URI.
SNMPInform *(v1.7+)*	The subscription follows versions 2 and 3 of SNMP Inform for event notifications.
SNMPTrap *(v1.7+)*	The subscription follows the various versions of SNMP Traps for event notifications.
SSE	The subscription follows the HTML5 Server-Sent Event definition for event notifications.

Example Response


```
{
    "@odata.type": "#EventDestination.v1_7_0.EventDestination",
    "Id": "1",
    "Name": "EventSubscription 1",
    "Destination": "http://www.dnsname.com/Destination1",
    "SubscriptionType": "RedfishEvent",
    "DeliveryRetryPolicy": "TerminateAfterRetries",
    "Status": {
        "State": "Enabled"
    },
    "Actions": {
        "#EventDestination.ResumeSubscription": {
            "target": "/redfish/v1/EventService/Subscriptions/1/Actions/EventDestination.Re
        }
    },
    "EventTypes": [
        "Alert"
    ],
    "Context": "WebUser3",
```

```
    "Protocol": "Redfish",
    "@odata.id": "/redfish/v1/EventService/Subscriptions/1"
}
```

EventService 1.5.0

v1.5	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.3	2019.2	2019.1	2018.2	2018.1	1.0

The EventService schema contains properties for managing event subcriptions and generates the events sent to subscribers. The Resource has links to the actual collection of subscriptions, which are called event destinations.

URIs:

/redfish/v1/EventService

DeliveryRetryAttempts	integer	read-write	The number of times that the POST of an event is retried before the subscription terminates. This retry occurs at the service level, which means that the HTTP POST to the event destination fails with an HTTP `4XX` or `5XX` status code or an HTTP timeout occurs this many times before the event destination subscription terminates.
DeliveryRetryIntervalSeconds	integer (seconds)	read-write	The interval, in seconds, between retry attempts for sending any event.
EventFormatTypes *(v1.2+)* [ ]	array (string (enum))	read-only (null)	The content types of the message that this service can send to the event destination. *For the possible property values, see EventFormatTypes in Property Details.*
EventTypesForSubscription *(deprecated v1.3)* [ ]	array (string (enum))	read-only	The types of events to which a client can subscribe. *For the possible property values, see EventTypesForSubscription in Property Details.* *Deprecated in v1.3 and*

			later. This property has been deprecated. Starting with Redfish Specification v1.6 (Event v1.3), subscriptions are based on the RegistryPrefix and ResourceType properties and not on the EventType property.
RegistryPrefixes *(v1.2+)* [ ]	array (string, null)	read-only	The list of the prefixes of the Message Registries that can be used for the RegistryPrefix property on a subscription. If this property is absent or contains an empty array, the service does not support RegistryPrefix-based subscriptions.
ResourceTypes *(v1.2+)* [ ]	array (string, null)	read-only	The list of @odata.type values, or Schema names, that can be specified in the ResourceTypes array in a subscription. If this property is absent or contains an empty array, the service does not support Resource type-based subscriptions.
ServerSentEventUri *(v1.1+)*	string	read-only	The link to a URI for receiving Server-Sent Event representations for the events that this service generates.
ServiceEnabled	boolean	read-write (null)	An indication of whether this service is enabled.
SMTP *(v1.5+)* {	object		Settings for SMTP event delivery.
Authentication	string (enum)	read-write (null)	The authentication method for the SMTP server. *For the possible property values, see Authentication in Property Details.*
ConnectionProtocol	string (enum)	read-write (null)	The connection type to the outgoing SMTP server. *For the possible property values, see ConnectionProtocol in Property Details.*
FromAddress	string	read-write	The 'from' email address of

		(null)	the outgoing email.
Password	string	read-write (null)	The password for authentication with the SMTP server. The value is `null` in responses.
Port	integer	read-write (null)	The destination SMTP port.
ServerAddress	string	read-write (null)	The address of the SMTP server.
ServiceEnabled	boolean	read-write (null)	An indication if SMTP for event delivery is enabled.
Username }	string	read-write (null)	The username for authentication with the SMTP server.
SSEFilterPropertiesSupported *(v1.2+)* {	object		The set of properties that are supported in the $filter query parameter for the ServerSentEventUri.
EventFormatType	boolean	read-only	An indication of whether the service supports the EventFormatType property in the $filter query parameter.
EventType *(deprecated v1.3)*	boolean	read-only	An indication of whether the service supports the EventType property in the $filter query parameter. *Deprecated in v1.3 and later. This property has been deprecated. Starting with Redfish Specification v1.6 (Event v1.3), subscriptions are based on the RegistryPrefix and ResourceType properties and not on the EventType property.*
MessageId	boolean	read-only	An indication of whether the service supports the MessageId property in the $filter query parameter.
MetricReportDefinition	boolean	read-only	An indication of whether the service supports the MetricReportDefinition property in the $filter query parameter.
OriginResource	boolean	read-only	An indication of whether

			the service supports the OriginResource property in the $filter query parameter.
RegistryPrefix	boolean	read-only	An indication of whether the service supports the RegistryPrefix property in the $filter query parameter.
ResourceType	boolean	read-only	An indication of whether the service supports the ResourceType property in the $filter query parameter.
SubordinateResources *(v1.4+)* }	boolean	read-only	An indication of whether the service supports the SubordinateResources property in the $filter query parameter.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
SubordinateResourcesSupported *(v1.2+)*	boolean	read-only (null)	An indication of whether the service supports the SubordinateResource property on both event subscriptions and generated events.
Subscriptions {	object		The link to a collection of event destination Resources. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of EventDestination. See the EventDestination schema for details.*

Actions

SubmitTestEvent

This action generates a test event.

Action URI: {Base URI of target resource}/Actions/EventService.SubmitTestEvent

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			

EventGroupId *(v1.3+)*	integer	optional	The group ID for the event.
EventId	string	optional	The ID for the event to add.
EventTimestamp	string	optional	The date and time stamp for the event to add.
EventType *(deprecated v1.3)*	string (enum)	optional	The type for the event to add. *For the possible property values, see EventType in Property Details. Deprecated in v1.3 and later. This parameter has been deprecated. Starting with Redfish Specification v1.6 (Event v1.3), subscriptions are based on the RegistryPrefix and ResourceType properties and not on the EventType property.*
Message	string	optional	The human-readable message for the event to add.
MessageArgs [ ]	array (string)	optional	An array of message arguments for the event to add.
MessageId	string	required	The MessageId for the event to add.
OriginOfCondition	string	optional	The URL in the OriginOfCondition property of the event to add. It is not a reference object.
Severity }	string	optional	The severity for the event to add.

Property Details

Authentication:

The authentication method for the SMTP server.

string	Description
AutoDetect	Auto-detect.
CRAM_MD5	CRAM-MD5 authentication.
Login	LOGIN authentication.
None	No authentication.
Plain	PLAIN authentication.

ConnectionProtocol:

The connection type to the outgoing SMTP server.

string	Description
AutoDetect	Auto-detect.
None	Clear text.
StartTLS	StartTLS.
TLS_SSL	TLS/SSL.

EventFormatTypes:

The content types of the message that this service can send to the event destination.

string	Description
Event	The subscription destination receives JSON bodies of the Resource of type Event.
MetricReport	The subscription destination receives JSON bodies of the Resource of type MetricReport.

EventType:

The type for the event to add.

string	Description
Alert	A condition requires attention.
MetricReport	The Telemetry Service is sending a metric report.
Other	Because EventType is deprecated as of Redfish Specification v1.6, the event is based on a registry or Resource but not an EventType.
ResourceAdded	A Resource has been added.
ResourceRemoved	A Resource has been removed.
ResourceUpdated	A Resource has been updated.
StatusChange	The status of a Resource has changed.

EventTypesForSubscription:

The types of events to which a client can subscribe.

string	Description
Alert	A condition requires attention.
MetricReport	The Telemetry Service is sending a metric report.
Other	Because EventType is deprecated as of Redfish Specification v1.6, the event is based on a registry or Resource but not an EventType.
ResourceAdded	A Resource has been added.

string	Description
ResourceRemoved	A Resource has been removed.
ResourceUpdated	A Resource has been updated.
StatusChange	The status of a Resource has changed.

Example Response


```
{
    "@odata.type": "#EventService.v1_5_0.EventService",
    "Id": "EventService",
    "Name": "Event Service",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "ServiceEnabled": true,
    "DeliveryRetryAttempts": 3,
    "DeliveryRetryIntervalSeconds": 60,
    "EventTypesForSubscription": [
        "StatusChange",
        "ResourceUpdated",
        "ResourceAdded",
        "ResourceRemoved",
        "Alert"
    ],
    "ServerSentEventUri": "/redfish/v1/EventService/SSE",
    "SSEFilterPropertiesSupported": {
        "EventType": true,
        "MetricReportDefinition": false,
        "RegistryPrefix": true,
        "ResourceType": true,
        "EventFormatType": false,
        "MessageId": true,
        "OriginResource": true,
        "SubordinateResources": true
    },
    "Subscriptions": {
        "@odata.id": "/redfish/v1/EventService/Subscriptions"
    },
    "Actions": {
        "#EventService.SubmitTestEvent": {
            "target": "/redfish/v1/EventService/Actions/EventService.SubmitTestEvent",
            "@Redfish.ActionInfo": "/redfish/v1/EventService/SubmitTestEventActionInfo"
        },
        "Oem": {}
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/EventService"
}
```

ExternalAccountProvider 1.1.2

v1.1	*v1.0*
2018.3	2018.1

The remote service that provides accounts for this manager to use for authentication.

URIs:

/redfish/v1/AccountService/ExternalAccountProviders/*{ExternalAccountProviderId}*

/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/ExternalAccountProviders/*{ExternalAccountProviderId}*

AccountProviderType	string (enum)	read-only required on create (null)	The type of external account provider to which this Service connects. *For the possible property values, see AccountProviderType in Property Details.*
Authentication {	object		The authentication information for the external account provider.
AuthenticationType	string (enum)	read-write (null)	The type of authentication used to connect to the external account provider. *For the possible property values, see AuthenticationType in Property Details.*
KerberosKeytab	string	read-write (null)	The Base64-encoded version of the Kerberos keytab for this Service. A PATCH or PUT operation writes the keytab. This property is `null` in responses.
Oem { }	object		See the Oem object definition in the Common properties section.
Password	string	read-write (null)	The password for this Service. A PATCH or PUT request writes the password. This property is `null` in responses.
Token	string	read-write (null)	The token for this Service. A PATCH or PUT operation writes the token. This property is `null` in responses.
Username	string	read-write	The user name for the Service.

}			
Certificates *(v1.1+)* {	object		The link to a collection of certificates that the external account provider uses. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Certificate. See the Certificate schema for details.*
LDAPService {	object		The additional mapping information needed to parse a generic LDAP service.
Oem { }	object		See the Oem object definition in the Common properties section.
SearchSettings {	object		The required settings to search an external LDAP service.
BaseDistinguishedNames [ ]	array (string, null)	read-write	The base distinguished names to search an external LDAP service.
GroupNameAttribute	string	read-write (null)	The attribute name that contains the LDAP group name entry.
GroupsAttribute	string	read-write (null)	The attribute name that contains the groups for a user on the LDAP user entry.
UsernameAttribute } }	string	read-write (null)	The attribute name that contains the LDAP user name entry.
Links {	object		The links to other Resources that are related to this Resource.
Oem { } }	object		See the Oem object definition in the Common properties section.
RemoteRoleMapping [{	array		The mapping rules to convert the external account providers account information to the local Redfish Role.
LocalRole	string	read-write (null)	The name of the local Redfish Role to which to map the remote user or group.
Oem { }	object		See the Oem object definition in the Common properties

			section.
RemoteGroup	string	read-write (null)	The name of the remote group, or the remote role in the case of a Redfish Service, that maps to the local Redfish Role to which this entity links.
RemoteUser }]	string	read-write (null)	The name of the remote user that maps to the local Redfish Role to which this entity links.
ServiceAddresses [ ]	array (string, null)	read-write	The addresses of the user account providers to which this external account provider links. The format of this field depends on the type of external account provider.
ServiceEnabled	boolean	read-write (null)	An indication of whether this service is enabled.

Property Details

AccountProviderType:

The type of external account provider to which this Service connects.

string	Description
ActiveDirectoryService	An external Active Directory service.
LDAPService	A generic external LDAP service.
OEM	An OEM-specific external authentication or directory service.
RedfishService	An external Redfish Service.

AuthenticationType:

The type of authentication used to connect to the external account provider.

string	Description
KerberosKeytab	A Kerberos keytab.
OEM	An OEM-specific authentication mechanism.
Token	An opaque authentication token.
UsernameAndPassword	A user name and password combination.

Example Response


```
{
    "@odata.type": "#ExternalAccountProvider.v1_1_2.ExternalAccountProvider",
    "Id": "ExternalRedfishService",
```

```
    "Name": "Remote Redfish Service",
    "Description": "Remote Redfish Service providing additional Accounts to this Redfish Se
    "AccountProviderType": "RedfishService",
    "ServiceAddresses": [
        "http://redfish.dmtf.org/redfish/v1/AccountService"
    ],
    "Authentication": {
        "AuthenticationType": "Token",
        "Token": null
    },
    "RemoteRoleMapping": [
        {
            "RemoteGroup": "Admin",
            "LocalRole": "Administrator"
        },
        {
            "RemoteGroup": "Operator",
            "LocalRole": "Operator"
        },
        {
            "RemoteGroup": "ReadOnly",
            "LocalRole": "ReadOnly"
        }
    ],
    "@odata.id": "/redfish/v1/AccountService/ExternalAccountProviders/ExternalRedfishServic
}
```


Fabric 1.1.0

v1.1	*v1.0*
2019.4	2016.2

The Fabric schema represents a simple fabric consisting of one or more switches, zero or more endpoints, and zero or more zones.

URIs:

/redfish/v1/Fabrics/*{FabricId}*

AddressPools *(v1.1+)* {	object		The collection of links to the address pools that this fabric contains. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of AddressPool. See the AddressPool schema for details.*
Endpoints {	object		The collection of links to the endpoints that this fabric contains. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Endpoint. See the Endpoint schema for details.*
FabricType	string	read-only	The protocol being sent over this fabric.

	(enum)	(null)	*For the possible property values, see FabricType in Property Details.*
Links {	object		The links to other Resources that are related to this Resource.
Oem { } }	object		See the Oem object definition in the Common properties section.
MaxZones	integer	read-only (null)	The maximum number of zones the switch can currently configure.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Switches {	object		The collection of links to the switches that this fabric contains. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Switch. See the Switch schema for details.*
Zones {	object		The collection of links to the zones that this fabric contains. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Zone. See the Zone schema for details.*

Property Details

FabricType:

The protocol being sent over this fabric.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
I2C	Inter-Integrated Circuit Bus.

string	Description
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.
NFSv3	Network File System (NFS) version 3.
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).
NVMeOverFabrics	NVMe over Fabrics.
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).
USB	Universal Serial Bus (USB).

Example Response


```
{
    "@odata.type": "#Fabric.v1_1_0.Fabric",
    "Id": "SAS",
    "Name": "SAS Fabric",
    "FabricType": "SAS",
    "Description": "A SAS Fabric with redundant switches connected to two initiators",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Zones": {
        "@odata.id": "/redfish/v1/Fabrics/SAS/Zones"
    },
    "Endpoints": {
```

```
        "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints"
    },
    "Switches": {
        "@odata.id": "/redfish/v1/Fabrics/SAS/Switches"
    },
    "Links": {
        "Oem": {}
    },
    "Actions": {
        "Oem": {}
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Fabrics/SAS"
}
```


FabricAdapter 1.0.0

v1.0
2019.4

A FabricAdapter represents the physical fabric adapter capable of connecting to an interconnect fabric. Examples include but are not limited to Ethernet, NVMe over Fabrics, Gen-Z, and SAS fabric adapters.

URIs:

/redfish/v1/Systems/*{SystemId}*/FabricAdapters/*{FabricAdapterId}*

ASICManufacturer	string	read-only (null)	The manufacturer name for the ASIC of this fabric adapter.
ASICPartNumber	string	read-only (null)	The part number for the ASIC on this fabric adapter.
ASICRevisionIdentifier	string	read-only (null)	The revision identifier for the ASIC on this fabric adapter.
FirmwareVersion	string	read-only (null)	The firmware version of this fabric adapter.
GenZ {	object		The Gen-Z specific properties for this fabric adapter.
MSDT {	object		The Multi Subnet Destination Table for the component. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of RouteEntry. See the RouteEntry schema for details.*
PIDT [ ]	array (string, null)	read-write	An array of table entry values for the Packet Injection Delay Table.
RequestorVCAT {	object		The Requestor Virtual Channel Action Table for the

			component. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of VCATEntry. See the VCATEntry schema for details.*
ResponderVCAT {	object		The Responder Virtual Channel Action Table for the component. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of VCATEntry. See the VCATEntry schema for details.*
RITable [ ]	array (string, null)	read-write	An array of table entry values for the Responder Interface Table.
SSDT {	object		The Single Subnet Destination Table for the component. *Contains a link to a resource.*
@odata.id } }	string	read-only	*Link to Collection of RouteEntry. See the RouteEntry schema for details.*
Links {	object		The links to other Resources that are related to this Resource.
Endpoints [{	array		An array of links to the endpoints that represent the logical fabric connection to this fabric adapter.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
Manufacturer	string	read-only (null)	The manufacturer or OEM of this fabric adapter.
Model	string	read-only (null)	The model string for this fabric adapter.
PartNumber	string	read-only (null)	The part number for this fabric adapter.
PCIeInterface {	object		The PCIe interface details for this fabric adapter.
LanesInUse *(v1.3+)*	integer	read-only (null)	The number of PCIe lanes in use by this device.
MaxLanes *(v1.3+)*	integer	read-only (null)	The number of PCIe lanes supported by this device.
MaxPCIeType *(v1.3+)*	string (enum)	read-only (null)	The highest version of the PCIe specification supported by this device. *For the possible property values, see MaxPCIeType in Property Details.*

Oem *(v1.3+)* { }	object		See the Oem object definition in the Common properties section.
PCIeType *(v1.3+)* }	string (enum)	read-only (null)	The version of the PCIe specification in use by this device. *For the possible property values, see PCIeType in Property Details.*
Ports {	object		The link to the collection of ports that exist on the fabric adapter. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Port. See the Port schema for details.*
SerialNumber	string	read-only (null)	The serial number for this fabric adapter.
SKU	string	read-only (null)	The manufacturer SKU for this fabric adapter.
SparePartNumber	string	read-only (null)	The spare part number for this fabric adapter.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UUID	string	read-only (null)	The UUID for this fabric adapter.

Property Details

MaxPCIeType:

The highest version of the PCIe specification supported by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

PCIeType:

The version of the PCIe specification in use by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.

string	Description
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

Facility 1.0.0

v1.0
2019.4

The Facility schema represents the physical location containing equipment, such as a room, building, or campus.

URIs:

/redfish/v1/Facilities/*{FacilityId}*

FacilityType	string (enum)	read-only required	The type of location this resource represents. *For the possible property values, see FacilityType in Property Details.*
Links {	object		The links to other Resources that are related to this resource.
ContainedByFacility {	object		The link to the facility that contains this facility.
@odata.id }	string	read-only	*Link to another Facility resource.*
ContainsChassis [{	array		An array of links to outermost chassis contained within this facility.
@odata.id }]	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
ContainsFacilities [{	array		An array of links to other facilities contained within this facility.
@odata.id }]	string	read-only	*Link to another Facility resource.*
FloorPDUs [{	array		An array of links to the floor power distribution units in this facility.
@odata.id }]	string	read-only	*Link to a PowerDistribution resource. See the Links section and the PowerDistribution schema for details.*
ManagedBy [{	array		An array of links to the managers responsible for managing this facility.

@odata.id }]	string	read-only	*Link to a Manager resource. See the Links section and the Manager schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
RackPDUs [{	array		An array of links to the rack-level power distribution units in this facility.
@odata.id }]	string	read-only	*Link to a PowerDistribution resource. See the Links section and the PowerDistribution schema for details.*
Switchgear [{	array		An array of links to the switchgear in this facility.
@odata.id }]	string	read-only	*Link to a PowerDistribution resource. See the Links section and the PowerDistribution schema for details.*
TransferSwitches [{	array		An array of links to the transfer switches in this facility.
@odata.id }] }	string	read-only	*Link to a PowerDistribution resource. See the Links section and the PowerDistribution schema for details.*
Location { }	object		The location of the facility. *For property details, see Location.*
PowerDomains {	object		Link to the power domains in this facility. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of PowerDomain. See the PowerDomain schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent resources. *For property details, see Status.*

Property Details

FacilityType:

The type of location this resource represents.

string	Description
Building	A structure with a roof and walls.
Floor	A floor inside of a building.
Room	A room inside of a building or floor.
Site	A small area consisting of several buildings.

Example Response


```
{
    "@odata.type": "#Facility.v1_0_0.Facility",
    "Id": "Room237",
    "Name": "Room #237, 2nd Floor",
    "FacilityType": "Room",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Location": {
        "PostalAddress": {
            "Country": "US",
            "Territory": "OR",
            "City": "Portland",
            "Street": "1001 SW 5th Avenue",
            "HouseNumber": 1100,
            "Name": "DMTF, Inc.",
            "PostalCode": "97204",
            "Floor": "2",
            "Room": "237"
        }
    },
    "PowerDomains": {
        "@odata.id": "/redfish/v1/Facilities/Room237/PowerDomains"
    },
    "Links": {
        "ContainedByFacility": {
            "@odata.id": "/redfish/v1/Facilities/Building"
        },
        "RackPDUs": [
            {
                "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1"
            }
        ]
    },
    "@odata.id": "/redfish/v1/Facilities/Room237"
}
```


HostInterface 1.2.2

v1.2	*v1.1*	*v1.0*
2018.2	2017.1	2016.3

The properties associated with a Host Interface. A Host Interface is a connection between host software and a Redfish Service.

URIs:

/redfish/v1/Managers/*{ManagerId}*/HostInterfaces/*{HostInterfaceId}*

AuthenticationModes [ ]	array	read-write	The authentication modes available on this

	(string (enum))		interface. *For the possible property values, see AuthenticationModes in Property Details.*
AuthNoneRoleId *(v1.2+)*	string	read-write	The role when no authentication on this interface is used.
ExternallyAccessible	boolean	read-only (null)	An indication of whether external entities can access this interface. External entities are non-host entities. For example, if the host and manager are connected through a switch and the switch also exposes an external port on the system, external clients can also use the interface, and this property value is `true`.
FirmwareAuthEnabled	boolean	read-write (null)	An indication of whether this firmware authentication is enabled for this interface.
FirmwareAuthRoleId	string	read-write	The Role used for firmware authentication on this interface.
HostEthernetInterfaces {	object		A link to the collection of network interface controllers or cards (NICs) that a computer system uses to communicate with this Host Interface. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of EthernetInterface. See the EthernetInterface schema for details.*
HostInterfaceType	string (enum)	read-only (null)	The Host Interface type for this interface. *For the possible property values, see HostInterfaceType in Property Details.*
InterfaceEnabled	boolean	read-write (null)	An indication of whether this interface is enabled.
KernelAuthEnabled	boolean	read-write (null)	An indication of whether this kernel authentication is enabled for this interface.
KernelAuthRoleId	string	read-write	The Role used for kernel authentication on this interface.
Links {	object		The links to other Resources that are related to this Resource.
AuthNoneRole *(v1.2+)* {	object		The link to the Redfish Role that contains the privileges on this Host Interface when no authentication is performed. *See the Role schema for details on this property.*
@odata.id }	string	read-only	*Link to a Role resource. See the Links section and the Role schema for details.*
ComputerSystems [{	array		An array of links to the computer systems connected to this Host Interface.

@odata.id }]	string	read-only	*Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details.*
FirmwareAuthRole {	object		The link to the Redfish Role that has firmware authentication privileges on this Host Interface. *See the Role schema for details on this property.*
@odata.id }	string	read-only	*Link to a Role resource. See the Links section and the Role schema for details.*
KernelAuthRole {	object		The link to the Redfish Role defining privileges for this Host Interface when using kernel authentication. *See the Role schema for details on this property.*
@odata.id }	string	read-only	*Link to a Role resource. See the Links section and the Role schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
ManagerEthernetInterface {	object		A link to a single network interface controllers or cards (NIC) that this manager uses for network communication with this Host Interface. *See the EthernetInterface schema for details on this property.*
@odata.id }	string	read-only	*Link to a EthernetInterface resource. See the Links section and the EthernetInterface schema for details.*
NetworkProtocol {	object		A link to the network services and their settings that the manager controls. In this property, clients find configuration options for the network and network services. *See the ManagerNetworkProtocol schema for details on this property.*
@odata.id }	string	read-only	*Link to a ManagerNetworkProtocol resource. See the Links section and the ManagerNetworkProtocol schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Property Details

AuthenticationModes:

The authentication modes available on this interface.

string	Description
AuthNone	Requests without any sort of authentication are allowed.
BasicAuth	Requests using HTTP Basic Authentication are allowed.
OemAuth	Requests using OEM authentication mechanisms are allowed.
RedfishSessionAuth	Requests using Redfish Session Authentication are allowed.

HostInterfaceType:

The Host Interface type for this interface.

string	Description
NetworkHostInterface	This interface is a Network Host Interface.

Example Response


```
{
    "@odata.id": "/redfish/v1/Managers/BMC/HostInterfaces/1",
    "@odata.type": "#HostInterface.v1_2_2.HostInterface",
    "Id": "1",
    "Name": "Host Interface",
    "Description": "Management Host Interface",
    "HostInterfaceType": "NetworkHostInterface",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "InterfaceEnabled": true,
    "ExternallyAccessible": false,
    "AuthenticationModes": [
        "AuthNone",
        "BasicAuth",
        "RedfishSessionAuth",
        "OemAuth"
    ],
    "KernelAuthRoleId": "Administrator",
    "KernelAuthEnabled": true,
    "FirmwareAuthRoleId": "Administrator",
    "FirmwareAuthEnabled": true,
    "HostEthernetInterfaces": {
        "@odata.id": "/redfish/v1/Managers/BMC/HostInterfaces/1/HostEthernetInterfaces"
    },
    "ManagerEthernetInterface": {
        "@odata.id": "/redfish/v1/Managers/BMC/EthernetInterfaces/ToHost"
    },
    "NetworkProtocol": {
        "@odata.id": "/redfish/v1/Managers/BMC/NetworkProtocol"
    },
    "Links": {
        "ComputerSystems": [
            {
                "@odata.id": "/redfish/v1/Systems/ORD144"
            }
```

```
        ],
        "KernelAuthRole": {
            "@odata.id": "/redfish/v1/AccountService/Roles/Administrator"
        },
        "FirmwareAuthRole": {
            "@odata.id": "/redfish/v1/AccountService/Roles/Administrator"
        }
    },
    "Oem": {}
}
```


Job 1.0.3

v1.0
2018.2

The Job schema contains information about a job that a a Redfish Job Service schedules or executes. Clients create jobs to describe a series of operations that occur at periodic intervals.

URIs:

/redfish/v1/JobService/Jobs/*{JobId}*

/redfish/v1/JobService/Jobs/*{JobId}*/Steps/*{JobId2}*

CreatedBy	string	read-only	The person or program that created this job entry.
EndTime	string	read-only	The date and time when the job was completed.
HidePayload	boolean	read-only	An indication of whether the contents of the payload should be hidden from view after the job has been created. If `true`, responses do not return the payload. If `false`, responses return the payload. If this property is not present when the job is created, the default is `false`.
JobState	string (enum)	read-write	The state of the job. *For the possible property values, see JobState in Property Details.*
JobStatus	string (enum)	read-only	The status of the job. *For the possible property values, see JobStatus in Property Details.*
MaxExecutionTime	string	read-write (null)	The maximum amount of time the job is allowed to execute.
Messages [{ }]	array (object)		An array of messages associated with the job. The message that the Redfish Service returns. *For property details, see Message (v1.0.8).*
Payload {	object		The HTTP and JSON payload details for this job.
HttpHeaders [ ]	array	read-only	An array of HTTP headers in this job.

	(string)		
HttpOperation	string	read-only	The HTTP operation that executes this job.
JsonBody	string	read-only	The JSON payload to use in the execution of this job.
TargetUri }	string	read-only	The link to the target for this job.
PercentComplete	integer (%)	read-only (null)	The completion percentage of this job.
Schedule { }	object		The schedule settings for this job. *For property details, see Schedule.*
StartTime	string	read-only	The date and time when the job was started or is scheduled to start.
StepOrder [ ]	array (string)	read-only	The serialized execution order of the job Steps.
Steps {	object		The link to a collection of steps for this job. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Job. See the Job schema for details.*

Property Details

JobState:

The state of the job.

string	Description
Cancelled	Job was cancelled.
Completed	Job was completed.
Continue	Job is to resume operation.
Exception	Job has stopped due to an exception condition.
Interrupted	Job has been interrupted.
New	A new job.
Pending	Job is pending and has not started.
Running	Job is running normally.
Service	Job is running as a service.
Starting	Job is starting.
Stopping	Job is in the process of stopping.
Suspended	Job has been suspended.

string	Description
UserIntervention	Job is waiting for user intervention.

JobStatus:

The status of the job.

string	Description
Critical	A critical condition requires immediate attention.
OK	Normal.
Warning	A condition requires attention.

Example Response


```
{
    "@odata.type": "#Job.v1_0_3.Job",
    "Id": "RebootRack",
    "Name": "Scheduled Nightly Reboot of the rack",
    "JobStatus": "OK",
    "JobState": "Running",
    "StartTime": "2018-04-01T00:01+6:00",
    "PercentComplete": 24,
    "Schedule": {
        "Lifetime": "P4Y",
        "InitialStartTime": "2018-01-01T01:00:00+06:00",
        "RecurrenceInterval": "P1D",
        "EnabledDaysOfWeek": [
            "Monday",
            "Tuesday",
            "Wednesday",
            "Thursday",
            "Friday"
        ]
    },
    "Steps": {
        "@odata.id": "/redfish/v1/JobService/Jobs/RebootRack/Steps"
    },
    "StepOrder": [
        "Red",
        "Orange",
        "Yellow",
        "Green",
        "Blue",
        "Indigo",
        "Violet"
    ],
    "@odata.id": "/redfish/v1/JobService/Jobs/RebootRack"
}
```

JobService 1.0.2

v1.0
2018.2

The Redfish Job Service enables the scheduling and execution of operations, represents the properties for the Job Service itself, and has links to the actual Resource Collection of Jobs.

URIs:

/redfish/v1/JobService

DateTime	string	read-only (null)	The current date and time, with UTC offset, setting that the Job Service uses.
Jobs {	object		The links to the Jobs collection. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Job. See the Job schema for details.*
Log {	object		The link to a Log Service that the Job Service uses. This service may be a dedicated Log Service or a pointer a Log Service under another entity, such as Manager. *See the LogService schema for details on this property.*
@odata.id }	string	read-only	*Link to a LogService resource. See the Links section and the LogService schema for details.*
ServiceCapabilities {	object		The supported capabilities of this Job Service implementation.
MaxJobs	integer	read-only (null)	The maximum number of jobs supported.
MaxSteps	integer	read-only (null)	The maximum number of job steps supported.
Scheduling }	boolean	read-only (null)	An indication of whether scheduling of jobs is supported.
ServiceEnabled	boolean	read-write (null)	An indication of whether this service is enabled.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Example Response


```
{
    "@odata.type": "#JobService.v1_0_2.JobService",
    "Id": "JobService",
    "Name": "Job Service",
```

```
    "DateTime": "2018-06-13T04:14+06:00",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "ServiceEnabled": true,
    "ServiceCapabilities": {
        "MaxJobs": 100,
        "MaxSteps": 50,
        "Scheduling": true
    },
    "Jobs": {
        "@odata.id": "/redfish/v1/JobService/Jobs"
    },
    "Log": {
        "@odata.id": "/redfish/v1/JobService/Log"
    },
    "Actions": {
        "Oem": {
            "#Contoso.EasyButton": {
                "target": "/redfish/v1/JobService/Contoso.EasyButton",
                "@Redfish.ActionInfo": "/redfish/v1/JobService/EasyButtonActionInfo"
            }
        }
    },
    "Oem": {},
    "@odata.context": "/redfish/v1/$metadata/JobService.JobService",
    "@odata.id": "/redfish/v1/JobService"
}
```


JsonSchemaFile 1.1.4

v1.1	*v1.0*
2017.1	1.0

The JsonSchemaFile schema contains the properties that describe the locations, as URIs, of a Redfish Schema definition that a Redfish Service implements or references.

URIs:

/redfish/v1/JsonSchemas/*{JsonSchemaFileId}*

Languages [ ]	array (string)	read-only required	The RFC5646-conformant language codes for the available schemas.
Location [{	array	required	Location information for this schema file.
ArchiveFile	string	read-only	The name of the file in the archive, if the schema is hosted on the service in an archive file.
ArchiveUri	string	read-only	The link to an archive file, if the schema is hosted on the service in an archive file.
Language	string	read-only	The language code for the schema file.

PublicationUri	string	read-only	The link to publicly available (canonical) URI for schema.
Uri }]	string	read-only	The link to locally available URI for schema.
Schema	string	read-only required	The @odata.type name this schema describes.

Example Response


```
{
    "@odata.type": "#JsonSchemaFile.v1_1_4.JsonSchemaFile",
    "Id": "Chassis.v1_11_0",
    "Name": "Chassis Schema File",
    "Description": "Chassis Schema File Location",
    "Languages": [
        "en"
    ],
    "Schema": "#Chassis.v1_11_0.Chassis",
    "Oem": {},
    "Location": [
        {
            "Language": "en",
            "ArchiveUri": "/Schemas.gz",
            "PublicationUri": "http://redfish.dmtf.org/schemas/v1/Chassis.v1_11_0.json",
            "ArchiveFile": "Chassis.v1_11_0.json"
        },
        {
            "Language": "zh",
            "ArchiveUri": "/Schemas.zh.gz",
            "PublicationUri": "http://schemas.contoso.com/Chassis.v1_11_0.zh.json",
            "ArchiveFile": "Chassis.v1_11_0.zh.json"
        },
        {
            "Language": "xy",
            "Uri": "/redfish/v1/JsonSchemas/Chassis.v1_11_0.xy.json",
            "PublicationUri": "http://schemas.contoso.com/Chassis.v1_11_0.xy.json"
        }
    ],
    "@odata.id": "/redfish/v1/JsonSchemas/Chassis.v1_11_0"
}
```


LogEntry 1.5.1

v1.5	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.3	2018.2	2017.3	2017.1	2016.2	1.0

The LogEntry schema defines the record format for a log. It is designed for Redfish event logs, OEM-specific log formats, and the IPMI System Event Log (SEL). The EntryType field indicates the type of log and the Resource includes several additional properties dependent on the EntryType.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/LogServices/*{LogServiceId}*/Entries/*{LogEntryId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*/Entries/*{LogEntryId}*

/redfish/v1/JobService/Log/Entries/*{LogEntryId}*

/redfish/v1/Managers/*{ManagerId}*/LogServices/*{LogServiceId}*/Entries/*{LogEntryId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*/Entries/*{LogEntryId}*

/redfish/v1/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*/Entries/*{LogEntryId}*

/redfish/v1/TelemetryService/LogService/Entries/*{LogEntryId}*

Created	string	read-only	The date and time when the log entry was created.
EntryCode	string (enum)	read-only (null)	The entry code for the log entry if the entry type is `SEL`. *For the possible property values, see EntryCode in Property Details.*
EntryType	string (enum)	read-only required	The type of log entry. *For the possible property values, see EntryType in Property Details.*
EventGroupId *(v1.4+)*	integer	read-only (null)	An identifier that correlates events with the same cause.
EventId *(v1.1+)*	string	read-only	The unique instance identifier for an event.
EventTimestamp *(v1.1+)*	string	read-only	The date and time when the event occurred.
EventType *(v1.1+, deprecated v1.4)*	string (enum)	read-only	The type of event recorded in this log. *For the possible property values, see EventType in Property Details.* *Deprecated in v1.4 and later. This property has been deprecated. Starting with Redfish Specification v1.6 (Event v1.3), subscriptions are based on the RegistryPrefix and ResourceType properties and not on the EventType property.*
GeneratorId *(v1.5+)*	string	read-only (null)	An identifier of the device that has generated the IPMI SEL Event Record.
Links {	object		The links to other Resources that are related to this Resource.
Oem { }	object		See the Oem object definition in the Common properties section.
OriginOfCondition {	object		The URI of the Resource that caused the log entry.

@odata.id } }	string	read-only	The unique identifier for a resource.
Message	string	read-only (null)	The message of the log entry. This property decodes from the entry type. If the entry type is `Event`, this property contains a message. If the entry type is `SEL`, this property contains an SEL-specific message. Otherwise, this property contains an OEM-specific log entry. In most cases, this property contains the actual log entry.
MessageArgs [ ]	array (string)	read-only	The arguments for the message.
MessageId	string	read-only	The MessageId, event data, or OEM-specific information. This property decodes from the entry type. If the entry type is `Event`, this property contains a Redfish Specification-defined MessageId. If the entry type is `SEL`, this property contains the Event Data. Otherwise, this property contains OEM-specific information.
OemLogEntryCode *(v1.3+)*	string	read-only (null)	The OEM-specific entry code, if the LogEntryCode type is `OEM`.
OemRecordFormat	string	read-only (null)	The OEM-specific format of the entry. If the entry type is `Oem`, this property contains more information about the record format from the OEM.
OemSensorType *(v1.3+)*	string	read-only (null)	The OEM-specific sensor type if the sensor type is `OEM`.
SensorNumber	integer	read-only (null)	The sensor number, the count of events, or OEM-specific information. This property value is decoded from the entry type. If the entry type is `SEL`, this property contains the sensor number. If the entry type is `Event`, this property contains the count of events. Otherwise, this property contains OEM-specific information.
SensorType	string (enum)	read-only (null)	The sensor type to which the log entry pertains if the entry type is `SEL`. *For the possible property values, see SensorType in Property Details.*
Severity	string (enum)	read-only (null)	The severity of the log entry. *For the possible property values, see Severity in Property Details.*

Property Details

EntryCode:

The entry code for the log entry if the entry type is `SEL`.

string	Description
Assert	The condition has been asserted.
D0 Power State	The ACPI-defined D0 power state.
D1 Power State	The ACPI-defined D1 power state.
D2 Power State	The ACPI-defined D2 power state.
D3 Power State	The ACPI-defined D3 power state.
Deassert	The condition has been deasserted.
Device Disabled	A device has been disabled.
Device Enabled	A device has been enabled.
Device Inserted / Device Present	A device has been inserted or is present.
Device Removed / Device Absent	A device has been removed or is absent.
Fully Redundant	Indicates that full redundancy has been regained.
Informational	An informational event.
Install Error	An install error has been detected.
Limit Exceeded	A limit has been exceeded.
Limit Not Exceeded	A limit has not been exceeded.
Lower Critical - going high	The reading crossed the Lower Critical threshold while going high.
Lower Critical - going low	The reading crossed the Lower Critical threshold while going low.
Lower Non-critical - going high	The reading crossed the Lower Non-critical threshold while going high.
Lower Non-critical - going low	The reading crossed the Lower Non-critical threshold while going low.
Lower Non-recoverable - going high	The reading crossed the Lower Non-recoverable threshold while going high.
Lower Non-recoverable - going low	The reading crossed the Lower Non-recoverable threshold while going low.
Monitor	A monitor event.
Non-redundant:Insufficient Resources	Unit is non-redundant and has insufficient resources to maintain normal operation.

string	Description
Non-redundant:Sufficient Resources from Insufficient Resources	Unit has regained minimum resources needed for normal operation.
Non-redundant:Sufficient Resources from Redundant	Redundancy has been lost but unit is functioning with minimum resources needed for normal operation.
OEM *(v1.3+)*	An OEM-defined event.
Performance Lags	Performance does not meet expectations.
Performance Met	Performance meets expectations.
Predictive Failure asserted	A Predictive Failure has been detected.
Predictive Failure deasserted	A Predictive Failure is no longer present.
Redundancy Degraded	Redundancy still exists, but at less than full level.
Redundancy Degraded from Fully Redundant	Unit has lost some redundant resource(s) but is still in a redundant state.
Redundancy Degraded from Non-redundant	Unit has regained some resource(s) and is redundant but not fully redundant.
Redundancy Lost	Entered any non-redundant state, including Non-redundant: Insufficient Resources.
State Asserted	The state has been asserted.
State Deasserted	The state has been deasserted.
Transition to Active	The state transitioned to active.
Transition to Busy	The state transitioned to busy.
Transition to Critical from less severe	A state has changed to Critical from less severe.
Transition to Critical from Non-recoverable	A state has changed to Critical from Non-recoverable.
Transition to Degraded	A state has transitioned to Degraded.
Transition to Idle	The state transitioned to idle.
Transition to In Test	A state has transitioned to In Test.
Transition to Non-Critical from more severe	A state has changed to Non-Critical from more severe.
Transition to Non-Critical from OK	A state has changed to Non-Critical from OK.
Transition to Non-recoverable	A state has changed to Non-recoverable.
Transition to Non-recoverable from less severe	A state has changed to Non-recoverable from less severe.

string	Description
Transition to Off Duty	A state has transitioned to Off Duty.
Transition to Off Line	A state has transitioned to Off Line.
Transition to OK	A state has changed to OK.
Transition to On Line	A state has transitioned to On Line.
Transition to Power Off	A state has transitioned to Power Off.
Transition to Power Save	A state has transitioned to Power Save.
Transition to Running	A state has transitioned to Running.
Upper Critical - going high	The reading crossed the Upper Critical threshold while going high.
Upper Critical - going low	The reading crossed the Upper Critical threshold while going low.
Upper Non-critical - going high	The reading crossed the Upper Non-critical threshold while going high.
Upper Non-critical - going low	The reading crossed the Upper Non-critical threshold while going low.
Upper Non-recoverable - going high	The reading crossed the Upper Non-recoverable threshold while going high.
Upper Non-recoverable - going low	The reading crossed the Upper Non-recoverable threshold while going low.

EntryType:

The type of log entry.

string	Description
Event	A Redfish-defined message.
Oem	An entry in an OEM-defined format.
SEL	A legacy IPMI System Event Log (SEL) entry.

EventType:

The type of event recorded in this log.

string	Description
Alert	A condition requires attention.
MetricReport	The Telemetry Service is sending a metric report.
Other	Because EventType is deprecated as of Redfish Specification v1.6, the event is based on a registry or Resource but not an EventType.

string	Description
ResourceAdded	A Resource has been added.
ResourceRemoved	A Resource has been removed.
ResourceUpdated	A Resource has been updated.
StatusChange	The status of a Resource has changed.

SensorType:

The sensor type to which the log entry pertains if the entry type is `SEL`.

string	Description
Add-in Card	A sensor for an add-in card.
BaseOSBoot/InstallationStatus	A sensor for a base OS boot or installation status event.
Battery	A sensor for a battery.
Boot Error	A sensor for a boot error event.
Button/Switch	A sensor for a button or switch.
Cable/Interconnect	A sensor for a cable or interconnect device type.
Chassis	A sensor for a chassis.
ChipSet	A sensor for a chipset.
CoolingDevice	A sensor for a cooling device.
Critical Interrupt	A sensor for a critical interrupt event.
Current	A current sensor.
Drive Slot/Bay	A sensor for a drive slot or bay.
Entity Presence	A sensor for an entity presence event.
Event Logging Disabled	A sensor for the event log.
Fan	A fan sensor.
FRUState	A sensor for a FRU state event.
LAN	A sensor for a LAN device.
Management Subsystem Health	A sensor for a management subsystem health event.
Memory	A sensor for a memory device.
Microcontroller/Coprocessor	A sensor for a microcontroller or coprocessor.
Module/Board	A sensor for a module or board.
Monitor ASIC/IC	A sensor for a monitor ASIC or IC.

string	Description
OEM *(v1.3+)*	An OEM-defined sensor.
OS Stop/Shutdown	A sensor for an OS stop or shutdown event
Other FRU	A sensor for another type of FRU.
Other Units-based Sensor	A sensor for a miscellaneous analog sensor.
Physical Chassis Security	A physical security sensor.
Platform Alert	A sensor for a platform alert event.
Platform Security Violation Attempt	A platform security sensor.
POST Memory Resize	A sensor for a POST memory resize event.
Power Supply / Converter	A sensor for a power supply or DC-to-DC converter.
PowerUnit	A sensor for a power unit.
Processor	A sensor for a processor.
Session Audit	A sensor for a session audit event.
Slot/Connector	A sensor for a slot or connector.
System ACPI PowerState	A sensor for an ACPI power state event.
System Event	A sensor for a system event.
System Firmware Progress	A sensor for a system firmware progress event.
SystemBoot/Restart	A sensor for a system boot or restart event.
Temperature	A temperature sensor.
Terminator	A sensor for a terminator.
Version Change	A sensor for a version change event.
Voltage	A voltage sensor.
Watchdog	A sensor for a watchdog event.

Severity:

The severity of the log entry.

string	Description
Critical	A critical condition that requires immediate attention.
OK	Informational or operating normally.
Warning	A condition that requires attention.

Example Response


```
{
    "@odata.type": "#LogEntry.v1_5_1.LogEntry",
    "Id": "1",
    "Name": "Log Entry 1",
    "EntryType": "Event",
    "Severity": "Critical",
    "Created": "2012-03-07T14:44:00Z",
    "SensorNumber": 1,
    "Message": "Temperature threshold exceeded",
    "MessageId": "Contoso.1.0.TempAssert",
    "MessageArgs": [
        "42"
    ],
    "Links": {
        "OriginOfCondition": {
            "@odata.id": "/redfish/v1/Chassis/1U/Thermal"
        },
        "Oem": {}
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/LogServices/Log1/Entries/1"
}
```


LogService 1.1.3

v1.1	*v1.0*
2017.3	1.0

The LogService schema contains properties for monitoring and configuring a Log Service.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/LogServices/*{LogServiceId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*

/redfish/v1/JobService/Log

/redfish/v1/Managers/*{ManagerId}*/LogServices/*{LogServiceId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*

/redfish/v1/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*

/redfish/v1/TelemetryService/LogService

DateTime	string	read-write (null)	The current date and time, with UTC offset, that the Log Service uses to set or read time.
DateTimeLocalOffset	string	read-write (null)	The UTC offset that the current DateTime property value contains in the `+HH:MM` format.
Entries {	object		The link to the log entry collection.

			Contains a link to a resource.
@odata.id }	string	read-only	*Link to Collection of LogEntry. See the LogEntry schema for details.*
LogEntryType *(v1.1+)*	string (enum)	read-only (null)	The format of the log entries. *For the possible property values, see LogEntryType in Property Details.*
MaxNumberOfRecords	integer	read-only	The maximum number of log entries that this service can have.
OverWritePolicy	string (enum)	read-only	The overwrite policy for this service that takes place when the log is full. *For the possible property values, see OverWritePolicy in Property Details.*
ServiceEnabled	boolean	read-write (null)	An indication of whether this service is enabled.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Actions

ClearLog

The action to clear the log for this Log Service.

Action URI: {Base URI of target resource}/Actions/LogService.ClearLog

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

LogEntryType:

The format of the log entries.

string	Description
Event	The log contains Redfish-defined messages.
Multiple	The log contains multiple log entry types and, therefore, the Log Service cannot guarantee a single entry type.
OEM	The log contains entries in an OEM-defined format.
SEL	The log contains legacy IPMI System Event Log (SEL) entries.

OverWritePolicy:

The overwrite policy for this service that takes place when the log is full.

string	Description
NeverOverWrites	When full, new entries to the log are discarded.
Unknown	The overwrite policy is not known or is undefined.
WrapsWhenFull	When full, new entries to the log overwrite earlier entries.

Example Response


```
{
    "@odata.type": "#LogService.v1_1_3.LogService",
    "Id": "Log1",
    "Name": "System Log Service",
    "Description": "This log contains entries related to the operation of the host Computer
    "MaxNumberOfRecords": 1000,
    "OverWritePolicy": "WrapsWhenFull",
    "DateTime": "2015-03-13T04:14:33+06:00",
    "DateTimeLocalOffset": "+06:00",
    "ServiceEnabled": true,
    "LogEntryType": "Event",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Oem": {},
    "Actions": {
        "#LogService.ClearLog": {
            "target": "/redfish/v1/Managers/1/LogServices/Log1/Actions/LogService.ClearLog"
        },
        "Oem": {}
    },
    "Entries": {
        "@odata.id": "/redfish/v1/Managers/1/LogServices/Log1/Entries"
    },
    "@odata.id": "/redfish/v1/Managers/1/LogServices/Log1"
}
```


Manager 1.7.0

v1.7	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.2	2018.2	2018.1	2016.3	2016.2	2016.1	1.0

In Redfish, a manager is a systems management entity that may implement or provide access to a Redfish Service. Examples of managers are BMCs, enclosure managers, management controllers, and other subsystems that are assigned managability functions. An implementation may have multiple managers, which may or may not be directly accessible through a Redfish-defined interface.

URIs:

/redfish/v1/Managers/*{ManagerId}*

AutoDSTEnabled *(v1.4+)*	boolean	read-write	An indication of whether the manager is configured for automatic Daylight Saving Time (DST) adjustment.
CommandShell {	object		The command shell service that this manager provides.
ConnectTypesSupported [ ]	array (string (enum))	read-only	This property enumerates the command shell connection types that the implementation allows. *For the possible property values, see ConnectTypesSupported in Property Details.*
MaxConcurrentSessions	integer	read-only	The maximum number of service sessions, regardless of protocol, that this manager can support.
ServiceEnabled }	boolean	read-write	An indication of whether the service is enabled for this manager.
DateTime	string	read-write (null)	The current date and time with UTC offset that the manager uses to set or read time.
DateTimeLocalOffset	string	read-write (null)	The time offset from UTC that the DateTime property is in `+HH:MM` format.
EthernetInterfaces {	object		The link to a collection of NICs that this manager uses for network communication. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of EthernetInterface. See the EthernetInterface schema for details.*
FirmwareVersion	string	read-only (null)	The firmware version of this manager.
GraphicalConsole {	object		The information about the graphical console (KVM-IP) service of this manager.
ConnectTypesSupported [ ]	array (string (enum))	read-only	This property enumerates the graphical console connection types that the implementation allows. *For the possible property values, see ConnectTypesSupported in Property Details.*
MaxConcurrentSessions	integer	read-only	The maximum number of service sessions, regardless of protocol, that this manager can support.
ServiceEnabled }	boolean	read-write	An indication of whether the service is enabled for this manager.

HostInterfaces *(v1.3+)* {	object		The link to a collection of Host Interfaces that this manager uses for local host communication. Clients can find Host Interface configuration options and settings in this navigation property. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of HostInterface. See the HostInterface schema for details.*
Links {	object		The links to other Resources that are related to this Resource.
ActiveSoftwareImage *(v1.6+)* {	object		The link to the SoftwareInventory Resource that represents the active firmware image for this manager. *See the SoftwareInventory schema for details on this property.*
@odata.id }	string	read-only	*Link to a SoftwareInventory resource. See the Links section and the SoftwareInventory schema for details.*
ManagerForChassis [{	array		An array of links to the chassis this manager controls.
@odata.id }]	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
ManagerForServers [{	array		An array of links to the systems that this manager controls.
@odata.id }]	string	read-only	*Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details.*
ManagerForSwitches *(v1.4+)* [{	array		An array of links to the switches that this manager controls.
@odata.id }]	string	read-only	*Link to a Switch resource. See the Links section and the Switch schema for details.*
ManagerInChassis *(v1.1+)* {	object		The link to the chassis where this manager is located. *See the Chassis schema for details on this property.*
@odata.id }	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
SoftwareImages *(v1.6+)* [{	array		The images that are associated with this manager.

@odata.id }] }	string	read-only	*Link to a SoftwareInventory resource. See the Links section and the SoftwareInventory schema for details.*
LogServices {	object		The link to a collection of logs that the manager uses. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of LogService. See the LogService schema for details.*
ManagerType	string (enum)	read-only	The type of manager that this Resource represents. *For the possible property values, see ManagerType in Property Details.*
Manufacturer *(v1.7+)*	string	read-only (null)	The manufacturer of this manager.
Model	string	read-only (null)	The model information of this manager, as defined by the manufacturer.
NetworkProtocol {	object		The link to the network services and their settings that the manager controls. *See the ManagerNetworkProtocol schema for details on this property.*
@odata.id }	string	read-only	*Link to a ManagerNetworkProtocol resource. See the Links section and the ManagerNetworkProtocol schema for details.*
PartNumber *(v1.7+)*	string	read-only (null)	The part number of the manager.
PowerState *(v1.2+)*	string (enum)	read-only (null)	The current power state of the manager. *For the possible property values, see PowerState in Property Details.*
Redundancy [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common objects section. *For property details, see Redundancy.*
RemoteAccountService *(v1.5+)* {	object		The link to the AccountService Resource for the remote manager that this Resource represents. *See the AccountService schema for details on this property.*
@odata.id }	string	read-only	*Link to a AccountService resource. See the Links section and the AccountService schema for details.*
RemoteRedfishServiceUri *(v1.5+)*	string	read-only (null)	The URI of the Redfish Service Root for the remote manager that this Resource

			represents.
SerialConsole {	object		The serial console service that this manager provides.
ConnectTypesSupported [ ]	array (string (enum))	read-only	This property enumerates the serial console connection types that the implementation allows. *For the possible property values, see ConnectTypesSupported in Property Details.*
MaxConcurrentSessions	integer	read-only	The maximum number of service sessions, regardless of protocol, that this manager can support.
ServiceEnabled }	boolean	read-write	An indication of whether the service is enabled for this manager.
SerialInterfaces {	object		The link to a collection of serial interfaces that this manager uses for serial and console communication. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of SerialInterface. See the SerialInterface schema for details.*
SerialNumber *(v1.7+)*	string	read-only (null)	The serial number of the manager.
ServiceEntryPointUUID	string	read-only (null)	The UUID of the Redfish Service that is hosted by this manager.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UUID	string	read-only (null)	The UUID for this manager.
VirtualMedia {	object		The link to the Virtual Media services for this particular manager. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of VirtualMedia. See the VirtualMedia schema for details.*

Actions

ForceFailover

The ForceFailover action forces a failover of this manager to the manager used in the parameter.

Action URI: {Base URI of target resource}/Actions/Manager.ForceFailover

Perform the action using a POST to the specific Action URI for this resource. Parameters for

the action are passed in a JSON body and are defined as follows:

{			
NewManager {	object	required	The manager to which to fail over.
@odata.id } }	string	read-only	*Link to another Manager resource.*

ModifyRedundancySet

The ModifyRedundancySet operation adds members to or removes members from a redundant group of managers.

Action URI: {Base URI of target resource}/Actions/Manager.ModifyRedundancySet

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
Add [{	array	optional	An array of managers to add to the redundancy set.
@odata.id }]	string	read-only	*Link to another Manager resource.*
Remove [{	array	optional	An array of managers to remove from the redundancy set.
@odata.id }] }	string	read-only	*Link to another Manager resource.*

Reset

The reset action resets/reboots the manager.

Action URI: {Base URI of target resource}/Actions/Manager.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

Property Details

ConnectTypesSupported:

This property enumerates the serial console connection types that the implementation allows.

string	Description
IPMI	The controller supports a serial console connection through the IPMI Serial Over LAN (SOL) protocol.
Oem	The controller supports a serial console connection through an OEM-specific protocol.
SSH	The controller supports a serial console connection through the SSH protocol.
Telnet	The controller supports a serial console connection through the Telnet protocol.

ManagerType:

The type of manager that this Resource represents.

string	Description
AuxiliaryController	A controller that provides management functions for a particular subsystem or group of devices.
BMC	A controller that provides management functions for a single computer system.
EnclosureManager	A controller that provides management functions for a chassis or group of devices or systems.
ManagementController	A controller that primarily monitors or manages the operation of a device or system.
RackManager	A controller that provides management functions for a whole or part of a rack.
Service *(v1.4+)*	A software-based service that provides management functions.

PowerState:

The current power state of the manager.

string	Description
Off	The state is powered off.
On	The state is powered on.
PoweringOff	A temporary state between on and off.
PoweringOn	A temporary state between off and on.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.

string	Description
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

Example Response


```
{
    "@odata.type": "#Manager.v1_7_0.Manager",
    "Id": "BMC",
    "Name": "Manager",
    "ManagerType": "BMC",
    "Description": "Contoso BMC",
    "ServiceEntryPointUUID": "92384634-2938-2342-8820-489239905423",
    "UUID": "58893887-8974-2487-2389-841168418919",
    "Model": "Joo Janta 200",
    "FirmwareVersion": "4.4.6521",
    "DateTime": "2015-03-13T04:14:33+06:00",
    "DateTimeLocalOffset": "+06:00",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "PowerState": "On",
    "GraphicalConsole": {
        "ServiceEnabled": true,
        "MaxConcurrentSessions": 2,
        "ConnectTypesSupported": [
            "KVMIP"
        ]
    },
    "SerialConsole": {
        "ServiceEnabled": true,
        "MaxConcurrentSessions": 1,
        "ConnectTypesSupported": [
            "Telnet",
            "SSH",
            "IPMI"
        ]
    },
    "CommandShell": {
        "ServiceEnabled": true,
        "MaxConcurrentSessions": 4,
        "ConnectTypesSupported": [
```

```
            "Telnet",
            "SSH"
        ]
    },
    "HostInterfaces": {
        "@odata.id": "/redfish/v1/Managers/9/HostInterfaces"
    },
    "NetworkProtocol": {
        "@odata.id": "/redfish/v1/Managers/BMC/NetworkProtocol"
    },
    "EthernetInterfaces": {
        "@odata.id": "/redfish/v1/Managers/BMC/NICs"
    },
    "SerialInterfaces": {
        "@odata.id": "/redfish/v1/Managers/BMC/SerialInterfaces"
    },
    "LogServices": {
        "@odata.id": "/redfish/v1/Managers/BMC/LogServices"
    },
    "VirtualMedia": {
        "@odata.id": "/redfish/v1/Managers/BMC/VirtualMedia"
    },
    "Links": {
        "ManagerForServers": [
            {
                "@odata.id": "/redfish/v1/Systems/437XR1138R2"
            }
        ],
        "ManagerForChassis": [
            {
                "@odata.id": "/redfish/v1/Chassis/1U"
            }
        ],
        "ManagerInChassis": {
            "@odata.id": "/redfish/v1/Chassis/1U"
        },
        "Oem": {}
    },
    "Actions": {
        "#Manager.Reset": {
            "target": "/redfish/v1/Managers/BMC/Actions/Manager.Reset",
            "ResetType@Redfish.AllowableValues": [
                "ForceRestart",
                "GracefulRestart"
            ]
        },
        "Oem": {}
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Managers/BMC"
}
```

ManagerAccount 1.5.0

v1.5	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.3	2019.1	2018.3	2017.1	1.0

The user accounts, owned by a manager, are defined in this Resource. Changes to a manager account may affect the current Redfish Service connection if this manager is responsible for the Redfish Service.

URIs:

/redfish/v1/AccountService/Accounts/*{ManagerAccountId}*

/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/Accounts/*{ManagerAccountId}*

AccountTypes *(v1.4+)* [ ]	array (string (enum))	read-write (null)	The account types. *For the possible property values, see AccountTypes in Property Details.*
Certificates *(v1.2+)* {	object		The link to a collection of certificates used for this account. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Certificate. See the Certificate schema for details.*
Enabled	boolean	read-write	An indication of whether an account is enabled. An administrator can disable it without deleting the user information. If `true`, the account is enabled and the user can log in. If `false`, the account is disabled and, in the future, the user cannot log in.
Links {	object		The links to other Resources that are related to this Resource.
Oem { }	object		See the Oem object definition in the Common properties section.
Role {	object		The link to the Redfish Role that defines the privileges for this account. *See the Role schema for details on this property.*
@odata.id } }	string	read-only	*Link to a Role resource. See the Links section and the Role schema for details.*
Locked	boolean	read-write	An indication of whether the Account Service automatically

			locked the account because the lockout threshold was exceeded. To manually unlock the account before the lockout duration period, an administrator can change the property to `false` to clear the lockout condition.
OEMAccountTypes *(v1.4+)* [ ]	array (string, null)	read-write	The OEM account types.
Password	string	read-write required on create (null)	The password. Use this property with a PATCH or PUT to write the password for the account. This property is `null` in responses.
PasswordChangeRequired *(v1.3+)*	boolean	read-write (null)	An indication of whether the service requires that the password for this account be changed before further access to the account is allowed.
RoleId	string	read-write required on create	The Role for this account.
SNMP *(v1.4+)* {	object	(null)	The SNMP settings for this account.
AuthenticationKey	string	read-write (null)	The secret authentication key for SNMPv3.
AuthenticationKeySet *(v1.5+)*	boolean	read-only	Indicates if the AuthenticationKey property is set.
AuthenticationProtocol	string (enum)	read-write (null)	The authentication protocol for SNMPv3. *For the possible property values, see AuthenticationProtocol in Property Details.*
EncryptionKey	string	read-write (null)	The secret authentication key used in SNMPv3.
EncryptionKeySet *(v1.5+)*	boolean	read-only	Indicates if the EncryptionKey property is set.
EncryptionProtocol }	string (enum)	read-write (null)	The encryption protocol for SNMPv3. *For the possible property values, see EncryptionProtocol in Property Details.*
UserName	string	read-write	The user name for the account.

		required on create	

Property Details

AccountTypes:

The account types.

string	Description
OEM	OEM account type.
Redfish	Allow access to the Redfish Service.
SNMP	Allow access to SNMP services.

AuthenticationProtocol:

The authentication protocol for SNMPv3.

string	Description
HMAC_MD5	HMAC-MD5-96 authentication.
HMAC_SHA96	HMAC-SHA-96 authentication.
None	No authentication.

EncryptionProtocol:

The encryption protocol for SNMPv3.

string	Description
CBC_DES	CBC-DES encryption.
CFB128_AES128	CFB128-AES-128 encryption.
None	No encryption.

Example Response


```
{
    "@odata.type": "#ManagerAccount.v1_5_0.ManagerAccount",
    "Id": "1",
    "Name": "User Account",
    "Description": "User Account",
    "Enabled": true,
    "Password": null,
    "UserName": "Administrator",
    "RoleId": "Administrator",
    "Locked": false,
    "Links": {
        "Role": {
            "@odata.id": "/redfish/v1/AccountService/Roles/Administrator"
        }
```

```
    },
    "@odata.id": "/redfish/v1/AccountService/Accounts/1"
}
```


ManagerNetworkProtocol 1.5.0

v1.5	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.3	2018.3	2018.2	2017.1	2016.3	1.0

The network service settings for the manager.

URIs:

/redfish/v1/Managers/*{ManagerId}*/NetworkProtocol

DHCP *(v1.1+)* {	object		The settings for this manager's DHCPv4 protocol support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
DHCPv6 *(v1.3+)* {	object		The settings for this manager's DHCPv6 protocol support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
FQDN	string	read-only (null)	The fully qualified domain name for the manager obtained by DNS including the host name and top-level domain name.
HostName	string	read-only (null)	The DNS host name of this manager, without any domain information.
HTTP {	object		The settings for this manager's HTTP protocol support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
HTTPS {	object		The settings for this manager's HTTPS protocol support.
Certificates *(v1.4+)* {	object		The link to a collection of certificates

			used for HTTPS by this manager. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Certificate. See the Certificate schema for details.*
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
IPMI {	object		The settings for this manager's IPMI-over-LAN protocol support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
KVMIP {	object		The settings for this manager's KVM-IP protocol support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
NTP *(v1.2+)* {	object		The settings for this manager's NTP protocol support.
NTPServers [ ]	array (string, null)	read-write	Indicates to which NTP servers this manager is subscribed.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
RDP *(v1.3+)* {	object		The settings for this manager's Remote Desktop Protocol support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
RFB *(v1.3+)* {	object		The settings for this manager's Remote Frame Buffer protocol support, which can support VNC.
Port	integer	read-write (null)	The protocol port.

ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
SNMP {	object		The settings for this manager's SNMP support.
AuthenticationProtocol *(v1.5+)*	string (enum)	read-write (null)	The authentication protocol for SNMP. *For the possible property values, see AuthenticationProtocol in Property Details.*
CommunityAccessMode *(v1.5+)*	string (enum)	read-write (null)	The access level of the SNMP community. *For the possible property values, see CommunityAccessMode in Property Details.*
CommunityStrings *(v1.5+)* [{	array		The SNMP community strings.
AccessMode	string (enum)	read-write (null)	The access level of the SNMP community. *For the possible property values, see AccessMode in Property Details.*
CommunityString	string	read-write (null)	The SNMP community string.
Name }]	string	read-write (null)	The name of the SNMP community.
EnableSNMPv1 *(v1.5+)*	boolean	read-write (null)	Indicates if access via SNMPv1 is enabled.
EnableSNMPv2c *(v1.5+)*	boolean	read-write (null)	Indicates if access via SNMPv2c is enabled.
EnableSNMPv3 *(v1.5+)*	boolean	read-write (null)	Indicates if access via SNMPv3 is enabled.
EncryptionProtocol *(v1.5+)*	string (enum)	read-write (null)	The encryption protocol for SNMPv3. *For the possible property values, see EncryptionProtocol in Property Details.*
EngineId *(v1.5+)* {	object	(null)	The engine ID.
EnterpriseSpecificMethod	string	read-write (null)	The enterprise specific method.
PrivateEnterpriseId }	string	read-write (null)	The private enterprise ID.
HideCommunityStrings *(v1.5+)*	boolean	read-write (null)	Indicates if the community strings should be hidden.
Port	integer	read-write (null)	The protocol port.

ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
SSDP {	object		The settings for this manager's SSDP support.
NotifyIPv6Scope	string (enum)	read-write (null)	The IPv6 scope for multicast NOTIFY messages for SSDP. *For the possible property values, see NotifyIPv6Scope in Property Details.*
NotifyMulticastIntervalSeconds	integer (seconds)	read-write (null)	The time interval, in seconds, between transmissions of the multicast NOTIFY ALIVE message from this service for SSDP.
NotifyTTL	integer	read-write (null)	The time-to-live hop count for SSDP multicast NOTIFY messages.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
SSH {	object		The settings for this manager's Secure Shell (SSH) protocol support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Telnet {	object		The settings for this manager's Telnet protocol support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.
VirtualMedia {	object		The settings for this manager's virtual media support.
Port	integer	read-write (null)	The protocol port.
ProtocolEnabled }	boolean	read-write (null)	An indication of whether the protocol is enabled.

Property Details

AccessMode:

The access level of the SNMP community.

string	Description
Full	READ-WRITE access mode.
Limited	READ-ONLY access mode.

AuthenticationProtocol:

The authentication protocol for SNMP.

string	Description
Account	Authentication is determined by account settings.
CommunityString	SNMP community string authentication.
HMAC_MD5	HMAC-MD5-96 authentication.
HMAC_SHA96	HMAC-SHA-96 authentication.

CommunityAccessMode:

The access level of the SNMP community.

string	Description
Full	READ-WRITE access mode.
Limited	READ-ONLY access mode.

EncryptionProtocol:

The encryption protocol for SNMPv3.

string	Description
Account	Encryption is determined by account settings.
CBC_DES	CBC-DES encryption.
CFB128_AES128	CFB128-AES-128 encryption.
None	No encryption.

NotifyIPv6Scope:

The IPv6 scope for multicast NOTIFY messages for SSDP.

string	Description
Link	SSDP NOTIFY messages are sent to addresses in the IPv6 local link scope.

string	Description
Organization	SSDP NOTIFY messages are sent to addresses in the IPv6 local organization scope.
Site	SSDP NOTIFY messages are sent to addresses in the IPv6 local site scope.

Example Response


```
{
    "@odata.type": "#ManagerNetworkProtocol.v1_5_0.ManagerNetworkProtocol",
    "Id": "NetworkProtocol",
    "Name": "Manager Network Protocol",
    "Description": "Manager Network Service",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "HostName": "web483-bmc",
    "FQDN": "web483-bmc.dmtf.org",
    "HTTP": {
        "ProtocolEnabled": true,
        "Port": 80
    },
    "HTTPS": {
        "ProtocolEnabled": true,
        "Port": 443
    },
    "IPMI": {
        "ProtocolEnabled": true,
        "Port": 623
    },
    "SSH": {
        "ProtocolEnabled": true,
        "Port": 22
    },
    "SNMP": {
        "ProtocolEnabled": true,
        "Port": 161
    },
    "VirtualMedia": {
        "ProtocolEnabled": true,
        "Port": 17988
    },
    "SSDP": {
        "ProtocolEnabled": true,
        "Port": 1900,
        "NotifyMulticastIntervalSeconds": 600,
        "NotifyTTL": 5,
        "NotifyIPv6Scope": "Site"
    },
    "Telnet": {
        "ProtocolEnabled": true,
        "Port": 23
    },
    "KVMIP": {
```

```
        "ProtocolEnabled": true,
        "Port": 5288
    },
    "@odata.id": "/redfish/v1/Managers/BMC/NetworkProtocol"
}
```


MediaController 1.0.0

v1.0
2019.4

The schema definition of the media controller and its configuration.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/MediaControllers/*{MediaControllerId}*

Links {	object		The links to other Resources that are related to this Resource.
Endpoints [{	array		An array of links to the endpoints that connect to this media controller.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
MemoryDomains [{	array		An array of links to the memory domains associated with this media controller.
@odata.id }]	string	read-only	*Link to a MemoryDomain resource. See the Links section and the MemoryDomain schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
Manufacturer	string	read-only (null)	The manufacturer of this media controller.
MediaControllerType	string (enum)	read-only (null)	The type of media controller. *For the possible property values, see MediaControllerType in Property Details.*
Model	string	read-only (null)	The model of this media controller.
PartNumber	string	read-only (null)	The part number of this media controller.
Ports {	object		The link to the collection of ports associated with this media controller. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Port. See the Port schema for details.*

SerialNumber	string	read-only (null)	The serial number of this media controller.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Actions

Reset

This action resets this media controller.

Action URI: {Base URI of target resource}/Actions/MediaController.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

Property Details

MediaControllerType:

The type of media controller.

string	Description
Memory	The media controller is for memory.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.

string	Description
PushPowerButton	Simulate the pressing of the physical power button on this unit.

Memory 1.9.0

v1.9	*v1.8*	*v1.7*	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.2	2018.3	2018.2	2018.1	2017.3	2017.2	2017.1	2016.3	2016.1

The schema for definition of a memory and its configuration.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/Memory/*{MemoryId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Memory/*{MemoryId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Memory/*{MemoryId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*

AllocationAlignmentMiB *(v1.2+)*	integer (mebibytes)	read-only (null)	The boundary that memory regions a allocated on, measured in mebibytes
AllocationIncrementMiB *(v1.2+)*	integer (mebibytes)	read-only (null)	The size of the smallest unit of alloca a memory region in mebibytes (MiB).
AllowedSpeedsMHz [ ]	array (MHz) (integer)	read-only	Speeds supported by this memory.
Assembly *(v1.4+)* {	object		The link to the assembly Resource associated with this memory. *See the Assembly schema for details property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the section and the Assembly schema for details.*
BaseModuleType	string (enum)	read-only (null)	The base module type of the memory *For the possible property values, see BaseModuleType in Property Details.*
BusWidthBits	integer	read-only (null)	The bus width, in bits.
CacheSizeMiB *(v1.4+)*	integer (mebibytes)	read-only (null)	Total size of the cache portion memor MiB.
CapacityMiB	integer	read-only	Memory capacity in mebibytes (MiB).

	(mebibytes)	(null)	
ConfigurationLocked *(v1.7+)*	boolean	read-only (null)	An indication of whether the configura this memory is locked and cannot be
DataWidthBits	integer	read-only (null)	Data width in bits.
DeviceID *(deprecated v1.3)*	string	read-only (null)	Device ID. *Deprecated in v1.3 and lat property has been deprecated in favo ModuleProductID.*
DeviceLocator *(deprecated v1.9)*	string	read-only (null)	Location of the memory in the platform *Deprecated in v1.9 and later. This pro has been deprecated in favor of the ServiceLabel property within Location*
ErrorCorrection	string (enum)	read-only (null)	Error correction scheme supported fo memory. *For the possible property values, see ErrorCorrection in Property Details.*
FirmwareApiVersion	string	read-only (null)	Version of API supported by the firmw
FirmwareRevision	string	read-only (null)	Revision of firmware on the memory controller.
FunctionClasses *(deprecated v1.3)* [ ]	array (string)	read-only	Function classes by the memory. *Dep in v1.3 and later. This property has be deprecated in favor of OperatingMemoryModes at the root o Resource, or MemoryClassification fo within RegionSet.*
IsRankSpareEnabled	boolean	read-only (null)	An indication of whether rank spare is enabled for this memory.
IsSpareDeviceEnabled	boolean	read-only (null)	An indication of whether a spare devi enabled for this memory.
Links *(v1.2+)* {	object		The links to other Resources that are to this Resource.
Chassis {	object		The link to the chassis that contains t memory. *See the Chassis schema for details o property.*
@odata.id }	string	read-only	*Link to a Chassis resource. See the L section and the Chassis schema for d*
Oem { } }	object		See the Oem object definition in the Common properties section.
Location *(v1.4+)* { }	object		The location of the memory. *For property details, see Location.*
LogicalSizeMiB *(v1.4+)*	integer	read-only	Total size of the logical memory in Mi

	(mebibytes)	(null)	
Manufacturer	string	read-only (null)	The memory manufacturer.
MaxTDPMilliWatts [ ]	array (milliWatts) (integer)	read-only	Set of maximum power budgets supp by the memory in milliwatts.
MemoryDeviceType	string (enum)	read-only (null)	Type details of the memory. *For the possible property values, see [MemoryDeviceType](#) in Property Deta*
MemoryLocation {	object		Memory connection information to so and memory controllers.
Channel	integer	read-only (null)	The channel number to which the me connected.
MemoryController	integer	read-only (null)	The memory controller number to whi memory is connected.
Slot	integer	read-only (null)	The slot number to which the memory connected.
Socket }	integer	read-only (null)	The socket number to which the mem connected.
MemoryMedia [ ]	array (string (enum))	read-only	Media of this memory. *For the possible property values, see [MemoryMedia](#) in Property Details.*
MemorySubsystemControllerManufacturerID *(v1.3+)*	string	read-only (null)	The manufacturer ID of the memory subsystem controller of this memory m
MemorySubsystemControllerProductID *(v1.3+)*	string	read-only (null)	The product ID of the memory subsys controller of this memory module.
MemoryType	string (enum)	read-only (null)	The type of memory. *For the possible property values, see [MemoryType](#) in Property Details.*
Metrics {	object		The link to the Metrics associated wit memory. *See the [MemoryMetrics](#) schema for d on this property.*
@odata.id }	string	read-only	*Link to a MemoryMetrics resource. Se Links section and the [MemoryMetrics](#) schema for details.*
ModuleManufacturerID *(v1.3+)*	string	read-only (null)	The manufacturer ID of this memory m
ModuleProductID *(v1.3+)*	string	read-only (null)	The product ID of this memory modul
NonVolatileSizeMiB *(v1.4+)*	integer (mebibytes)	read-only (null)	Total size of the non-volatile portion m in MiB.

OperatingMemoryModes [ ]	array (string (enum))	read-only	Memory modes supported by the mer *For the possible property values, see* [OperatingMemoryModes](#) *in Property*
OperatingSpeedMhz	integer (MHz)	read-only (null)	Operating speed of memory in MHz c as appropriate.
PartNumber	string	read-only (null)	The product part number of this devic
PersistentRegionNumberLimit *(v1.2+)*	integer	read-only (null)	Total number of persistent regions thi memory can support.
PersistentRegionSizeLimitMiB	integer (mebibytes)	read-only (null)	Total size of persistent regions in meb (MiB).
PersistentRegionSizeMaxMiB *(v1.2+)*	integer (mebibytes)	read-only (null)	Maximum size of a single persistent r mebibytes (MiB).
PowerManagementPolicy {	object		Power management policy informatio
AveragePowerBudgetMilliWatts	integer (milliWatts)	read-only (null)	Average power budget, in milliwatts.
MaxTDPMilliWatts	integer (milliWatts)	read-only (null)	Maximum TDP in milliwatts.
PeakPowerBudgetMilliWatts	integer (milliWatts)	read-only (null)	Peak power budget, in milliwatts.
PolicyEnabled }	boolean	read-only (null)	An indication of whether the power management policy is enabled.
RankCount	integer	read-only (null)	Number of ranks available in the mem
Regions [{	array		Memory regions information within th memory.
MemoryClassification	string (enum)	read-only (null)	The classification of memory that the memory region occupies. *For the possible property values, see* [MemoryClassification](#) *in Property Det*
OffsetMiB	integer (mebibytes)	read-only (null)	Offset within the memory that corresp the start of this memory region in meb (MiB).
PassphraseEnabled *(v1.5+)*	boolean	read-only (null)	An indication of whether the passphra enabled for this region.
PassphraseState *(deprecated v1.5)*	boolean	read-only (null)	An indication of whether the state of t passphrase for this region is enabled. *Deprecated in v1.5 and later. This pro has been deprecated in favor of PassphraseEnabled found within Reg*
RegionId	string	read-only (null)	Unique region ID representing a spec region within the memory.

SizeMiB }]	integer (mebibytes)	read-only (null)	Size of this memory region in mebiby (MiB).
SecurityCapabilities {	object		Security capabilities of the memory.
ConfigurationLockCapable *(v1.7+)*	boolean	read-only (null)	An indication of whether this memory supports the locking, or freezing, of th configuration.
DataLockCapable *(v1.7+)*	boolean	read-only (null)	An indication of whether this memory supports data locking.
MaxPassphraseCount	integer	read-only (null)	Maximum number of passphrases su for this memory.
PassphraseCapable	boolean	read-only (null)	An indication of whether the memory passphrase capable.
PassphraseLockLimit *(v1.7+)*	integer	read-only (null)	The maximum number of incorrect passphrase attempts allowed before is locked.
SecurityStates *(deprecated v1.7)* [ ] }	array (string (enum))	read-only	Security states supported by the mem *For the possible property values, see SecurityStates in Property Details. Deprecated in v1.7 and later. This pro has been deprecated in favor of using individual PassphraseCapable, DataLockCapable and ConfigurationLockCapable properties*
SecurityState *(v1.7+)*	string (enum)	read-write (null)	The current security state of this mem *For the possible property values, see SecurityState in Property Details.*
SerialNumber	string	read-only (null)	The product serial number of this dev
SpareDeviceCount	integer	read-only (null)	Number of unused spare devices ava the memory.
Status *(v1.1+)* { }	object		The status and health of the Resourc its subordinate or dependent Resourc *For property details, see Status.*
SubsystemDeviceID *(deprecated v1.3)*	string	read-only (null)	Subsystem device ID. *Deprecated in and later. This property has been dep in favor of MemorySubsystemControllerProduct*
SubsystemVendorID *(deprecated v1.3)*	string	read-only (null)	SubSystem vendor ID. *Deprecated in and later. This property has been dep in favor of MemorySubsystemControllerManufac*
VendorID *(deprecated v1.3)*	string	read-only (null)	Vendor ID. *Deprecated in v1.3 and la property has been deprecated in favo ModuleManufacturerID.*

VolatileRegionNumberLimit *(v1.2+)*	integer	read-only (null)	Total number of volatile regions this m can support.
VolatileRegionSizeLimitMiB	integer (mebibytes)	read-only (null)	Total size of volatile regions in mebiby (MiB).
VolatileRegionSizeMaxMiB *(v1.2+)*	integer (mebibytes)	read-only (null)	Maximum size of a single volatile regi mebibytes (MiB).
VolatileSizeMiB *(v1.4+)*	integer (mebibytes)	read-only (null)	Total size of the volitile portion memo MiB.

Actions

DisablePassphrase

Disable passphrase for given regions.

Action URI: {Base URI of target resource}/Actions/Memory.DisablePassphrase

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
Passphrase	string	required	Passphrase for doing the operation.
RegionId	string	required	The memory region ID to which to apply this action.
}			

OverwriteUnit

This contains the action for securely erasing given regions using the NIST SP800-88 Purge: Overwrite.

Action URI: {Base URI of target resource}/Actions/Memory.OverwriteUnit

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
Passphrase	string	required	Passphrase for doing the operation.
RegionId	string	required	The memory region ID to which to apply this action.
}			

Reset

This action resets this memory.

Action URI: {Base URI of target resource}/Actions/Memory.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			

ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

SecureEraseUnit

This contains the action for securely erasing given regions using the NIST SP800-88 Purge: Cryptograhic Erase.

Action URI: {Base URI of target resource}/Actions/Memory.SecureEraseUnit

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
Passphrase	string	required	Passphrase for doing the operation.
RegionId }	string	required	The memory region ID to which to apply this action.

SetPassphrase

Set passphrase for the given regions.

Action URI: {Base URI of target resource}/Actions/Memory.SetPassphrase

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
Passphrase	string	required	Passphrase for doing the operation.
RegionId }	string	required	The memory region ID to which to apply this action.

UnlockUnit

This contains the action for unlocking given regions.

Action URI: {Base URI of target resource}/Actions/Memory.UnlockUnit

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
Passphrase	string	required	The passphrase required to complete the operation.
RegionId }	string	required	The memory region ID to which to apply this action.

Property Details

BaseModuleType:

The base module type of the memory.

string	Description
Die *(v1.7+)*	A die within a package.
LRDIMM	Load Reduced.
Mini_RDIMM	Mini_RDIMM.
Mini_UDIMM	Mini_UDIMM.
RDIMM	Registered DIMM.
SO_DIMM	SO_DIMM.
SO_DIMM_16b	SO_DIMM_16b.
SO_DIMM_32b	SO_DIMM_32b.
SO_RDIMM_72b	SO_RDIMM_72b.
SO_UDIMM_72b	SO_UDIMM_72b.
UDIMM	UDIMM.

ErrorCorrection:

Error correction scheme supported for this memory.

string	Description
AddressParity	Address parity errors can be corrected.
MultiBitECC	Multibit data errors can be corrected by ECC.
NoECC	No ECC available.
SingleBitECC	Single bit data errors can be corrected by ECC.

MemoryClassification:

The classification of memory that the memory region occupies.

string	Description
Block	Block-accesible memory.
ByteAccessiblePersistent	Byte-accessible persistent memory.
Volatile	Volatile memory.

MemoryDeviceType:

Type details of the memory.

string	Description
DDR	DDR.
DDR2	DDR2.

string	Description
DDR2_SDRAM	DDR2 SDRAM.
DDR2_SDRAM_FB_DIMM	DDR2 SDRAM FB_DIMM.
DDR2_SDRAM_FB_DIMM_PROBE	DDR2 SDRAM FB_DIMM PROBE.
DDR3	DDR3.
DDR3_SDRAM	DDR3 SDRAM.
DDR4	DDR4.
DDR4_SDRAM	DDR4 SDRAM.
DDR4E_SDRAM	DDR4E SDRAM.
DDR_SDRAM	DDR SDRAM.
DDR_SGRAM	DDR SGRAM.
EDO	EDO.
FastPageMode	Fast Page Mode.
HBM *(v1.7+)*	High Bandwidth Memory.
HBM2 *(v1.7+)*	High Bandwidth Memory 2.
Logical *(v1.4+)*	Logical Non-volatile device.
LPDDR3_SDRAM	LPDDR3 SDRAM.
LPDDR4_SDRAM	LPDDR4 SDRAM.
PipelinedNibble	Pipelined Nibble.
ROM	ROM.
SDRAM	SDRAM.

MemoryMedia:

Media of this memory.

string	Description
DRAM	DRAM media.
Intel3DXPoint	Intel 3D XPoint media.
NAND	NAND media.
Proprietary	Proprietary media.

MemoryType:

The type of memory.

string	Description
DRAM	The memory module is comprised of volatile memory.
IntelOptane *(v1.6+)*	The memory module is an Intel Optane DC Persistent Memory Module.
NVDIMM_F	The memory module is comprised of non-volatile memory.
NVDIMM_N	The memory module is comprised of volatile memory backed by non-volatile memory.
NVDIMM_P	The memory module is comprised of a combination of non-volatile and volatile memory.

OperatingMemoryModes:

Memory modes supported by the memory.

string	Description
Block	Block-accessible system memory.
PMEM	Persistent memory, byte-accesible through system address space.
Volatile	Volatile memory.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

SecurityState:

The current security state of this memory.

string	Description
Disabled	Secure mode is disabled.
Enabled	Secure mode is enabled and access to the data is allowed.
Frozen *(deprecated v1.7)*	Secure state is frozen and cannot be modified until reset. *This value has been deprecated in favor of using the ConfigurationLocked to indicate that the configuration has been frozen.*
Locked	Secure mode is enabled and access to the data is locked.
Passphraselimit	Number of attempts to unlock the memory exceeded limit.
Unlocked *(deprecated v1.7)*	Secure mode is enabled and access to the data is unlocked. *This value has been deprecated in favor of 'Enabled' to indicate normal security operation.*

SecurityStates:

Security states supported by the memory.

string	Description
Disabled	Secure mode is disabled.
Enabled	Secure mode is enabled and access to the data is allowed.
Frozen	Secure state is frozen and cannot be modified until reset.
Locked	Secure mode is enabled and access to the data is locked.
Passphraselimit	Number of attempts to unlock the memory exceeded limit.
Unlocked	Secure mode is enabled and access to the data is unlocked.

Example Response


```
{
    "@odata.type": "#Memory.v1_9_0.Memory",
    "Id": "DIMM1",
    "Name": "DIMM Slot 1",
    "RankCount": 2,
    "MaxTDPMilliWatts": [
        12000
    ],
    "CapacityMiB": 32768,
    "DataWidthBits": 64,
    "BusWidthBits": 72,
    "ErrorCorrection": "MultiBitECC",
    "MemoryLocation": {
        "Socket": 1,
        "MemoryController": 1,
        "Channel": 1,
        "Slot": 1
    },
    "MemoryType": "DRAM",
    "MemoryDeviceType": "DDR4",
```

```
    "BaseModuleType": "RDIMM",
    "MemoryMedia": [
        "DRAM"
    ],
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Memory/DIMM1"
}
```


MemoryChunks 1.3.0

v1.3	*v1.2*	*v1.1*	*v1.0*
2019.4	2017.3	2017.1	2016.2

The schema definition of a memory chunk and its configuration.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks/*{MemoryChunksId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks/*{MemoryChunksId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks/*{MemoryChunksId}*

/redfish/v1/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks/*{MemoryChunksId}*

AddressRangeOffsetMiB *(v1.3+)*	integer (mebibytes)	read-only (null)	Offset of the memory chunk in the address range in MiB.
AddressRangeType	string (enum)	read-only (null)	Memory type of this memory chunk. *For the possible property values, see AddressRangeType in Property Details.*
InterleaveSets [{	array		The interleave sets for the memory chunk.
Memory {	object		Describes a memory device of the interleave set.
@odata.id }	string	read-only	The unique identifier for a resource.
MemoryLevel	integer	read-only (null)	Level of the interleave set for multi-level tiered memory.
OffsetMiB	integer (mebibytes)	read-only (null)	Offset within the DIMM that corresponds to the start of this memory region, measured in mebibytes (MiB).
RegionId	string	read-only	DIMM region identifier.

		(null)	
SizeMiB }]	integer (mebibytes)	read-only (null)	Size of this memory region measured in mebibytes (MiB).
IsMirrorEnabled	boolean	read-only (null)	An indication of whether memory mirroring is enabled for this memory chunk.
IsSpare	boolean	read-only (null)	An indication of whether sparing is enabled for this memory chunk.
Links *(v1.3+)* {	object		The links to other Resources that are related to this Resource.
Endpoints [{	array		An array of links to the endpoints that connect to this memory chunk.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
MemoryChunkSizeMiB	integer (mebibytes)	read-only (null)	Size of the memory chunk measured in mebibytes (MiB).
Status *(v1.2+)* { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Property Details

AddressRangeType:

Memory type of this memory chunk.

string	Description
Block	Block accesible memory.
PMEM	Byte accessible persistent memory.
Volatile	Volatile memory.

Example Response


```
{
    "@odata.type": "#MemoryChunks.v1_3_0.MemoryChunks",
    "Name": "Memory Chunk - Whole System",
    "Id": "1",
    "MemoryChunkSizeMiB": 32768,
    "AddressRangeType": "Volatile",
    "IsMirrorEnabled": false,
    "IsSpare": false,
```

```
    "InterleaveSets": [
        {
            "Memory": {
                "@odata.id": "/redfish/v1/Systems/2/Memory/1"
            }
        },
        {
            "Memory": {
                "@odata.id": "/redfish/v1/Systems/2/Memory/2"
            }
        },
        {
            "Memory": {
                "@odata.id": "/redfish/v1/Systems/2/Memory/3"
            }
        },
        {
            "Memory": {
                "@odata.id": "/redfish/v1/Systems/2/Memory/4"
            }
        }
    ],
    "@Redfish.Settings": {
        "@odata.type": "#Settings.v1_3_0.Settings",
        "SettingsObject": {
            "@odata.id": "/redfish/v1/Systems/2/MemoryDomains/1/MemoryChunks/1/SD"
        },
        "Time": "2012-03-07T14:44.30-05:00",
        "ETag": "someetag",
        "Messages": [
            {
                "MessageId": "Base.1.0.Success"
            }
        ]
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Systems/2/MemoryDomains/1/MemoryChunks/1"
}
```


MemoryDomain 1.3.0

v1.3	*v1.2*	*v1.1*	*v1.0*
2019.4	2017.1	2016.3	2016.2

The MemoryDomain schema describes a memory domain and its configuration. Memory domains indicate to the client which memory, or DIMMs, can be grouped together in memory chunks to represent addressable memory.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/MemoryDomains/*{MemoryDomainId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*

/redfish/v1/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*

AllowsBlockProvisioning	boolean	read-only (null)	An indication of whether this memory domain supports the provisioning of blocks of memory.
AllowsMemoryChunkCreation	boolean	read-only (null)	An indication of whether this memory domain supports the creation of memory chunks.
AllowsMirroring *(v1.1+)*	boolean	read-only (null)	An indication of whether this memory domain supports the creation of memory chunks with mirroring enabled.
AllowsSparing *(v1.1+)*	boolean	read-only (null)	An indication of whether this memory domain supports the creation of memory chunks with sparing enabled.
InterleavableMemorySets [{	array		The interleave sets for the memory chunk.
MemorySet [{	array		The set of memory for a particular interleave set.
@odata.id }] }]	string	read-only	*Link to a Memory resource. See the Links section and the Memory schema for details.*
Links *(v1.3+)* {	object		The links to other Resources that are related to this Resource.
MediaControllers [{	array		An array of links to the media controllers for this memory domain.
@odata.id }]	string	read-only	*Link to a MediaController resource. See the Links section and the MediaController schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
MemoryChunks {	object		The link to the collection of memory chunks associated with this memory domain. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of MemoryChunks. See the MemoryChunks schema for details.*

Example Response


```
{
    "@odata.type": "#MemoryDomain.v1_3_0.MemoryDomain",
    "Name": "Memory Domain - Whole System Mirroring Only",
    "Id": "1",
    "MemoryChunks": {
        "@odata.id": "/redfish/v1/Systems/4/MemoryDomains/1/MemoryChunks"
    },
    "AllowsMemoryChunkCreation": false,
```

```
    "AllowsBlockProvisioning": false,
    "InterleavableMemorySets": [
        {
            "MemorySet": [
                {
                    "@odata.id": "/redfish/v1/Systems/2/Memory/1"
                },
                {
                    "@odata.id": "/redfish/v1/Systems/2/Memory/2"
                },
                {
                    "@odata.id": "/redfish/v1/Systems/2/Memory/3"
                },
                {
                    "@odata.id": "/redfish/v1/Systems/2/Memory/4"
                }
            ]
        }
    ],
    "Oem": {},
    "@odata.id": "/redfish/v1/Systems/2/MemoryDomains/1"
}
```


MemoryMetrics 1.2.0

v1.2	*v1.1*	*v1.0*
2019.2	2016.2	2016.1

The usage and health statistics for a memory device or system memory summary.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Memory/*{MemoryId}*/MemoryMetrics

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*/MemoryMetrics

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemorySummary/MemoryMetrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Memory/*{MemoryId}*/MemoryMetrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*/MemoryMetrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemorySummary/MemoryMetrics

/redfish/v1/Systems/*{ComputerSystemId}*/Memory/*{MemoryId}*/MemoryMetrics

/redfish/v1/Systems/*{ComputerSystemId}*/MemorySummary/MemoryMetrics

BandwidthPercent *(v1.2+)*	number (%)	read-only (null)	The memory bandwidth utilization as a percentage.
BlockSizeBytes	integer	read-only	The block size, in bytes.

	(bytes)	(null)	
CurrentPeriod {	object		The memory metrics since the last reset or ClearCurrentPeriod action.
BlocksRead	integer	read-only (null)	The number of blocks read since reset.
BlocksWritten }	integer	read-only (null)	The number of blocks written since reset.
HealthData {	object		The health information of the memory.
AlarmTrips {	object		Alarm trip information about the memory.
AddressParityError	boolean	read-only (null)	An indication of whether an address parity error was detected that a retry could not correct.
CorrectableECCError	boolean	read-only (null)	An indication of whether the correctable error threshold crossing alarm trip was detected.
SpareBlock	boolean	read-only (null)	An indication of whether the spare block capacity crossing alarm trip was detected.
Temperature	boolean	read-only (null)	An indication of whether a temperature threshold alarm trip was detected.
UncorrectableECCError }	boolean	read-only (null)	An indication of whether the uncorrectable error threshold alarm trip was detected.
DataLossDetected	boolean	read-only (null)	An indication of whether data loss was detected.
LastShutdownSuccess	boolean	read-only (null)	An indication of whether the last shutdown succeeded.
PerformanceDegraded	boolean	read-only (null)	An indication of whether performance has degraded.
PredictedMediaLifeLeftPercent *(v1.1+)*	number (%)	read-only (null)	The percentage of reads and writes that are predicted to still be available for the media.
RemainingSpareBlockPercentage }	number (%)	read-only (null)	The remaining spare blocks, as a percentage.
LifeTime {	object		The memory metrics for the lifetime of the memory.
BlocksRead	integer	read-only	The number of blocks read for

		(null)	the lifetime of the memory.
BlocksWritten }	integer	read-only (null)	The number of blocks written for the lifetime of the memory.

Actions

ClearCurrentPeriod

This action sets the CurrentPeriod property's values to 0.

Action URI: {Base URI of target resource}/Actions/MemoryMetrics.ClearCurrentPeriod

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Example Response


```
{
    "@odata.type": "#MemoryMetrics.v1_2_0.MemoryMetrics",
    "Name": "Memory Metrics",
    "Id": "Metrics",
    "BlockSizeBytes": 4096,
    "CurrentPeriod": {
        "BlocksRead": 0,
        "BlocksWritten": 0
    },
    "LifeTime": {
        "BlocksRead": 0,
        "BlocksWritten": 0
    },
    "HealthData": {
        "RemainingSpareBlockPercentage": 50,
        "LastShutdownSuccess": true,
        "DataLossDetected": false,
        "PerformanceDegraded": false,
        "AlarmTrips": {
            "Temperature": true,
            "SpareBlock": false,
            "UncorrectableECCError": false,
            "CorrectableECCError": false
        }
    },
    "Actions": {
        "#MemoryMetrics.ClearCurrentPeriod": {
            "target": "/redfish/v1/Systems/1/Memory/1/Actions/MemoryMetrics.ClearCurrentPer
        },
        "Oem": {}
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Systems/1/Memory/1/MemoryMetrics"
}
```

MessageRegistry 1.3.1

v1.3	*v1.2*	*v1.1*	*v1.0*
2019.1	2018.2	2017.1	1.0

The MessageRegistry schema describes all Message Registries. It represents the properties for the Message Registries themselves.

Language	string	read-only required	The RFC5646-conformant language code for the Message Registry.
Messages {	object	required	The message keys contained in the Message Registry.
(pattern) {	object		Property names follow regular expression pattern "[A-Za-z0-9]+"
ArgDescriptions *(v1.3+)* [ ]	array (string, null)	read-only	The MessageArg descriptions, in order, used for this message.
ArgLongDescriptions *(v1.3+)* [ ]	array (string, null)	read-only	The MessageArg normative descriptions, in order, used for this message.
ClearingLogic *(v1.2+)* {	object		The clearing logic associated with this message. The properties within indicate that what messages are cleared by this message as well as under what conditions.
ClearsAll	boolean	read-only (null)	An indication of whether all prior conditions and messages are cleared, provided the ClearsIf condition is met.
ClearsIf	string (enum)	read-only (null)	The condition when the event is cleared. *For the possible property values, see ClearsIf in Property Details.*
ClearsMessage [ ] }	array (string, null)	read-only	The array of MessageIds that this message clears when the other conditions are met.
Description	string	read-only required	A short description of how and when to use this message.
LongDescription *(v1.3+)*	string	read-only (null)	The normative language that describes this message's usage.
Message	string	read-only required	The actual message.
NumberOfArgs	integer	read-only required	The number of arguments in the message.

Oem { }	object		See the Oem object definition in the Common properties section.
ParamTypes [ ]	array (string (enum))	read-only	The MessageArg types, in order, for the message. *For the possible property values, see ParamTypes in Property Details.*
Resolution	string	read-only required	Used to provide suggestions on how to resolve the situation that caused the error.
Severity } }	string	read-only required	The severity of the message.
OwningEntity	string	read-only required	The organization or company that publishes this Message Registry.
RegistryPrefix	string	read-only required	The single-word prefix that is used in forming and decoding MessageIds.
RegistryVersion	string	read-only required	The Message Registry version in the middle portion of a MessageId.

Property Details

ClearsIf:

The condition when the event is cleared.

string	Description
SameOriginOfCondition	This enumeration shall describe when the message for an event is cleared by the other messages in the ClearingLogic property, provided the OriginOfCondition for both events are the same.

ParamTypes:

The MessageArg types, in order, for the message.

string	Description
number	The argument is a number.
string	The argument is a string.

Example Response


```
{
    "@odata.type": "#MessageRegistry.v1_3_1.MessageRegistry",
    "Id": "Basic.1.2.0",
    "Name": "Simple Message Registry",
    "Language": "en",
    "Description": "Collection of Basic messages for numerous use cases",
    "RegistryPrefix": "Basic",
    "RegistryVersion": "1.2.0",
```

```
    "OwningEntity": "Contoso",
    "Messages": {
        "Success": {
            "Description": "Indicates that all conditions of a successful operation have be
            "Message": "Successfully Completed Request",
            "Severity": "OK",
            "NumberOfArgs": 0,
            "Resolution": "None"
        },
        "GeneralError": {
            "Description": "Indicates that a general error has occurred.",
            "Message": "A general error has occurred. See ExtendedInfo for more information
            "Severity": "Critical",
            "NumberOfArgs": 0,
            "Resolution": "See ExtendedInfo for more information."
        },
        "ResourceAtUriUnauthorized": {
            "Description": "Indicates that the attempt to access the resource/file/image at
            "Message": "While accessing the resource at %1, the service received an authori
            "Severity": "Critical",
            "NumberOfArgs": 2,
            "ParamTypes": [
                "string",
                "string"
            ],
            "Resolution": "Ensure that the appropriate access is provided for the service i
        }
    }
}
```


MessageRegistryFile 1.1.3

v1.1	*v1.0*
2017.1	2016.1

The MessageRegistryFile schema describes the Message Registry file locator Resource.

URIs:

/redfish/v1/Registries/*{MessageRegistryFileId}*

Languages [ ]	array (string)	read-only required	The RFC5646-conformant language codes for the available Message Registries.
Location [{	array	required	The location information for this Message Registry file.
ArchiveFile	string	read-only	If the service hosts the Message Registry in an archive file, the name of the file within the archive.
ArchiveUri	string	read-only	If the Message Registry is hosted on the service in an archive file, the link to the archive file.
Language	string	read-only	The language code for the Message Registry file.

PublicationUri	string	read-only	The link to publicly available (canonical) URI for the Message Registry.
Uri }]	string	read-only	The link to locally available URI for the Message Registry.
Registry	string	read-only required	The registry name and its major and minor versions. This registry can be any type of registry, such as a Message Registry, Privilege Registry, or Attribute Registry.

Example Response

```
{
    "@odata.id": "/redfish/v1/Registries/Base.v1_0_0",
    "@odata.type": "#MessageRegistryFile.v1_1_3.MessageRegistryFile",
    "Id": "Base.v1_0_0",
    "Name": "Base Message Registry File",
    "Description": "Base Message Registry File locations",
    "Languages": [
        "en"
    ],
    "Registry": "Base.1.0",
    "Location": [
        {
            "Language": "en",
            "ArchiveUri": "/FileRepo/Registries.gz",
            "PublicationUri": "http://redfish.dmtf.org/registries/Base.v1_0_0.json",
            "ArchiveFile": "Base.v1_0_0.json"
        },
        {
            "Language": "zh",
            "ArchiveUri": "/FileRepo/Registries.zh.gz",
            "PublicationUri": "http://redfish.dmtf.org/registries/Base.v1_0_0.zh.json",
            "ArchiveFile": "Base.v1_0_0.zh.json"
        }
    ],
    "Oem": {}
}
```

MetricDefinition 1.0.3

v1.0
2018.2

The MetricDefinition schema describes the metadata information for a metric.

URIs:

/redfish/v1/TelemetryService/MetricDefinitions/*{MetricDefinitionId}*

Accuracy	number	read-only (null)	The estimated percent error of measured versus actual values.

Calculable	string (enum)	read-write (null)	An indication of whether the metric can be used in a calculation. *For the possible property values, see Calculable in Property Details.*
CalculationAlgorithm	string (enum)	read-only (null)	The calculation that is performed on a source metric to obtain the metric being defined. *For the possible property values, see CalculationAlgorithm in Property Details.*
CalculationParameters [{	array		The metric properties that are part of the synthesis calculation. This property is present when the MetricType property is `Synthesized`.
ResultMetric	string	read-only (null)	The link to a metric property that stores the result of the calculation.
SourceMetric }]	string	read-only (null)	The metric property used as the input into the calculation.
CalculationTimeInterval	string	read-write (null)	The time interval over which the metric calculation is performed.
Calibration	number	read-only (null)	The calibration offset added to the metric reading.
DiscreteValues [ ]	array (string, null)	read-write	This array property specifies possible values of a discrete metric.
Implementation	string (enum)	read-only (null)	The implementation of the metric. *For the possible property values, see Implementation in Property Details.*
IsLinear	boolean	read-write (null)	An indication of whether the metric values are linear versus non-linear.
MaxReadingRange	number	read-only (null)	Maximum value for metric reading.
MetricDataType	string (enum)	read-write (null)	The data type of the metric. *For the possible property values, see MetricDataType in Property Details.*
MetricProperties [ ]	array (string, null)	read-write	The list of URIs with wildcards and property identifiers that this metric definition defines. If a URI has wildcards, the wildcards are substituted as specified in the Wildcards array property.
MetricType	string (enum)	read-write (null)	The type of metric. *For the possible property values, see MetricType in Property Details.*
MinReadingRange	number	read-only (null)	Minimum value for metric reading.
PhysicalContext	string (enum)	read-only (null)	The physical context of the metric. *For the possible property values, see*

			PhysicalContext in Property Details.
Precision	integer	read-only (null)	Number of significant digits in the metric reading.
SensingInterval	string	read-write (null)	The time interval between when a metric is updated.
TimestampAccuracy	string	read-only (null)	The accuracy of the timestamp.
Units	string	read-write (null)	The units of measure for this metric.
Wildcards [{	array		The wildcards and their substitution values for the entries in the MetricProperties array property.
Name	string	read-only (null)	The string used as a wildcard.
Values [ ] }]	array (string, null)	read-only	An array of values to substitute for the wildcard.

Property Details

Calculable:

An indication of whether the metric can be used in a calculation.

string	Description
NonCalculatable	No calculations should be performed on the metric reading.
NonSummable	The sum of the metric reading across multiple instances is not meaningful.
Summable	The sum of the metric reading across multiple instances is meaningful.

CalculationAlgorithm:

The calculation that is performed on a source metric to obtain the metric being defined.

string	Description
Average	The metric is calculated as the average metric reading over a sliding time interval.
Maximum	The metric is calculated as the maximum metric reading over during a time interval.
Minimum	The metric is calculated as the minimum metric reading over a sliding time interval.

Implementation:

The implementation of the metric.

string	Description
Calculated	The metric is implemented by applying a calculation on another metric property. The calculation is specified in the CalculationAlgorithm property.
DigitalMeter	The metric is implemented as digital meter.
PhysicalSensor	The metric is implemented as a physical sensor.
Synthesized	The metric is implemented by applying a calculation on one or more metric properties. The calculation is not provided.

MetricDataType:

The data type of the metric.

string	Description
Boolean	The JSON boolean definition.
DateTime	The JSON string definition with the 'date-time' format.
Decimal	The JSON decimal definition.
Enumeration	The JSON string definition with a set of defined enumerations.
Integer	The JSON integer definition.
String	The JSON string definition.

MetricType:

The type of metric.

string	Description
Countdown	The metric is a countdown metric. The metric reading is a non-negative integer that decreases monotonically. When a counter reaches its minimum, the value resets to preset value and resumes counting down.
Counter	The metric is a counter metric. The metric reading is a non-negative integer that increases monotonically. When a counter reaches its maximum, the value resets to 0 and resumes counting.
Discrete	The metric is a discrete metric. The metric value is discrete. The possible values are listed in the DiscreteValues property.
Gauge	The metric is a gauge metric. The metric value is a real number. When the metric value reaches the gauges extrema, it stays at that value, until the reading falls within the extrema.
Numeric	The metric is a numeric metric. The metric value is any real number.

PhysicalContext:

The physical context of the metric.

string	Description
Accelerator	An accelerator.
ACInput	An AC input.
ACMaintenanceBypassInput	An AC maintenance bypass input.
ACOutput	An AC output.
ACStaticBypassInput	An AC static bypass input.
ACUtilityInput	An AC utility input.
ASIC	An ASIC device, such as a networking chip or chipset component.
Back	The back of the chassis.
Backplane	A backplane within the chassis.
Chassis	The entire chassis.
ComputeBay	Within a compute bay.
CoolingSubsystem	The entire cooling, or air and liquid, subsystem.
CPU	A processor (CPU).
CPUSubsystem	The entire processor (CPU) subsystem.
DCBus	A DC bus.
Exhaust	The air exhaust point or points or region of the chassis.
ExpansionBay	Within an expansion bay.
Fan	A fan.
FPGA	An FPGA.
Front	The front of the chassis.
GPU	A graphics processor (GPU).
GPUSubsystem	The entire graphics processor (GPU) subsystem.
Intake	The air intake point or points or region of the chassis.
LiquidInlet	The liquid inlet point of the chassis.
LiquidOutlet	The liquid outlet point of the chassis.
Lower	The lower portion of the chassis.
Memory	A memory device.
MemorySubsystem	The entire memory subsystem.
Motor	A motor.

string	Description
NetworkBay	Within a networking bay.
NetworkingDevice	A networking device.
PowerSubsystem	The entire power subsystem.
PowerSupply	A power supply.
PowerSupplyBay	Within a power supply bay.
Rectifier	A rectifier device.
Room	The room.
StorageBay	Within a storage bay.
StorageDevice	A storage device.
SystemBoard	The system board (PCB).
Transformer	A transformer.
Upper	The upper portion of the chassis.
VoltageRegulator	A voltage regulator device.

Example Response


```
{
    "@odata.type": "#MetricDefinition.v1_0_3.MetricDefinition",
    "Id": "PowerConsumedWatts",
    "Name": "Power Consumed Watts Metric Definition",
    "MetricType": "Numeric",
    "Implementation": "PhysicalSensor",
    "PhysicalContext": "PowerSupply",
    "MetricDataType": "Decimal",
    "Units": "W",
    "Precision": 4,
    "Accuracy": 1,
    "Calibration": 2,
    "MinReadingRange": 0,
    "MaxReadingRange": 50,
    "SensingInterval": "PT1S",
    "TimestampAccuracy": "PT1S",
    "Wildcards": [
        {
            "Name": "ChassisID",
            "Values": [
                "1"
            ]
        }
    ],
    "MetricProperties": [
        "/redfish/v1/Chassis/{ChassisID}/Power#/PowerControl/0/PowerConsumedWatts"
    ],
    "@odata.id": "/redfish/v1/TelemetryService/MetricDefinitions/PowerConsumedWatts"
```

```
}
```

MetricReport 1.3.0

v1.3	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.2	2018.3	2018.2

The metric definitions that create a metric report.

URIs:

/redfish/v1/TelemetryService/MetricReports/*{MetricReportId}*

MetricReportDefinition {	object		The definitions in the metric report. *See the MetricReportDefinition schema for details on this property.*
@odata.id }	string	read-only	*Link to a MetricReportDefinition resource. See the Links section and the MetricReportDefinition schema for details.*
MetricValues [{	array		An array of metric values for the metered items of this Metric.
MetricDefinition {	object		The link to the metric. *See the MetricDefinition schema for details on this property.*
@odata.id }	string	read-only	*Link to a MetricDefinition resource. See the Links section and the MetricDefinition schema for details.*
MetricId	string	read-only (null)	The metric definitions identifier for this metric.
MetricProperty	string	read-only (null)	The URI for the property from which this metric is derived.
MetricValue	string	read-only (null)	The metric value, as a string.
Oem *(v1.2+)* { }	object		See the Oem object definition in the Common properties section.
Timestamp }]	string	read-only (null)	The time when the metric is obtained. A management application may establish a time series of metric data by retrieving the instances of metric value and sorting them according to their Timestamp.
ReportSequence *(deprecated v1.3)*	string	read-only	The current sequence identifier for this metric report. *Deprecated in v1.3 and later. This property has been deprecated due to specification changes with regards to*

			Server-Sent Events.
Timestamp *(v1.1+)*	string	read-only (null)	The time associated with the metric report in its entirety. The time of the metric report may be relevant when the time of individual metrics are minimally different.

Example Response


```
{
    "@odata.type": "#MetricReport.v1_3_0.MetricReport",
    "Id": "AvgPlatformPowerUsage",
    "Name": "Average Platform Power Usage metric report",
    "ReportSequence": "127",
    "MetricReportDefinition": {
        "@odata.id": "/redfish/v1/TelemetryService/MetricReportDefinitions/AvgPlatformPower
    },
    "MetricValues": [
        {
            "MetricId": "AverageConsumedWatts",
            "MetricValue": "100",
            "Timestamp": "2016-11-08T12:25:00-05:00",
            "MetricProperty": "/redfish/v1/Chassis/Tray_1/Power#/0/PowerConsumedWatts"
        },
        {
            "MetricId": "AverageConsumedWatts",
            "MetricValue": "94",
            "Timestamp": "2016-11-08T13:25:00-05:00",
            "MetricProperty": "/redfish/v1/Chassis/Tray_1/Power#/0/PowerConsumedWatts"
        },
        {
            "MetricId": "AverageConsumedWatts",
            "MetricValue": "100",
            "Timestamp": "2016-11-08T14:25:00-05:00",
            "MetricProperty": "/redfish/v1/Chassis/Tray_1/Power#/0/PowerConsumedWatts"
        }
    ],
    "@odata.id": "/redfish/v1/TelemetryService/MetricReports/AvgPlatformPowerUsage"
}
```


MetricReportDefinition 1.3.0

v1.3	*v1.2*	*v1.1*	*v1.0*
2019.2	2019.1	2018.3	2018.2

The MetricReportDefinition schema describes set of metrics that are collected into a metric report.

URIs:

/redfish/v1/TelemetryService/MetricReportDefinitions/*{MetricReportDefinitionId}*

AppendLimit	integer	read-only	The maximum number of entries

			that can be appended to a metric report. When the metric report reaches its limit, its behavior is dictated by the ReportUpdates property.
Links *(v1.2+)* {	object		The links to other Resources that are related to this Resource.
Oem { }	object		See the Oem object definition in the Common properties section.
Triggers [{	array		The triggers that cause this metric report definition to generate a new metric report upon a trigger occurrence when the TriggerActions property contains `RedfishMetricReport`.
@odata.id }] }	string	read-only	*Link to a Triggers resource. See the Links section and the Triggers schema for details.*
MetricProperties [ ]	array (string, null)	read-write	The list of URIs with wildcards and property identifiers to include in the metric report. If a URI has wildcards, the wildcards are substituted as specified in the Wildcards property.
MetricReport {	object		The location where the resultant metric report is placed. *See the MetricReport schema for details on this property.*
@odata.id }	string	read-only	*Link to a MetricReport resource. See the Links section and the MetricReport schema for details.*
MetricReportDefinitionEnabled *(v1.2+)*	boolean	read-write (null)	An indication of whether the generation of new metric reports is enabled.
MetricReportDefinitionType	string (enum)	read-write (null)	Specifies when the metric report is generated. *For the possible property values, see MetricReportDefinitionType in Property Details.*
MetricReportHeartbeatInterval *(v1.2+)*	string	read-write (null)	The interval at which to send the complete metric report because the Redfish client wants refreshed metric data even when the data has not changed. This property value is always greater than the recurrence interval of a metric report, and it only applies when the SuppressRepeatedMetricValue

			property is `true`.
Metrics [{	array		The list of metrics to include in the metric report. The metrics may include metric properties or calculations applied to a metric property.
CollectionDuration	string	read-write (null)	The duration over which the function is computed.
CollectionFunction	string (enum)	read-write (null)	Specified the function to perform on each of the metric properties listed in the MetricProperties property. *For the possible property values, see CollectionFunction in Property Details.*
CollectionTimeScope	string (enum)	read-write (null)	The scope of time scope over which the function is applied. *For the possible property values, see CollectionTimeScope in Property Details.*
MetricId	string	read-only (null)	The label for the metric definition that is derived by applying the collectionFunction to the metric property. It matches the Id property of the corresponding metric definition.
MetricProperties [ ] }]	array (string, null)	read-write	The set of URIs for the properties on which this metric is collected.
ReportActions [ ]	array (string (enum))	read-only	The set of actions to perform when a metric report is generated. Actions to perform when a metric report is generated. *For the possible property values, see ReportActions in Property Details.*
ReportTimespan *(v1.3+)*	string	read-write (null)	Specifies the timespan duration of the metric report.
ReportUpdates	string (enum)	read-only	When logging metric reports, specifies how subsequent metric reports are handled in relationship to an existing metric report created from the metric report definition. Namely, whether to overwrite, append, or create a report Resource. *For the possible property values, see ReportUpdates in Property Details.*

Schedule { }	object		The schedule for generating the metric report. *For property details, see Schedule.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
SuppressRepeatedMetricValue *(v1.2+)*	boolean	read-write (null)	An indication of whether any metrics are suppressed from the generated metric report. If `true`, any metric that equals the same metric in the previously generated metric report is suppressed from the current report. Also, duplicate metrics are suppressed. If `false`, no metrics are suppressed from the current report. The current report may contain no metrics if all metrics equal the values of the same metrics in the previously generated metric report.
Wildcards [{	array		The set of wildcards and their substitution values for the entries in the MetricProperties property.
Keys *(deprecated v1.1)* [ ]	array (string, null)	read-only	An array of values to substitute for the wildcard. *Deprecated in v1.1 and later. This property has been deprecated in favor of using the property 'Values'.*
Name	string	read-only (null)	The string used as a wildcard.
Values *(v1.1+)* [ ] }]	array (string, null)	read-only	An array of values to substitute for the wildcard.

Property Details

CollectionFunction:

Specified the function to perform on each of the metric properties listed in the MetricProperties property.

string	Description
Average	The metric is calculated as the average metric reading over a duration.
Maximum	The metric is calculated as the maximum metric reading over a duration.
Minimum	The metric is calculated as the minimum metric reading over a duration.
Summation	The metric is calculated as the sum of the values over a duration.

CollectionTimeScope:

The scope of time scope over which the function is applied.

string	Description
Interval	The corresponding metric values apply to a time interval. On the corresponding metric value instances, the Timestamp property value shall specify the end of the time interval and Duration shall specify its duration.
Point	The corresponding metric values apply to a point in time. On the corresponding metric value instances, the Timestamp property value shall specify the point in time.
StartupInterval	The corresponding metric values apply to a time interval that began at the startup of the measured Resource, such as the Resources that Links.MetricDefinitionForResources associates. On the corresponding metric value instances, the Timestamp value shall specify the end of the time interval. The Duration value shall specify the duration between the startup of Resource and Timestamp.

MetricReportDefinitionType:

Specifies when the metric report is generated.

string	Description
OnChange	The metric report is generated when any of the metric values change.
OnRequest	The metric report is generated when a HTTP GET is performed on the specified metric report.
Periodic	The metric report is generated at a periodic time interval, specified in the Schedule property.

ReportActions:

The set of actions to perform when a metric report is generated. Actions to perform when a metric report is generated.

string	Description
LogToMetricReportsCollection	When a metric report is scheduled to be generated, record the occurrence to the metric report collection.
RedfishEvent	When a metric report is scheduled to be generated, send a Redfish Event message of the MetricReport type.

ReportUpdates:

When logging metric reports, specifies how subsequent metric reports are handled in relationship to an existing metric report created from the metric report definition. Namely, whether to overwrite, append, or create a report Resource.

string	Description
AppendStopsWhenFull	When a metric report is updated, append to the specified metric report Resource. This also indicates that the metric report stops

string	Description
	adding entries when the metric report has reached its maximum capacity.
AppendWrapsWhenFull	When a metric report is updated, new information is appended to the report. The metric report overwrites its entries with new entries when the metric report has reached its maximum capacity.
NewReport	When a metric report is updated, create a new metric report Resource, whose Resource name is the metric report Resource name concatenated with the timestamp.
Overwrite	When a metric report is updated, overwrite the metric report.

Example Response


```
{
    "@odata.type": "#MetricReportDefinition.v1_3_0.MetricReportDefinition",
    "Id": "PlatformPowerUsage",
    "Name": "Transmit and Log Platform Power Usage",
    "MetricReportDefinitionType": "Periodic",
    "Schedule": {
        "RecurrenceInterval": "T01:00:00"
    },
    "ReportActions": [
        "RedfishEvent",
        "LogToMetricReportsCollection"
    ],
    "ReportUpdates": "AppendWrapsWhenFull",
    "AppendLimit": 256,
    "MetricReport": {
        "@odata.id": "/redfish/v1/TelemetryService/MetricReports/PlatformPowerUsage"
    },
    "Status": {
        "State": "Enabled"
    },
    "Wildcards": [
        {
            "Name": "PWild",
            "Values": [
                "0"
            ]
        },
        {
            "Name": "TWild",
            "Values": [
                "Tray_1",
                "Tray_2"
            ]
        }
    ],
    "MetricProperties": [
        "/redfish/v1/Chassis/{TWild}/Power#/PowerControl/{PWild}/PowerConsumedWatts"
    ],
    "@odata.id": "/redfish/v1/TelemetryService/MetricReportDefinitions/PlatformPowerUsage"
```

```
}
```

NetworkAdapter 1.3.0

v1.3	*v1.2*	*v1.1*	*v1.0*
2019.2	2018.2	2017.3	2016.3

A NetworkAdapter represents the physical network adapter capable of connecting to a computer network. Examples include but are not limited to Ethernet, Fibre Channel, and converged network adapters.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*

Assembly *(v1.1+)* {	object		The link to the assembly Resource associated with this adapter. *See the Assembly schema for details on this property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the Links section and the Assembly schema for details.*
Controllers [{	array		The set of network controllers ASICs that make up this NetworkAdapter.
ControllerCapabilities {	object		The capabilities of this controller.
DataCenterBridging {	object		Data center bridging (DCB) for this controller.
Capable }	boolean	read-only (null)	An indication of whether this controller is capable of data center bridging (DCB).
NetworkDeviceFunctionCount	integer	read-only (null)	The maximum number of physical functions available on this controller.
NetworkPortCount	integer	read-only (null)	The number of physical ports on this controller.
NPAR *(v1.2+)* {	object		NIC Partitioning (NPAR) capabilities for this controller.
NparCapable	boolean	read-only (null)	An indication of whether the controller supports NIC function partitioning.
NparEnabled }	boolean	read-write (null)	An indication of whether NIC function partitioning is active on

			this controller.
NPIV {	object		N_Port ID Virtualization (NPIV) capabilties for this controller.
MaxDeviceLogins	integer	read-only (null)	The maximum number of N_Port ID Virtualization (NPIV) logins allowed simultaneously from all ports on this controller.
MaxPortLogins }	integer	read-only (null)	The maximum number of N_Port ID Virtualization (NPIV) logins allowed per physical port on this controller.
VirtualizationOffload {	object		Virtualization offload for this controller.
SRIOV {	object		Single-Root Input/Output Virtualization (SR-IOV) capabilities.
SRIOVVEPACapable }	boolean	read-only (null)	An indication of whether this controller supports single root input/output virtualization (SR-IOV) in Virtual Ethernet Port Aggregator (VEPA) mode.
VirtualFunction {	object		The virtual function of the controller.
DeviceMaxCount	integer	read-only (null)	The maximum number of virtual functions supported by this controller.
MinAssignmentGroupSize	integer	read-only (null)	The minimum number of virtual functions that can be allocated or moved between physical functions for this controller.
NetworkPortMaxCount } } }	integer	read-only (null)	The maximum number of virtual functions supported per network port for this controller.
FirmwarePackageVersion	string	read-only (null)	The version of the user-facing firmware package.
Identifiers *(v1.3+)* [{ }]	array (object)		The Durable names for the network adapter. Any additional identifiers for a Resource. *For property details, see Identifier.*
Links {	object		The links.
NetworkDeviceFunctions [{	array		An array of links to the NetworkDeviceFunctions

			associated with this Network Controller.
@odata.id }]	string	read-only	*Link to a NetworkDeviceFunction resource. See the Links section and the NetworkDeviceFunction schema for details.*
NetworkPorts [{	array		An array of links to the NetworkPorts associated with this Network Controller.
@odata.id }]	string	read-only	*Link to a NetworkPort resource. See the Links section and the NetworkPort schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeDevices [{	array		An array of links to the PCIeDevices associated with this Network Controller.
@odata.id }] }	string	read-only	*Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details.*
Location *(v1.1+)* { }	object		The location of the network adapter controller. *For property details, see Location.*
PCIeInterface *(v1.2+)* {	object		The PCIe interface details for this controller.
LanesInUse *(v1.3+)*	integer	read-only (null)	The number of PCIe lanes in use by this device.
MaxLanes *(v1.3+)*	integer	read-only (null)	The number of PCIe lanes supported by this device.
MaxPCIeType *(v1.3+)*	string (enum)	read-only (null)	The highest version of the PCIe specification supported by this device. *For the possible property values, see MaxPCIeType in Property Details.*
Oem *(v1.3+)* { }	object		See the Oem object definition in the Common properties section.
PCIeType *(v1.3+)* } }]	string (enum)	read-only (null)	The version of the PCIe specification in use by this device. *For the possible property values, see PCIeType in Property Details.*
Manufacturer	string	read-only	The manufacturer or OEM of this

		(null)	network adapter.
Model	string	read-only (null)	The model string for this network adapter.
NetworkDeviceFunctions {	object		The link to the collection of NetworkDeviceFunctions associated with this NetworkAdapter. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of NetworkDeviceFunction. See the NetworkDeviceFunction schema for details.*
NetworkPorts {	object		The link to the collection of NetworkPorts associated with this NetworkAdapter. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of NetworkPort. See the NetworkPort schema for details.*
PartNumber	string	read-only (null)	Part number for this network adapter.
SerialNumber	string	read-only (null)	The serial number for this network adapter.
SKU	string	read-only (null)	The manufacturer SKU for this network adapter.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Actions

ResetSettingsToDefault

This action is to clear the settings back to factory defaults.

Action URI: {Base URI of target resource}/Actions/NetworkAdapter.ResetSettingsToDefault

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

MaxPCIeType:

The highest version of the PCIe specification supported by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

PCIeType:

The version of the PCIe specification in use by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

Example Response


```
{
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1",
    "@odata.type": "#NetworkAdapter.v1_3_0.NetworkAdapter",
    "Id": "9fa725a1",
    "Name": "Network Adapter View",
    "Manufacturer": "Contoso",
    "Model": "599TPS-T",
    "SKU": "Contoso TPS-Net 2-Port Base-T",
    "SerialNumber": "003BFLRT00023234",
    "PartNumber": "975421-B20",
    "NetworkPorts": {
        "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1/NetworkPorts"
    },
    "NetworkDeviceFunctions": {
        "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1/NetworkDeviceFunctions
    },
    "Controllers": [
        {
            "FirmwarePackageVersion": "7.4.10",
            "Links": {
                "PCIeDevices": [
                    {
                        "@odata.id": "/redfish/v1/Systems/1/PCIeDevices/NIC"
                    }
                ],
                "NetworkPorts": [
                    {
                        "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1/Networ
```

```
                    }
                ],
                "NetworkDeviceFunctions": [
                    {
                        "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1/Networ
                    }
                ]
            },
            "ControllerCapabilities": {
                "NetworkPortCount": 2,
                "NetworkDeviceFunctionCount": 8,
                "DataCenterBridging": {
                    "Capable": true
                },
                "VirtualizationOffload": {
                    "VirtualFunction": {
                        "DeviceMaxCount": 256,
                        "NetworkPortMaxCount": 128,
                        "MinAssignmentGroupSize": 4
                    },
                    "SRIOV": {
                        "SRIOVVEPACapable": true
                    }
                },
                "NPIV": {
                    "MaxDeviceLogins": 4,
                    "MaxPortLogins": 2
                },
                "NPAR": {
                    "NparCapable": true,
                    "NparEnabled": false
                }
            },
            "PCIeInterface": {
                "PCIeType": "Gen2",
                "MaxPCIeType": "Gen3",
                "LanesInUse": 1,
                "MaxLanes": 4
            },
            "Location": {
                "PartLocation": {
                    "ServiceLabel": "Slot 1",
                    "LocationType": "Slot",
                    "LocationOrdinalValue": 0,
                    "Reference": "Rear",
                    "Orientation": "LeftToRight"
                }
            }
        }
    ],
    "Actions": {
        "#NetworkAdapter.ResetSettingsToDefault": {
            "target": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1/Actions/NetworkAdapte
        },
        "Oem": {}
    }
}
```

NetworkDeviceFunction 1.3.3

v1.3	*v1.2*	*v1.1*	*v1.0*
2018.2	2017.3	2017.1	2016.3

The NetworkDeviceFunction schema represents a logical interface that a network adapter exposes.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkDeviceFunctions/*{NetworkDeviceFunctionId}*

AssignablePhysicalPorts [{	array		An array of physical ports to which this network device function may be assigned.
@odata.id }]	string	read-only	*Link to a NetworkPort resource. See the Links section and the NetworkPort schema for details.*
BootMode	string (enum)	read-write (null)	The boot mode configured for this network device function. *For the possible property values, see BootMode in Property Details.*
DeviceEnabled	boolean	read-write (null)	An indication of whether the network device function is enabled.
Ethernet {	object		The Ethernet capabilities, status, and configuration values for this network device function.
MACAddress	string	read-write (null)	The currently configured MAC address.
MTUSize	integer	read-write (null)	The maximum transmission unit (MTU) configured for this network device function.
PermanentMACAddress	string	read-only (null)	The permanent MAC address assigned to this function.
VLAN *(v1.3+)* {	object		If this network interface supports more than one VLAN, this property is not present. VLANs collections appear in the Link section of this Resource. *See the VLanNetworkInterface schema for details on this property.*

@odata.id }	string	read-only	*Link to a VLAN resource. See the Links section and the VLanNetworkInterface schema for details.*
VLANs *(v1.3+)* {	object		The link to a collection of VLANs. This property is used only if the interface supports more than one VLAN. *Contains a link to a resource.*
@odata.id } }	string	read-only	*Link to Collection of VLanNetworkInterface. See the VLanNetworkInterface schema for details.*
FibreChannel {	object		The Fibre Channel capabilities, status, and configuration values for this network device function.
AllowFIPVLANDiscovery	boolean	read-write (null)	An indication of whether the FCoE Initialization Protocol (FIP) populates the FCoE VLAN ID.
BootTargets [{	array		An array of Fibre Channel boot targets configured for this network device function.
BootPriority	integer	read-write (null)	The relative priority for this entry in the boot targets array.
LUNID	string	read-write (null)	The logical unit number (LUN) ID from which to boot on the device to which the corresponding WWPN refers.
WWPN }]	string	read-write (null)	The World Wide Port Name (WWPN) from which to boot.
FCoEActiveVLANId	integer	read-only (null)	The active FCoE VLAN ID.
FCoELocalVLANId	integer	read-write (null)	The locally configured FCoE VLAN ID.
FibreChannelId *(v1.3+)*	string	read-only (null)	The Fibre Channel ID that the switch assigns for this interface.
PermanentWWNN	string	read-only (null)	The permanent World Wide Node Name (WWNN) address assigned to this function.
PermanentWWPN	string	read-only (null)	The permanent World Wide Port Name (WWPN) address assigned to this function.

WWNN	string	read-write (null)	The currently configured World Wide Node Name (WWNN) address of this function.
WWNSource	string (enum)	read-write (null)	The configuration source of the World Wide Names (WWN) for this World Wide Node Name (WWNN) and World Wide Port Name (WWPN) connection. *For the possible property values, see WWNSource in Property Details.*
WWPN }	string	read-write (null)	The currently configured World Wide Port Name (WWPN) address of this function.
iSCSIBoot {	object		The iSCSI boot capabilities, status, and configuration values for this network device function.
AuthenticationMethod	string (enum)	read-write (null)	The iSCSI boot authentication method for this network device function. *For the possible property values, see AuthenticationMethod in Property Details.*
CHAPSecret	string	read-write (null)	The shared secret for CHAP authentication.
CHAPUsername	string	read-write (null)	The user name for CHAP authentication.
InitiatorDefaultGateway	string	read-write (null)	The IPv6 or IPv4 iSCSI boot default gateway.
InitiatorIPAddress	string	read-write (null)	The IPv6 or IPv4 address of the iSCSI initiator.
InitiatorName	string	read-write (null)	The iSCSI initiator name.
InitiatorNetmask	string	read-write (null)	The IPv6 or IPv4 netmask of the iSCSI boot initiator.
IPAddressType	string (enum)	read-write (null)	The type of IP address being populated in the iSCSIBoot IP address fields. *For the possible property values, see IPAddressType in Property Details.*

IPMaskDNSViaDHCP	boolean	read-write (null)	An indication of whether the iSCSI boot initiator uses DHCP to obtain the initiator name, IP address, and netmask.
MutualCHAPSecret	string	read-write (null)	The CHAP secret for two-way CHAP authentication.
MutualCHAPUsername	string	read-write (null)	The CHAP user name for two-way CHAP authentication.
PrimaryDNS	string	read-write (null)	The IPv6 or IPv4 address of the primary DNS server for the iSCSI boot initiator.
PrimaryLUN	integer	read-write (null)	The logical unit number (LUN) for the primary iSCSI boot target.
PrimaryTargetIPAddress	string	read-write (null)	The IPv4 or IPv6 address for the primary iSCSI boot target.
PrimaryTargetName	string	read-write (null)	The name of the iSCSI primary boot target.
PrimaryTargetTCPPort	integer	read-write (null)	The TCP port for the primary iSCSI boot target.
PrimaryVLANEnable	boolean	read-write (null)	An indication of whether the primary VLAN is enabled.
PrimaryVLANId	integer	read-write (null)	The 802.1q VLAN ID to use for iSCSI boot from the primary target.
RouterAdvertisementEnabled	boolean	read-write (null)	An indication of whether IPv6 router advertisement is enabled for the iSCSI boot target.
SecondaryDNS	string	read-write (null)	The IPv6 or IPv4 address of the secondary DNS server for the iSCSI boot initiator.
SecondaryLUN	integer	read-write (null)	The logical unit number (LUN) for the secondary iSCSI boot target.
SecondaryTargetIPAddress	string	read-write (null)	The IPv4 or IPv6 address for the secondary iSCSI boot target.
SecondaryTargetName	string	read-write (null)	The name of the iSCSI secondary boot target.
SecondaryTargetTCPPort	integer	read-write (null)	The TCP port for the secondary iSCSI boot target.

SecondaryVLANEnable	boolean	read-write (null)	An indication of whether the secondary VLAN is enabled.
SecondaryVLANId	integer	read-write (null)	The 802.1q VLAN ID to use for iSCSI boot from the secondary target.
TargetInfoViaDHCP }	boolean	read-write (null)	An indication of whether the iSCSI boot target name, LUN, IP address, and netmask should be obtained from DHCP.
Links {	object		The links for this network device function.
Endpoints *(v1.2+)* [{	array		An array of links to endpoints associated with this network device function.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
PCIeFunction {	object		The link to the PCIe function associated with this network device function. *See the PCIeFunction schema for details on this property.*
@odata.id }	string	read-only	*Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.*
PhysicalPortAssignment *(v1.3+)* {	object		The physical port to which this network device function is currently assigned. *See the NetworkPort schema for details on this property.*
@odata.id } }	string	read-only	*Link to a NetworkPort resource. See the Links section and the NetworkPort schema for details.*
MaxVirtualFunctions	integer	read-only (null)	The number of virtual functions that are available for this network device function.
NetDevFuncCapabilities [ ]	array (string (enum))	read-only (null)	An array of capabilities for this network device function. *For the possible property values, see NetDevFuncCapabilities in Property Details.*
NetDevFuncType	string	read-write	The configured capability of

	(enum)	(null)	this network device function. *For the possible property values, see NetDevFuncType in Property Details.*
PhysicalPortAssignment *(deprecated v1.3)* {	object		The physical port to which this network device function is currently assigned. *See the NetworkPort schema for details on this property. Deprecated in v1.3 and later. This property has been deprecated and moved to the Links section to avoid loops on expand.*
@odata.id }	string	read-only	*Link to a NetworkPort resource. See the Links section and the NetworkPort schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
VirtualFunctionsEnabled	boolean	read-only (null)	An indication of whether single root input/output virtualization (SR-IOV) virtual functions are enabled for this network device function.

Property Details

AuthenticationMethod:

The iSCSI boot authentication method for this network device function.

string	Description
CHAP	iSCSI Challenge Handshake Authentication Protocol (CHAP) authentication is used.
MutualCHAP	iSCSI Mutual Challenge Handshake Authentication Protocol (CHAP) authentication is used.
None	No iSCSI authentication is used.

BootMode:

The boot mode configured for this network device function.

string	Description
Disabled	Do not indicate to UEFI/BIOS that this device is bootable.

string	Description
FibreChannel	Boot this device by using the embedded Fibre Channel support and configuration. Only applicable if the NetworkDeviceFunctionType is `FibreChannel`.
FibreChannelOverEthernet	Boot this device by using the embedded Fibre Channel over Ethernet (FCoE) boot support and configuration. Only applicable if the NetworkDeviceFunctionType is `FibreChannelOverEthernet`.
iSCSI	Boot this device by using the embedded iSCSI boot support and configuration. Only applicable if the NetworkDeviceFunctionType is `iSCSI`.
PXE	Boot this device by using the embedded PXE support. Only applicable if the NetworkDeviceFunctionType is `Ethernet`.

IPAddressType:

The type of IP address being populated in the iSCSIBoot IP address fields.

string	Description
IPv4	IPv4 addressing is used for all IP-fields in this object.
IPv6	IPv6 addressing is used for all IP-fields in this object.

NetDevFuncCapabilities:

An array of capabilities for this network device function.

string	Description
Disabled	Neither enumerated nor visible to the operating system.
Ethernet	Appears to the operating system as an Ethernet device.
FibreChannel	Appears to the operating system as a Fibre Channel device.
FibreChannelOverEthernet	Appears to the operating system as an FCoE device.
iSCSI	Appears to the operating system as an iSCSI device.

NetDevFuncType:

The configured capability of this network device function.

string	Description
Disabled	Neither enumerated nor visible to the operating system.
Ethernet	Appears to the operating system as an Ethernet device.
FibreChannel	Appears to the operating system as a Fibre Channel device.
FibreChannelOverEthernet	Appears to the operating system as an FCoE device.

string	Description
iSCSI	Appears to the operating system as an iSCSI device.

WWNSource:

The configuration source of the World Wide Names (WWN) for this World Wide Node Name (WWNN) and World Wide Port Name (WWPN) connection.

string	Description
ConfiguredLocally	The set of FC/FCoE boot targets was applied locally through API or UI.
ProvidedByFabric	The set of FC/FCoE boot targets was applied by the Fibre Channel fabric.

Example Response


```
{
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1/NetworkDeviceFunctions/111
    "@odata.type": "#NetworkDeviceFunction.v1_3_3.NetworkDeviceFunction",
    "Id": "111111111100",
    "Name": "Network Device Function View",
    "NetDevFuncType": "Ethernet",
    "DeviceEnabled": true,
    "NetDevFuncCapabilities": [
        "Ethernet",
        "FibreChannel"
    ],
    "Ethernet": {
        "PermanentMACAddress": "00:0C:29:9A:98:ED",
        "MACAddress": "00:0C:29:9A:98:ED",
        "MTUSize": 1500,
        "VLAN": {
            "VLANEnable": true,
            "VLANId": 101
        }
    },
    "iSCSIBoot": {
        "IPAddressType": "IPv4",
        "InitiatorIPAddress": "16.0.11.6",
        "InitiatorName": "iqn.2005-03.com.acme:database-server",
        "InitiatorDefaultGateway": "169.0.16.1",
        "InitiatorNetmask": "255.255.252.0",
        "TargetInfoViaDHCP": false,
        "PrimaryTargetName": "iqn.2005-03.com.acme:image-server",
        "PrimaryTargetIPAddress": "169.0.15.1",
        "PrimaryTargetTCPPort": 3260,
        "PrimaryLUN": 5,
        "PrimaryVLANEnable": true,
        "PrimaryVLANId": 1001,
        "PrimaryDNS": "16.0.10.21",
        "SecondaryTargetName": "iqn.2005-03.com.acme:image-server",
        "SecondaryTargetIPAddress": "16.0.11.5",
        "SecondaryTargetTCPPort": 3260,
        "SecondaryLUN": 5,
```

```
        "SecondaryVLANEnable": true,
        "SecondaryVLANId": 1002,
        "SecondaryDNS": "169.0.10.22",
        "IPMaskDNSViaDHCP": false,
        "RouterAdvertisementEnabled": false,
        "AuthenticationMethod": "CHAP",
        "CHAPUsername": "yosemite",
        "CHAPSecret": "usrpasswd",
        "MutualCHAPUsername": "yosemite",
        "MutualCHAPSecret": "usrpasswd"
    },
    "FibreChannel": {
        "PermanentWWPN": "10:00:B0:5A:DD:BB:74:E0",
        "PermanentWWNN": "10:00:B0:5A:DD:BB:A1:B3",
        "WWPN": "10:00:B0:5A:DD:BB:74:E0",
        "WWNN": "10:00:B0:5A:DD:C4:D3:BB",
        "WWNSource": "ConfiguredLocally",
        "FCoELocalVLANId": 1001,
        "AllowFIPVLANDiscovery": true,
        "FCoEActiveVLANId": 2001,
        "BootTargets": [
            {
                "WWPN": "10:00:B0:5A:DD:BB:74:FA",
                "LUNID": "3",
                "BootPriority": 0
            }
        ]
    },
    "AssignablePhysicalPorts": [
        {
            "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1/NetworkPorts/1"
        }
    ],
    "BootMode": "Disabled",
    "VirtualFunctionsEnabled": true,
    "MaxVirtualFunctions": 16,
    "Links": {
        "PCIeFunction": {
            "@odata.id": "/redfish/v1/Systems/1/PCIeDevices/NIC/PCIeFunctions/1"
        },
        "PhysicalPortAssignment": {
            "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1/NetworkPorts/1"
        }
    }
}
```


NetworkInterface 1.1.3

v1.1	*v1.0*
2017.1	2016.3

The NetworkInterface schema describes links to the NetworkAdapter, NetworkPort, and NetworkDeviceFunction Resources and represents the functionality available to the containing system.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/NetworkInterfaces/*{NetworkInterfaceId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/NetworkInterfaces/*{NetworkInterfaceId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*

/redfish/v1/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*

Links {	object		The links.
NetworkAdapter {	object		The link to the network adapter that contains this network interface. *See the NetworkAdapter schema for details on this property.*
@odata.id }	string	read-only	*Link to a NetworkAdapter resource. See the Links section and the NetworkAdapter schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
NetworkDeviceFunctions {	object		The link to the network device functions associated with this network interface. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of NetworkDeviceFunction. See the NetworkDeviceFunction schema for details.*
NetworkPorts {	object		The link to the network ports associated with this network interface. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of NetworkPort. See the NetworkPort schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Example Response


```
{
    "@odata.id": "/redfish/v1/Systems/1/NetworkInterfaces/9fd725a1",
    "@odata.type": "#NetworkInterface.v1_1_3.NetworkInterface",
    "Id": "9fa725a1",
    "Name": "Network Device View",
    "NetworkPorts": {
        "@odata.id": "/redfish/v1/Systems/1/NetworkInterfaces/9fd725a1/NetworkPorts"
    },
    "NetworkDeviceFunctions": {
        "@odata.id": "/redfish/v1/Systems/1/NetworkInterfaces/9fd725a1/NetworkDeviceFunctio
    },
    "Links": {
```

```
        "NetworkAdapter": {
            "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/9fd725a1"
        }
    }
}
```

NetworkPort 1.2.3

v1.2	*v1.1*	*v1.0*
2018.2	2017.1	2016.3

A network port, which is a discrete physical port that can connect to a network.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkPorts/*{NetworkPortId}*

ActiveLinkTechnology	string (enum)	read-write (null)	Network port active link technology. *For the possible property values, see ActiveLinkTechnology in Property Details.*
AssociatedNetworkAddresses [ ]	array (string, null)	read-only	An array of configured MAC or WWN network addresses that are associated with this network port, including the programmed address of the lowest numbered network device function, the configured but not active address, if applicable, the address for hardware port teaming, or other network addresses.
CurrentLinkSpeedMbps *(v1.2+)*	integer (Mbit/s)	read-write (null)	Network port current link speed.
EEEEnabled	boolean	read-write (null)	An indication of whether IEEE 802.3az Energy-Efficient Ethernet (EEE) is enabled for this network port.
FCFabricName *(v1.2+)*	string	read-only (null)	The FC Fabric Name provided by the switch.
FCPortConnectionType *(v1.2+)*	string (enum)	read-only (null)	The connection type of this port. *For the possible property values, see FCPortConnectionType in Property Details.*
FlowControlConfiguration	string (enum)	read-write (null)	The locally configured 802.3x flow control setting for this network port. *For the possible property values,*

			see FlowControlConfiguration in Property Details.
FlowControlStatus	string (enum)	read-only (null)	The 802.3x flow control behavior negotiated with the link partner for this network port (Ethernet-only). *For the possible property values, see FlowControlStatus in Property Details.*
LinkStatus	string (enum)	read-only (null)	The status of the link between this port and its link partner. *For the possible property values, see LinkStatus in Property Details.*
MaxFrameSize *(v1.2+)*	integer (bytes)	read-only (null)	The maximum frame size supported by the port.
NetDevFuncMaxBWAlloc [{	array		An array of maximum bandwidth allocation percentages for the network device functions associated with this port.
MaxBWAllocPercent	integer (%)	read-write (null)	The maximum bandwidth allocation percentage allocated to the corresponding network device function instance.
NetworkDeviceFunction {	object		The link to the NetworkDeviceFunction associated with this bandwidth setting of this network port. *See the NetworkDeviceFunction schema for details on this property.*
@odata.id } }]	string	read-only	*Link to a NetworkDeviceFunction resource. See the Links section and the NetworkDeviceFunction schema for details.*
NetDevFuncMinBWAlloc [{	array		An array of minimum bandwidth allocation percentages for the network device functions associated with this port.
MinBWAllocPercent	integer (%)	read-write (null)	The minimum bandwidth allocation percentage allocated to the corresponding network device function instance.
NetworkDeviceFunction {	object		The link to the NetworkDeviceFunction associated with this bandwidth setting of this network port. *See the NetworkDeviceFunction schema for details on this*

			property.
@odata.id } }]	string	read-only	*Link to a NetworkDeviceFunction resource. See the Links section and the NetworkDeviceFunction schema for details.*
NumberDiscoveredRemotePorts *(v1.2+)*	integer	read-only (null)	The number of ports not on this adapter that this port has discovered.
PhysicalPortNumber	string	read-only (null)	The physical port number label for this port.
PortMaximumMTU	integer	read-only (null)	The largest maximum transmission unit (MTU) that can be configured for this network port.
SignalDetected	boolean	read-only (null)	An indication of whether the port has detected enough signal on enough lanes to establish a link.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
SupportedEthernetCapabilities [ ]	array (string (enum))	read-only (null)	The set of Ethernet capabilities that this port supports. *For the possible property values, see SupportedEthernetCapabilities in Property Details.*
SupportedLinkCapabilities [{	array		The link capabilities of this port.
AutoSpeedNegotiation *(v1.2+)*	boolean	read-only (null)	An indication of whether the port is capable of auto-negotiating speed.
CapableLinkSpeedMbps *(v1.2+)* [ ]	array (integer, null)	read-only	The set of link speed capabilities of this port.
LinkNetworkTechnology	string (enum)	read-only (null)	The link network technology capabilities of this port. *For the possible property values, see LinkNetworkTechnology in Property Details.*
LinkSpeedMbps *(deprecated v1.2)* }]	integer (Mbit/s)	read-only (null)	The speed of the link in Mbps when this link network technology is active. *Deprecated in v1.2 and later. This property has been deprecated in favor of the CapableLinkSpeedMbps.*

VendorId *(v1.2+)*	string	read-only (null)	The vendor Identification for this port.
WakeOnLANEnabled	boolean	read-write (null)	An indication of whether Wake on LAN (WoL) is enabled for this network port.

Property Details

ActiveLinkTechnology:

Network port active link technology.

string	Description
Ethernet	The port is capable of connecting to an Ethernet network.
FibreChannel	The port is capable of connecting to a Fibre Channel network.
InfiniBand	The port is capable of connecting to an InfiniBand network.

FCPortConnectionType:

The connection type of this port.

string	Description
ExtenderFabric	This port connection type is an extender fabric port.
Generic	This port connection type is a generic fabric port.
NotConnected	This port is not connected.
NPort	This port connects through an N-Port to a switch.
PointToPoint	This port connects in a Point-to-point configuration.
PrivateLoop	This port connects in a private loop configuration.
PublicLoop	This port connects in a public configuration.

FlowControlConfiguration:

The locally configured 802.3x flow control setting for this network port.

string	Description
None	No IEEE 802.3x flow control is enabled on this port.
RX	IEEE 802.3x flow control may be initiated by the link partner.
TX	IEEE 802.3x flow control may be initiated by this station.
TX_RX	IEEE 802.3x flow control may be initiated by this station or the link partner.

FlowControlStatus:

The 802.3x flow control behavior negotiated with the link partner for this network port

(Ethernet-only).

string	Description
None	No IEEE 802.3x flow control is enabled on this port.
RX	IEEE 802.3x flow control may be initiated by the link partner.
TX	IEEE 802.3x flow control may be initiated by this station.
TX_RX	IEEE 802.3x flow control may be initiated by this station or the link partner.

LinkNetworkTechnology:

The link network technology capabilities of this port.

string	Description
Ethernet	The port is capable of connecting to an Ethernet network.
FibreChannel	The port is capable of connecting to a Fibre Channel network.
InfiniBand	The port is capable of connecting to an InfiniBand network.

LinkStatus:

The status of the link between this port and its link partner.

string	Description
Down	The port is enabled but link is down.
Up	The port is enabled and link is good (up).

SupportedEthernetCapabilities:

The set of Ethernet capabilities that this port supports.

string	Description
EEE	IEEE 802.3az Energy-Efficient Ethernet (EEE) is supported on this port.
WakeOnLAN	Wake on LAN (WoL) is supported on this port.

Outlet 1.0.0

v1.0
2019.4

This is the schema definition for an electrical outlet.

URIs:

/redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Outlets/*{OutletId}*

/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Outlets/*{OutletId}*

/redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Outlets/*{OutletId}*

CurrentAmps {	object (excerpt)		The current reading for this single phase outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
ElectricalContext	string (enum)	read-only (null)	The combination of current-carrying conductors. *For the possible property values, see ElectricalContext in Property Details.*
EnergykWh {	object (excerpt)		The energy reading for this outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.
FrequencyHz {	object (excerpt)		The frequency reading for this outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading }	number	read-only (null)	The sensor value.
IndicatorLED	string (enum)	read-write (null)	The state of the indicator LED, which identifies the outlet. *For the possible property values, see IndicatorLED in Property Details.*

Links {	object		The links to other resources that are related to this resource.
BranchCircuit {	object	(null)	A reference to the branch circuit related to this outlet. *See the Circuit schema for details on this property.*
@odata.id }	string	read-only	*Link to a Circuit resource. See the Links section and the Circuit schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
NominalVoltage	string (enum)	read-only (null)	The nominal voltage for this outlet. *For the possible property values, see NominalVoltage in Property Details.*
OutletType	string (enum)	read-only (null)	The type of receptacle according to NEMA, IEC, or regional standards. *For the possible property values, see OutletType in Property Details.*
PhaseWiringType	string (enum)	read-only (null)	The number of ungrounded current-carrying conductors (phases) and the total number of conductors (wires). *For the possible property values, see PhaseWiringType in Property Details.*
PolyPhaseCurrentAmps {	object	(null)	The current readings for this outlet.
Line1 {	object (excerpt)		Line 1 current sensor. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line2 {	object (excerpt)		Line 2 current sensor. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.

Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)*	number	read-only (null)	The total harmonic distortion (THD).
}			
Line3 {	object (excerpt)		Line 3 current sensor. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)*	number	read-only (null)	The total harmonic distortion (THD).
}			
Neutral {	object (excerpt)		Neutral line current sensor. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)*	number	read-only (null)	The total harmonic distortion (THD).
}			
}			
PolyPhaseVoltage {	object	(null)	The voltage readings for this outlet.
Line1ToLine2 {	object (excerpt)		The Line 1 to Line 2 voltage reading for this outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)*	number	read-only	The total harmonic distortion (THD).

}		(null)	
Line1ToNeutral {	object (excerpt)		The Line 1 to Neutral voltage reading for this outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line2ToLine3 {	object (excerpt)		The Line 2 to Line 3 voltage reading for this outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line2ToNeutral {	object (excerpt)		The Line 2 to Neutral voltage reading for this outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line3ToLine1 {	object (excerpt)		The Line 3 to Line 1 voltage reading for this outlet. *This object is an excerpt of the Sensor*

			resource located at the URI shown in DataSourceUri.
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
Line3ToNeutral {	object (excerpt)		The Line 3 to Neutral voltage reading for this outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* } }	number	read-only (null)	The total harmonic distortion (THD).
PowerCycleDelaySeconds	number	read-write (null)	The number of seconds to delay power on after a PowerControl action to cycle power. Zero seconds indicates no delay.
PowerEnabled	boolean	read-only (null)	Indicates if the outlet can be powered.
PowerOffDelaySeconds	number	read-write (null)	The number of seconds to delay power off after a PowerControl action. Zero seconds indicates no delay to power off.
PowerOnDelaySeconds	number	read-write (null)	The number of seconds to delay power up after a power cycle or a PowerControl action. Zero seconds indicates no delay to power up.
PowerRestoreDelaySeconds	number	read-write (null)	The number of seconds to delay power on after power has been restored. Zero seconds indicates no delay.
PowerRestorePolicy	string (enum)	read-write	The desired power state of the outlet when power is restored after a power loss. *For the possible property values, see PowerRestorePolicy in Property Details.*
PowerState	string	read-only	The power state of the outlet.

	(enum)	(null)	*For the possible property values, see PowerState in Property Details.*
PowerWatts {	object (excerpt)		The power reading for this outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.
RatedCurrentAmps	number (A)	read-only (null)	The rated maximum current allowed for this outlet.
Status { }	object		The status and health of the resource and its subordinate or dependent resources. *For property details, see Status.*
Voltage {	object (excerpt)		The voltage reading for this single phase outlet. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
Reading	number	read-only (null)	The sensor value.
THDPercent *(v1.1+)* }	number	read-only (null)	The total harmonic distortion (THD).
VoltageType	string (enum)	read-only (null)	The type of voltage applied to the outlet. *For the possible property values, see VoltageType in Property Details.*

Actions

PowerControl

This action turns the outlet on or off.

Action URI: {Base URI of target resource}/Actions/Outlet.PowerControl

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
PowerState }	string (enum)	optional	The desired power state of the outlet. *For the possible property values, see PowerState in Property Details.*

ResetMetrics

This action resets metrics related to this outlet.

Action URI: {Base URI of target resource}/Actions/Outlet.ResetMetrics

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

ElectricalContext:

The combination of current-carrying conductors.

string	Description
Line1	The circuits that share the L1 current-carrying conductor.
Line1ToLine2	The circuit formed by L1 and L2 current-carrying conductors.
Line1ToNeutral	The circuit formed by L1 and neutral current-carrying conductors.
Line1ToNeutralAndL1L2	The circuit formed by L1, L2, and neutral current-carrying conductors.
Line2	The circuits that share the L2 current-carrying conductor.
Line2ToLine3	The circuit formed by L2 and L3 current-carrying conductors.
Line2ToNeutral	The circuit formed by L2 and neutral current-carrying conductors.
Line2ToNeutralAndL1L2	The circuit formed by L1, L2, and Neutral current-carrying conductors.
Line2ToNeutralAndL2L3	The circuits formed by L2, L3, and neutral current-carrying conductors.
Line3	The circuits that share the L3 current-carrying conductor.
Line3ToLine1	The circuit formed by L3 and L1 current-carrying conductors.
Line3ToNeutral	The circuit formed by L3 and neutral current-carrying conductors.
Line3ToNeutralAndL3L1	The circuit formed by L3, L1, and neutral current-carrying

string	Description conductors.
LineToLine	The circuit formed by two current-carrying conductors.
LineToNeutral	The circuit formed by a line and neutral current-carrying conductor.
Neutral	The grounded current-carrying return circuit of current-carrying conductors.
Total	The circuit formed by all current-carrying conductors.

IndicatorLED:

The state of the indicator LED, which identifies the outlet.

string	Description
Blinking	The indicator LED is blinking.
Lit	The indicator LED is lit.
Off	The indicator LED is off.

NominalVoltage:

The nominal voltage for this outlet.

string	Description
AC100To240V	AC 100-240V nominal.
AC100To277V	AC 100-277V nominal.
AC120V	AC 120V nominal.
AC200To240V	AC 200-240V nominal.
AC200To277V	AC 200-277V nominal.
AC208V	AC 208V nominal.
AC230V	AC 230V nominal.
AC240AndDC380V	AC 200-240V and DC 380V.
AC240V	AC 240V nominal.
AC277AndDC380V	AC 200-277V and DC 380V.
AC277V	AC 277V nominal.
AC400V	AC 400V or 415V nominal.
AC480V	AC 480V nominal.
DC240V	DC 240V nominal.

string	Description
DC380V	High Voltage DC (380V).
DCNeg48V	-48V DC.

OutletType:

The type of receptacle according to NEMA, IEC, or regional standards.

string	Description
BS_1363_Type_G	BS 1363 Type G (250V; 13A).
CEE_7_Type_E	CEE 7/7 Type E (250V; 16A).
CEE_7_Type_F	CEE 7/7 Type F (250V; 16A).
IEC_60320_C13	IEC C13 (250V; 10A or 15A).
IEC_60320_C19	IEC C19 (250V; 16A or 20A).
NEMA_5_15R	NEMA 5-15R (120V; 15A).
NEMA_5_20R	NEMA 5-20R (120V; 20A).
NEMA_L5_20R	NEMA L5-20R (120V; 20A).
NEMA_L5_30R	NEMA L5-30R (120V; 30A).
NEMA_L6_20R	NEMA L6-20R (250V; 20A).
NEMA_L6_30R	NEMA L6-30R (250V; 30A).
SEV_1011_TYPE_12	SEV 1011 Type 12 (250V; 10A).
SEV_1011_TYPE_23	SEV 1011 Type 23 (250V; 16A).

PhaseWiringType:

The number of ungrounded current-carrying conductors (phases) and the total number of conductors (wires).

string	Description
OneOrTwoPhase3Wire	Single or Two-Phase / 3-Wire (Line1, Line2 or Neutral, Protective Earth).
OnePhase3Wire	Single-phase / 3-Wire (Line1, Neutral, Protective Earth).
ThreePhase4Wire	Three-phase / 4-Wire (Line1, Line2, Line3, Protective Earth).
ThreePhase5Wire	Three-phase / 5-Wire (Line1, Line2, Line3, Neutral, Protective Earth).
TwoPhase3Wire	Two-phase / 3-Wire (Line1, Line2, Protective Earth).
TwoPhase4Wire	Two-phase / 4-Wire (Line1, Line2, Neutral, Protective Earth).

PowerRestorePolicy:

The desired power state of the outlet when power is restored after a power loss.

string	Description
AlwaysOff	Always remain powered off when external power is applied.
AlwaysOn	Always power on when external power is applied.
LastState	Return to the last power state (on or off) when external power is applied.

PowerState:

The power state of the outlet.

string	Description
Off	The state is powered off.
On	The state is powered on.
PoweringOff	A temporary state between on and off.
PoweringOn	A temporary state between off and on.

VoltageType:

The type of voltage applied to the outlet.

string	Description
AC	Alternating Current (AC) outlet.
DC	Direct Current (DC) outlet.

Example Response


```
{
    "@odata.type": "#Outlet.v1_0_0.Outlet",
    "Id": "A1",
    "Name": "Outlet A1, Branch Circuit A",
    "Status": {
        "Health": "OK",
        "State": "Enabled"
    },
    "PhaseWiringType": "OnePhase3Wire",
    "VoltageType": "AC",
    "OutletType": "NEMA_5_20R",
    "RatedCurrentAmps": 20,
    "NominalVoltage": "AC120V",
    "IndicatorLED": "Lit",
    "PowerOnDelaySeconds": 4,
    "PowerOffDelaySeconds": 0,
    "PowerState": "On",
    "PowerEnabled": true,
    "Voltage": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/VoltageA1",
```

```
        "Reading": 117.5
    },
    "PolyPhaseVoltage": {
        "Line1ToNeutral": {
            "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/VoltageA1",
            "Reading": 117.5
        }
    },
    "CurrentAmps": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/CurrentA1",
        "Reading": 1.68
    },
    "PolyPhaseCurrentAmps": {
        "Line1": {
            "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/CurrentA1",
            "Reading": 1.68
        }
    },
    "PowerWatts": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/PowerA1",
        "Reading": 197.4,
        "ApparentVA": 197.4,
        "ReactiveVAR": 0,
        "PowerFactor": 1
    },
    "FrequencyHz": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/FrequencyA1",
        "Reading": 60
    },
    "EnergykWh": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/EnergyA1",
        "Reading": 36166
    },
    "Actions": {
        "#Outlet.PowerControl": {
            "target": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A1/Outlet.PowerControl
        },
        "#Outlet.ResetMetrics": {
            "target": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A1/Outlet.ResetMetrics
        }
    },
    "Links": {
        "BranchCircuit": {
            "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Branches/A"
        }
    },
    "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A1"
}
```


OutletGroup 1.0.0

v1.0
2019.4

This is the schema definition for an electrical outlet group.

URIs:

/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/OutletGroups/*{OutletGroupId}*

/redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/OutletGroups/*{OutletGroupId}*

CreatedBy	string	read-write (null)	The creator of this outlet group.
EnergykWh {	object (excerpt)		The energy reading for this outlet group. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.
Links {	object		The links to other resources that are related to this resource.
Oem { }	object		See the Oem object definition in the Common properties section.
Outlets [{	array		The set of outlets in this outlet group.
@odata.id }] }	string	read-only	*Link to a Outlet resource. See the Links section and the Outlet schema for details.*
PowerCycleDelaySeconds	number	read-write (null)	The number of seconds to delay power on after a PowerControl action to cycle power. Zero seconds indicates no delay.
PowerEnabled	boolean	read-only (null)	Indicates if the outlet group can be powered.
PowerOffDelaySeconds	number	read-write (null)	The number of seconds to delay power off after a PowerControl action. Zero seconds indicates no delay to power off.
PowerOnDelaySeconds	number	read-write (null)	The number of seconds to delay power up after a power cycle or a PowerControl action. Zero seconds indicates no delay to power up.
PowerRestoreDelaySeconds	number	read-write (null)	The number of seconds to delay power on after power has been restored. Zero seconds indicates no delay.
PowerRestorePolicy	string	read-write	The desired power state of the outlet group

	(enum)		when power is restored after a power loss. *For the possible property values, see PowerRestorePolicy in Property Details.*
PowerState	string (enum)	read-only (null)	The power state of the outlet group. *For the possible property values, see PowerState in Property Details.*
PowerWatts {	object (excerpt)		The power reading for this outlet group. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.
Status { }	object		The status and health of the resource and its subordinate or dependent resources. *For property details, see Status.*

Actions

PowerControl

This action turns the outlet group on or off.

Action URI: {Base URI of target resource}/Actions/OutletGroup.PowerControl

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
PowerState }	string (enum)	optional	The desired power state of the outlet group. *For the possible property values, see PowerState in Property Details.*

ResetMetrics

This action resets metrics related to this outlet group.

Action URI: {Base URI of target resource}/Actions/OutletGroup.ResetMetrics

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

PowerRestorePolicy:

The desired power state of the outlet group when power is restored after a power loss.

string	Description
AlwaysOff	Always remain powered off when external power is applied.
AlwaysOn	Always power on when external power is applied.
LastState	Return to the last power state (on or off) when external power is applied.

PowerState:

The power state of the outlet group.

string	Description
Off	The state is powered off.
On	The state is powered on.
PoweringOff	A temporary state between on and off.
PoweringOn	A temporary state between off and on.

Example Response


```
{
    "@odata.type": "#OutletGroup.v1_0_0.OutletGroup",
    "Id": "Rack5Storage",
    "Name": "Outlet Group Rack5Storage",
    "Status": {
        "Health": "OK",
        "State": "Enabled"
    },
    "CreatedBy": "Bob",
    "PowerOnDelaySeconds": 4,
    "PowerOffDelaySeconds": 0,
    "PowerState": "On",
    "PowerEnabled": true,
    "PowerWatts": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/GroupPowerA",
        "Reading": 412.36
    },
    "EnergykWh": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/GroupEnergyA",
        "Reading": 26880
    },
    "Links": {
        "Outlets": [
            {
                "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A1"
            },
            {
                "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A2"
```

```
            },
            {
                "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets/A3"
            }
        ]
    },
    "Actions": {
        "#Circuit.PowerControl": {
            "target": "/redfish/v1/PowerEquipment/RackPDUs/1/OutletGroups/Rack5Storage/Outl
        },
        "#Outlet.ResetMetrics": {
            "target": "/redfish/v1/PowerEquipment/RackPDUs/1/OutletGroups/Rack5Storage/Outl
        }
    },
    "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/OutletGroups/Rack5Storage"
}
```


PCIeDevice 1.4.0

v1.4	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.2	2018.2	2017.3	2017.1	2016.2

The PCIeDevice schema describes the properties of a PCIe device that is attached to a system.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/PCIeDevices/*{PCIeDeviceId}*

/redfish/v1/Systems/*{ComputerSystemId}*/PCIeDevices/*{PCIeDeviceId}*

Assembly *(v1.2+)* {	object		The link to the assembly Resource associated with this PCIe device. *See the Assembly schema for details on this property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the Links section and the Assembly schema for details.*
AssetTag	string	read-write (null)	The user-assigned asset tag for this PCIe device.
DeviceType	string (enum)	read-only	The device type for this PCIe device. *For the possible property values, see DeviceType in Property Details.*
FirmwareVersion	string	read-only (null)	The version of firmware for this PCIe device.
Links {	object		The links to other Resources that are related to this Resource.
Chassis [{	array		An array of links to the chassis in which the PCIe device is contained.

@odata.id }]	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeFunctions *(deprecated v1.4)* [{	array		An array of links to PCIeFunctions exposed by this device. *Deprecated in v1.4 and later. This property has been deprecated in favor of the PCIeFunctions property in the root that provides a link to a Resource Collection.*
@odata.id }] }	string	read-only	*Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.*
Manufacturer	string	read-only (null)	The manufacturer of this PCIe device.
Model	string	read-only (null)	The model number for the PCIe device.
PartNumber	string	read-only (null)	The part number for this PCIe device.
PCIeFunctions *(v1.4+)* {	object		The link to the collection of PCIe functions associated with this PCIe device. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of PCIeFunction. See the PCIeFunction schema for details.*
PCIeInterface *(v1.3+)* {	object		The PCIe interface details for this PCIe device.
LanesInUse	integer	read-only (null)	The number of PCIe lanes in use by this device.
MaxLanes	integer	read-only (null)	The number of PCIe lanes supported by this device.
MaxPCIeType	string (enum)	read-only (null)	The highest version of the PCIe specification supported by this device. *For the possible property values, see MaxPCIeType in Property Details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeType }	string (enum)	read-only (null)	The version of the PCIe specification in use by this device. *For the possible property values, see*

			PCIeType in Property Details.
SerialNumber	string	read-only (null)	The serial number for this PCIe device.
SKU	string	read-only (null)	The SKU for this PCIe device.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Property Details

DeviceType:

The device type for this PCIe device.

string	Description
MultiFunction	A multi-function PCIe device.
Simulated	A PCIe device that is not currently physically present, but is being simulated by the PCIe infrastructure.
SingleFunction	A single-function PCIe device.

MaxPCIeType:

The highest version of the PCIe specification supported by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

PCIeType:

The version of the PCIe specification in use by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.

string	Description
Gen5	A PCIe v5.0 slot.

Example Response


```
{
    "@odata.id": "/redfish/v1/Systems/1/PCIeDevices/NIC",
    "@odata.type": "#PCIeDevice.v1_4_0.PCIeDevice",
    "Id": "NIC",
    "Name": "Simple Two-Port NIC",
    "Description": "Simple Two-Port NIC PCIe Device",
    "AssetTag": "ORD-4302015-18432RS",
    "Manufacturer": "Contoso",
    "Model": "SuperNIC 2000",
    "SKU": "89587433",
    "SerialNumber": "2M220100SL",
    "PartNumber": "232-4598D7",
    "DeviceType": "MultiFunction",
    "FirmwareVersion": "12.342-343",
    "Status": {
        "State": "Enabled",
        "Health": "OK",
        "HealthRollup": "OK"
    },
    "PCIeInterface": {
        "PCIeType": "Gen2",
        "MaxPCIeType": "Gen3",
        "LanesInUse": 4,
        "MaxLanes": 4
    },
    "Links": {
        "Chassis": [
            {
                "@odata.id": "/redfish/v1/Chassis/1"
            }
        ],
        "PCIeFunctions": [
            {
                "@odata.id": "/redfish/v1/Systems/1/PCIeDevices/NIC/PCIeFunctions/1"
            },
            {
                "@odata.id": "/redfish/v1/Systems/1/PCIeDevices/NIC/PCIeFunctions/2"
            }
        ],
        "Oem": {}
    },
    "Oem": {}
}
```


PCIeFunction 1.2.3

v1.2	*v1.1*	*v1.0*

2018.1	2017.1	2016.2

The schema definition for the PCIeFunction Resource. It represents the properties of a PCIeFunction attached to a System.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/PCIeDevices/*{PCIeDeviceId}*/PCIeFunctions/*{PCIeFunctionId}*

/redfish/v1/Systems/*{ComputerSystemId}*/PCIeDevices/*{PCIeDeviceId}*/PCIeFunctions/*{PCIeFunctionId}*

ClassCode	string	read-only (null)	The Class Code of this PCIe function.
DeviceClass	string (enum)	read-only	The class for this PCIe function. *For the possible property values, see DeviceClass in Property Details.*
DeviceId	string	read-only (null)	The Device ID of this PCIe function.
FunctionId	integer	read-only (null)	The PCIe Function Number.
FunctionType	string (enum)	read-only	The type of the PCIe function. *For the possible property values, see FunctionType in Property Details.*
Links {	object		The links to other Resources that are related to this Resource.
Drives [{	array		An array of links to the drives that the PCIe device produces.
@odata.id }]	string	read-only	*Link to a Drive resource. See the Links section and the Drive schema for details.*
EthernetInterfaces [{	array		An array of links to the Ethernet interfaces that the PCIe device produces.
@odata.id }]	string	read-only	*Link to a EthernetInterface resource. See the Links section and the EthernetInterface schema for details.*
NetworkDeviceFunctions *(v1.2+)* [{	array		An array of links to the network device functions that the PCIe device produces.
@odata.id }]	string	read-only	*Link to a NetworkDeviceFunction resource. See the Links section and the NetworkDeviceFunction schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.

PCIeDevice {	object		The link to the PCIe device on which this function resides. *See the PCIeDevice schema for details on this property.*
@odata.id }	string	read-only	*Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details.*
StorageControllers [{	array		An array of links to the storage controllers that the PCIe device produces.
@odata.id }] }	string	read-only	*Link to a StorageController resource. See the Links section and the Storage schema for details.*
RevisionId	string	read-only (null)	The Revision ID of this PCIe function.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
SubsystemId	string	read-only (null)	The Subsystem ID of this PCIe function.
SubsystemVendorId	string	read-only (null)	The Subsystem Vendor ID of this PCIe function.
VendorId	string	read-only (null)	The Vendor ID of this PCIe function.

Property Details

DeviceClass:

The class for this PCIe function.

string	Description
Bridge	A bridge.
CommunicationController	A communication controller.
Coprocessor	A coprocessor.
DisplayController	A display controller.
DockingStation	A docking station.
EncryptionController	An encryption controller.
GenericSystemPeripheral	A generic system peripheral.
InputDeviceController	An input device controller.

string	Description
IntelligentController	An intelligent controller.
MassStorageController	A mass storage controller.
MemoryController	A memory controller.
MultimediaController	A multimedia controller.
NetworkController	A network controller.
NonEssentialInstrumentation	A non-essential instrumentation.
Other	A other class. The function Device Class Id needs to be verified.
ProcessingAccelerators	A processing accelerators.
Processor	A processor.
SatelliteCommunicationsController	A satellite communications controller.
SerialBusController	A serial bus controller.
SignalProcessingController	A signal processing controller.
UnassignedClass	An unassigned class.
UnclassifiedDevice	An unclassified device.
WirelessController	A wireless controller.

FunctionType:

The type of the PCIe function.

string	Description
Physical	A physical PCIe function.
Virtual	A virtual PCIe function.

Example Response


```
{
    "@odata.id": "/redfish/v1/Chassis/1/PCIeDevices/FC/PCIeFunctions/2",
    "@odata.type": "#PCIeFunction.v1_2_3.PCIeFunction",
    "Id": "2",
    "Name": "FC Port 2",
    "Description": "FC Port 2",
    "FunctionId": 2,
    "FunctionType": "Physical",
    "DeviceClass": "NetworkController",
    "DeviceId": "0xABCD",
    "VendorId": "0xABCD",
    "ClassCode": "0x010802",
    "RevisionId": "0x00",
```

```
    "SubsystemId": "0xABCD",
    "SubsystemVendorId": "0xABCD",
    "Status": {
        "State": "Enabled",
        "Health": "OK",
        "HealthRollup": "OK"
    },
    "Links": {
        "PCIeDevice": {
            "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/FC"
        }
    },
    "Oem": {}
}
```


PCIeSlots 1.2.0

v1.2	*v1.1*	*v1.0*
2019.4	2019.1	2018.2

The PCIeSlots schema describes PCIe slot properties.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/PCIeSlots

Slots [{	array		An array of PCI Slot information.
HotPluggable *(v1.1+)*	boolean	read-only (null)	An indication of whether this PCIe slot supports hotplug.
Lanes	integer	read-only (null)	The number of PCIe lanes supported by this slot.
Links {	object		The links to other Resources that are related to this Resource.
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeDevice [{	array		An array of links to the PCIe devices contained in this slot.
@odata.id }] }	string	read-only	*Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details.*
Location { }	object		The location of the PCIe slot. *For property details, see Location.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeType	string	read-only	The PCIe specification supported by this slot.

	(enum)	(null)	*For the possible property values, see PCIeType in Property Details.*
SlotType	string (enum)	read-only (null)	The PCIe slot type for this slot. *For the possible property values, see SlotType in Property Details.*
Status { } }]	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Property Details

PCIeType:

The PCIe specification supported by this slot.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

SlotType:

The PCIe slot type for this slot.

string	Description
FullLength	Full-Length PCIe slot.
HalfLength	Half-Length PCIe slot.
LowProfile	Low-Profile or Slim PCIe slot.
M2	PCIe M.2 slot.
Mini	Mini PCIe slot.
OCP3Large *(v1.2+)*	Open Compute Project 3.0 large form factor slot.
OCP3Small *(v1.2+)*	Open Compute Project 3.0 small form factor slot.
OEM	An OEM-specific slot.

Example Response


```
{
    "@odata.type": "#PCIeSlots.v1_2_0.PCIeSlots",
    "Id": "1",
    "Name": "PCIe Slot Information",
```

```
    "Slots": [
        {
            "PCIeType": "Gen3",
            "Lanes": 16,
            "SlotType": "FullLength",
            "Status": {
                "State": "Enabled"
            },
            "Location": {
                "PartLocation": {
                    "ServiceLabel": "Slot 1",
                    "LocationOrdinalValue": 1,
                    "LocationType": "Slot",
                    "Orientation": "LeftToRight",
                    "Reference": "Rear"
                }
            },
            "Links": {
                "PCIeDevice": [
                    {
                        "@odata.id": "/redfish/v1/Systems/1/PCIeDevices/NIC"
                    }
                ]
            }
        },
        {
            "PCIeType": "Gen4",
            "Lanes": 4,
            "SlotType": "FullLength",
            "Status": {
                "State": "Absent"
            },
            "Location": {
                "PartLocation": {
                    "ServiceLabel": "Slot 2",
                    "LocationOrdinalValue": 2,
                    "LocationType": "Slot",
                    "Orientation": "LeftToRight",
                    "Reference": "Rear"
                }
            }
        },
        {
            "PCIeType": "Gen3",
            "Lanes": 1,
            "SlotType": "HalfLength",
            "Status": {
                "State": "Absent"
            },
            "Location": {
                "PartLocation": {
                    "ServiceLabel": "Slot 3",
                    "LocationOrdinalValue": 3,
                    "LocationType": "Slot",
                    "Orientation": "LeftToRight",
                    "Reference": "Rear"
                }
            }
```

```
        }
    ],
    "Oem": {},
    "@odata.id": "/redfish/v1/Chassis/1/PCIeSlots"
}
```


Port 1.2.0

v1.2	*v1.1*	*v1.0*
2019.4	2017.3	2016.2

The Port schema contains properties that describe a port of a switch, controller, chassis, or any other device that could be connected to another entity.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/MediaControllers/*{MediaControllerId}*/Ports/*{PortId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*

ActiveWidth *(v1.2+)*	integer	read-only	The number of active lanes for this interface.
CurrentSpeedGbps	number (Gbit/s)	read-only (null)	The current speed of this port.
GenZ *(v1.2+)* {	object		Gen-Z specific properties.
LPRT {	object		The Linear Packet Relay Table for the port. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of RouteEntry. See the RouteEntry schema for details.*
MPRT {	object		the Multi-subnet Packet Relay Table for the port. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of RouteEntry. See the RouteEntry schema for details.*

VCAT {	object		the Virtual Channel Action Table for the port. *Contains a link to a resource.*
@odata.id } }	string	read-only	*Link to Collection of VCATEntry. See the VCATEntry schema for details.*
InterfaceEnabled *(v1.2+)*	boolean	read-write (null)	An indication of whether the interface is enabled.
LinkNetworkTechnology *(v1.2+)*	string (enum)	read-only (null)	The link network technology capabilities of this port. *For the possible property values, see LinkNetworkTechnology in Property Details.*
Links {	object		The links to other Resources that are related to this Resource.
AssociatedEndpoints [{	array		An array of links to the endpoints that connect through this port.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
ConnectedPorts *(v1.2+)* [{	array		An array of links to the remote ports connected to this port.
@odata.id }]	string	read-only	*Link to another Port resource.*
ConnectedSwitches [{	array		An array of links to the switches that connect to the device through this port.
@odata.id }]	string	read-only	*Link to a Switch resource. See the Links section and the Switch schema for details.*
ConnectedSwitchPorts [{	array		An array of links to the ports that connect to the switch through this port.
@odata.id }]	string	read-only	*Link to another Port resource.*
Oem { } }	object		See the Oem object definition in the Common properties section.
LinkState *(v1.2+)*	string (enum)	read-write	The desired link state for this interface. *For the possible property values, see LinkState in Property Details.*
LinkStatus *(v1.2+)*	string (enum)	read-write	The desired link status for this interface. *For the possible property values, see LinkStatus in Property Details.*
LinkTransitionIndicator *(v1.2+)*	integer	read-write	The number of link state transitions for this interface.

Location *(v1.1+)* { }	object		The location of the port. *For property details, see Location.*
MaxSpeedGbps	number (Gbit/s)	read-only (null)	The maximum speed of this port as currently configured.
Metrics *(v1.2+)* {	object	(null)	The link to the metrics associated with this port. *See the PortMetrics schema for details on this property.*
@odata.id }	string	read-only	*Link to a PortMetrics resource. See the Links section and the PortMetrics schema for details.*
PortId	string	read-only (null)	The label of this port on the physical package for this port.
PortMedium *(v1.2+)*	string (enum)	read-only (null)	The physical connection medium for this port. *For the possible property values, see PortMedium in Property Details.*
PortProtocol	string (enum)	read-only (null)	The protocol being sent over this port. *For the possible property values, see PortProtocol in Property Details.*
PortType	string (enum)	read-only (null)	The type of this port. *For the possible property values, see PortType in Property Details.*
SignalDetected *(v1.2+)*	boolean	read-only (null)	An indication of whether a signal is detected on this interface.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Width	integer	read-only (null)	The number of lanes, phys, or other physical transport links that this port contains.

Actions

Reset

This action resets this port.

Action URI: {Base URI of target resource}/Actions/Port.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

Property Details

LinkNetworkTechnology:

The link network technology capabilities of this port.

string	Description
Ethernet	The port is capable of connecting to an Ethernet network.
FibreChannel	The port is capable of connecting to a Fibre Channel network.
GenZ	The port is capable of connecting to a Gen-Z fabric.
InfiniBand	The port is capable of connecting to an InfiniBand network.

LinkState:

The desired link state for this interface.

string	Description
Disabled	This link is disabled.
Enabled	This link is enabled.

LinkStatus:

The desired link status for this interface.

string	Description
LinkDown	The link on this interface is down.
LinkUp	This link on this interface is up.
NoLink	No physical link detected on this interface.
Starting	This link on this interface is starting.
Training	This link on this interface is training.

PortMedium:

The physical connection medium for this port.

string	Description
Electrical	This port has an electrical cable connection.
Optical	This port has an optical cable connection.

PortProtocol:

The protocol being sent over this port.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
I2C	Inter-Integrated Circuit Bus.
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.
NFSv3	Network File System (NFS) version 3.
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).
NVMeOverFabrics	NVMe over Fabrics.
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).

string	Description
USB	Universal Serial Bus (USB).

PortType:

The type of this port.

string	Description
BidirectionalPort	This port connects to any type of device.
DownstreamPort	This port connects to a target device.
InterswitchPort	This port connects to another switch.
ManagementPort	This port connects to a switch manager.
UnconfiguredPort	This port has not yet been configured.
UpstreamPort	This port connects to a host device.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

Example Response


```
{
    "@odata.type": "#Port.v1_2_0.Port",
    "Id": "1",
    "Name": "SAS Port 1",
    "Description": "SAS Port 1",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
```

```
    },
    "PortId": "1",
    "PortProtocol": "SAS",
    "PortType": "BidirectionalPort",
    "CurrentSpeedGbps": 48,
    "Width": 4,
    "MaxSpeedGbps": 48,
    "Actions": {
        "Oem": {}
    },
    "Links": {
        "AssociatedEndpoints": [
            {
                "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints/Initiator1"
            }
        ]
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch1/Ports/1"
}
```


PortMetrics 1.0.0

v1.0
2019.4

The usage and health statistics for a switch device or component port summary.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/MediaControllers/*{MediaControllerId}*/Ports/*{PortId}*/Metrics

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*/Metrics

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*/Metrics

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/Metrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*/Metrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*/Metrics

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/Metrics

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/StorageControllers/*{StorageControllerId}*/Ports/*{PortId}*/Metrics

GenZ {	object		The port metrics specific to Gen-Z ports.
AccessKeyViolations	integer	read-only (null)	The total number of Access Key Violations detected.
EndToEndCRCErrors	integer	read-only (null)	The total number of ECRC transient errors detected.

LinkNTE	integer	read-only (null)	The total number of link-local non-transient errors detected.
LLRRecovery	integer	read-only (null)	The total number of times Link-Level Reliability (LLR) recovery has been initiated.
MarkedECN	integer	read-only (null)	The number of packets with the Congestion ECN bit set.
NonCRCTransientErrors	integer	read-only (null)	The total number transient errors detected that are unrelated to CRC validation.
PacketCRCErrors	integer	read-only (null)	The total number of PCRC transient errors detected.
PacketDeadlineDiscards	integer	read-only (null)	The number of packets discarded due to the Congestion Deadline sub-field reaching zero.
ReceivedECN	integer	read-only (null)	The number of packets received on this interface with the Congestion ECN bit set.
RXStompedECRC	integer	read-only (null)	The total number of packets received with a stomped ECRC field.
TXStompedECRC }	integer	read-only (null)	The total number of packets that this interface stomped the ECRC field.

Power 1.6.0

v1.6	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.3	2017.3	2017.2	2017.1	2016.2	2016.1	1.0

The Power schema describes power metrics and represents the properties for power consumption and power limiting.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/Power

PowerControl [{	array		The set of power control functions, including power reading and limiting.
@odata.id	string	read-only required	The unique identifier for a resource.
Actions *(v1.3+)* { }	object		The available actions for this Resource.
MemberId	string	read-only required	The identifier for the member within the collection.
Name	string	read-only (null)	The power control function name.
Oem { }	object		See the Oem object definition in the

			Common properties section.
PhysicalContext *(v1.4+)*	string (enum)	read-only	The area, device, or set of devices to which this power control applies. *For the possible property values, see PhysicalContext in Property Details.*
PowerAllocatedWatts	number (Watts)	read-only (null)	The total amount of power that has been allocated or budgeted to chassis.
PowerAvailableWatts	number (Watts)	read-only (null)	The amount of reserve power capacity, in watts, that remains. This value is the PowerCapacity value minus the PowerAllocated value.
PowerCapacityWatts	number (Watts)	read-only (null)	The total amount of power that can be allocated to the chassis. This value can be either the power supply capacity or the power budget that an upstream chassis assigns to this chassis.
PowerConsumedWatts	number (Watts)	read-only (null)	The actual power that the chassis consumes, in watts.
PowerLimit {	object		The power limit status and configuration information for this chassis.
CorrectionInMs	integer (ms)	read-write (null)	The time required for the limiting process to reduce power consumption to below the limit.
LimitException	string (enum)	read-write (null)	The action that is taken if the power cannot be maintained below the LimitInWatts. *For the possible property values, see LimitException in Property Details.*
LimitInWatts }	number (Watts)	read-write (null)	The power limit, in watts. If `null`, power capping is disabled.
PowerMetrics {	object		The power readings for this chassis.
AverageConsumedWatts	number (Watts)	read-only (null)	The average power level over the measurement window over the last IntervalInMin minutes.
IntervalInMin	integer (min)	read-only (null)	The time interval, or window, over which the power metrics are measured.
MaxConsumedWatts	number (Watts)	read-only (null)	The highest power consumption level, in watts, that has occurred over the measurement window within the last IntervalInMin minutes.
MinConsumedWatts }	number (Watts)	read-only (null)	The lowest power consumption level, in watts, over the measurement window that occurred within the last IntervalInMin minutes.

PowerRequestedWatts	number (Watts)	read-only (null)	The potential power, in watts, that the chassis requests, which may be higher than the current level being consumed because the requested power includes a budget that the chassis wants for future use.
RelatedItem [{	array		An array of one or more IDs of the Resources associated with this power limit.
@odata.id }]	string	read-only	The unique identifier for a resource.
Status { } }]	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
PowerSupplies [{	array		The set of power supplies associated with this system or device.
@odata.id	string	read-only required	The unique identifier for a resource.
Actions *(v1.3+)* { }	object		The available actions for this Resource.
Assembly *(v1.5+)* {	object		The link to the assembly Resource associated with this power supply. *See the Assembly schema for details on this property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the Links section and the Assembly schema for details.*
EfficiencyPercent *(v1.5+)*	number (%)	read-only (null)	The measured efficiency of this power supply as a percentage.
FirmwareVersion	string	read-only (null)	The firmware version for this power supply.
HotPluggable *(v1.5+)*	boolean	read-only (null)	An indication of whether this device can be inserted or removed while the equipment is in operation.
IndicatorLED *(v1.2+)*	string (enum)	read-write (null)	The state of The indicator LED, which identifies the power supply. *For the possible property values, see IndicatorLED in Property Details.*
InputRanges *(v1.1+)* [{	array		The input ranges that the power supply can use.
InputType	string (enum)	read-only (null)	The Input type (AC or DC). *For the possible property values, see InputType in Property Details.*
MaximumFrequencyHz	number (Hz)	read-only (null)	The maximum line input frequency at which this power supply input range is

			effective.
MaximumVoltage	number (Volts)	read-only (null)	The maximum line input voltage at which this power supply input range is effective.
MinimumFrequencyHz	number (Hz)	read-only (null)	The minimum line input frequency at which this power supply input range is effective.
MinimumVoltage	number (Volts)	read-only (null)	The minimum line input voltage at which this power supply input range is effective.
Oem { }	object		See the Oem object definition in the Common properties section.
OutputWattage }]	number (Watts)	read-only (null)	The maximum capacity of this power supply when operating in this input range.
LastPowerOutputWatts	number (Watts)	read-only (null)	The average power output of this power supply.
LineInputVoltage	number (Volts)	read-only (null)	The line input voltage at which the power supply is operating.
LineInputVoltageType	string (enum)	read-only (null)	The line voltage type supported as an input to this power supply. *For the possible property values, see LineInputVoltageType in Property Details.*
Location *(v1.5+)* { }	object		The location of the power supply. *For property details, see Location.*
Manufacturer *(v1.1+)*	string	read-only (null)	The manufacturer of this power supply.
MemberId	string	read-only required	The identifier for the member within the collection.
Model	string	read-only (null)	The model number for this power supply.
Name	string	read-only (null)	The name of the power supply.
Oem { }	object		See the Oem object definition in the Common properties section.
PartNumber	string	read-only (null)	The part number for this power supply.
PowerCapacityWatts	number (Watts)	read-only (null)	The maximum capacity of this power supply.
PowerInputWatts *(v1.5+)*	number (Watts)	read-only (null)	The measured input power of this power supply.
PowerOutputWatts *(v1.5+)*	number (Watts)	read-only (null)	The measured output power of this power supply.
PowerSupplyType	string	read-only	The power supply type (AC or DC).

	(enum)	(null)	*For the possible property values, see PowerSupplyType in Property Details.*
Redundancy [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common objects section. *For property details, see Redundancy.*
RelatedItem [{	array		The ID(s) of the Resources associated with this power limit.
@odata.id }]	string	read-only	The unique identifier for a resource.
SerialNumber	string	read-only (null)	The serial number for this power supply.
SparePartNumber	string	read-only (null)	The spare part number for this power supply.
Status { } }]	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Redundancy [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common objects section. *For property details, see Redundancy.*
Voltages [{	array		The set of voltage sensors for this chassis.
@odata.id	string	read-only required	The unique identifier for a resource.
Actions *(v1.3+)* { }	object		The available actions for this Resource.
LowerThresholdCritical	number (Volts)	read-only (null)	The value at which the reading is below normal range but not yet fatal.
LowerThresholdFatal	number (Volts)	read-only (null)	The value at which the reading is below normal range and fatal.
LowerThresholdNonCritical	number (Volts)	read-only (null)	The value at which the reading is below normal range.
MaxReadingRange	number (Volts)	read-only (null)	Maximum value for this sensor.
MemberId	string	read-only required	The identifier for the member within the collection.
MinReadingRange	number (Volts)	read-only (null)	Minimum value for this sensor.
Name	string	read-only (null)	Voltage sensor name.

Oem { }	object		See the Oem object definition in the Common properties section.
PhysicalContext	string (enum)	read-only	The area or device to which this voltage measurement applies. *For the possible property values, see PhysicalContext in Property Details.*
ReadingVolts	number (Volts)	read-only (null)	The reading of the voltage sensor.
RelatedItem [{	array		The areas or devices to which this voltage measurement applies.
@odata.id }]	string	read-only	The unique identifier for a resource.
SensorNumber	integer	read-only (null)	A numerical identifier to represent the voltage sensor.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UpperThresholdCritical	number (Volts)	read-only (null)	The value at which the reading is above normal range but not yet fatal.
UpperThresholdFatal	number (Volts)	read-only (null)	The value at which the reading is above normal range and fatal.
UpperThresholdNonCritical }]	number (Volts)	read-only (null)	The value at which the reading is above normal range.

Actions

PowerSupplyReset

This action resets the targeted power supply.

Action URI: {Base URI of target resource}/Actions/Power.PowerSupplyReset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
MemberId	string	required	The MemberId of the power supply within the PowerSupplies array on which to perform the reset.
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

Property Details

IndicatorLED:

The state of The indicator LED, which identifies the power supply.

string	Description
Blinking	The indicator LED is blinking.
Lit	The indicator LED is lit.
Off	The indicator LED is off.

InputType:

The Input type (AC or DC).

string	Description
AC	Alternating Current (AC) input range.
DC	Direct Current (DC) input range.

LimitException:

The action that is taken if the power cannot be maintained below the LimitInWatts.

string	Description
HardPowerOff	Turn the power off immediately when the limit is exceeded.
LogEventOnly	Log an event when the limit is exceeded, but take no further action.
NoAction	Take no action when the limit is exceeded.
Oem	Take an OEM-defined action.

LineInputVoltageType:

The line voltage type supported as an input to this power supply.

string	Description
AC120V *(v1.1+)*	AC 120V nominal input.
AC240V *(v1.1+)*	AC 240V nominal input.
AC277V *(v1.1+)*	AC 277V nominal input.
ACandDCWideRange *(v1.1+)*	Wide range AC or DC input.
ACHighLine *(deprecated v1.1)*	277V AC input. *This value has been deprecated in favor of AC277V.*
ACLowLine *(deprecated v1.1)*	100-127V AC input. *This value has been deprecated in favor of AC120V.*

string	Description
ACMidLine *(deprecated v1.1)*	200-240V AC input. *This value has been deprecated in favor of AC240V.*
ACWideRange *(v1.1+)*	Wide range AC input.
DC240V *(v1.1+)*	DC 240V nominal input.
DC380V	High Voltage DC input (380V).
DCNeg48V	-48V DC input.
Unknown	The power supply line input voltage type cannot be determined.

PhysicalContext:

The area or device to which this voltage measurement applies.

string	Description
Accelerator	An accelerator.
ACInput	An AC input.
ACMaintenanceBypassInput	An AC maintenance bypass input.
ACOutput	An AC output.
ACStaticBypassInput	An AC static bypass input.
ACUtilityInput	An AC utility input.
ASIC	An ASIC device, such as a networking chip or chipset component.
Back	The back of the chassis.
Backplane	A backplane within the chassis.
Chassis	The entire chassis.
ComputeBay	Within a compute bay.
CoolingSubsystem	The entire cooling, or air and liquid, subsystem.
CPU	A processor (CPU).
CPUSubsystem	The entire processor (CPU) subsystem.
DCBus	A DC bus.
Exhaust	The air exhaust point or points or region of the chassis.
ExpansionBay	Within an expansion bay.
Fan	A fan.

string	Description
FPGA	An FPGA.
Front	The front of the chassis.
GPU	A graphics processor (GPU).
GPUSubsystem	The entire graphics processor (GPU) subsystem.
Intake	The air intake point or points or region of the chassis.
LiquidInlet	The liquid inlet point of the chassis.
LiquidOutlet	The liquid outlet point of the chassis.
Lower	The lower portion of the chassis.
Memory	A memory device.
MemorySubsystem	The entire memory subsystem.
Motor	A motor.
NetworkBay	Within a networking bay.
NetworkingDevice	A networking device.
PowerSubsystem	The entire power subsystem.
PowerSupply	A power supply.
PowerSupplyBay	Within a power supply bay.
Rectifier	A rectifier device.
Room	The room.
StorageBay	Within a storage bay.
StorageDevice	A storage device.
SystemBoard	The system board (PCB).
Transformer	A transformer.
Upper	The upper portion of the chassis.
VoltageRegulator	A voltage regulator device.

PowerSupplyType:

The power supply type (AC or DC).

string	Description
AC	Alternating Current (AC) power supply.
ACorDC	The power supply supports both DC or AC.

string	Description
DC	Direct Current (DC) power supply.
Unknown	The power supply type cannot be determined.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

Example Response


```
{
    "@odata.type": "#Power.v1_6_0.Power",
    "Id": "Power",
    "Name": "Power",
    "PowerControl": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Power#/PowerControl/0",
            "MemberId": "0",
            "Name": "Server Power Control",
            "PowerConsumedWatts": 344,
            "PowerRequestedWatts": 800,
            "PowerAvailableWatts": 0,
            "PowerCapacityWatts": 800,
            "PowerAllocatedWatts": 800,
            "PowerMetrics": {
                "IntervalInMin": 30,
                "MinConsumedWatts": 271,
                "MaxConsumedWatts": 489,
                "AverageConsumedWatts": 319
            },
            "PowerLimit": {
                "LimitInWatts": 500,
                "LimitException": "LogEventOnly",
                "CorrectionInMs": 50
```

```
            },
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ],
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "Oem": {}
        }
    ],
    "Voltages": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Power#/Voltages/0",
            "MemberId": "0",
            "Name": "VRM1 Voltage",
            "SensorNumber": 11,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "ReadingVolts": 12,
            "UpperThresholdNonCritical": 12.5,
            "UpperThresholdCritical": 13,
            "UpperThresholdFatal": 15,
            "LowerThresholdNonCritical": 11.5,
            "LowerThresholdCritical": 11,
            "LowerThresholdFatal": 10,
            "MinReadingRange": 0,
            "MaxReadingRange": 20,
            "PhysicalContext": "VoltageRegulator",
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ]
        },
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Power#/Voltages/1",
            "MemberId": "1",
            "Name": "VRM2 Voltage",
            "SensorNumber": 12,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "ReadingVolts": 5,
            "UpperThresholdNonCritical": 5.5,
            "UpperThresholdCritical": 7,
            "LowerThresholdNonCritical": 4.75,
```

```
            "LowerThresholdCritical": 4.5,
            "MinReadingRange": 0,
            "MaxReadingRange": 20,
            "PhysicalContext": "VoltageRegulator",
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ]
        }
    ],
    "PowerSupplies": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Power#/PowerSupplies/0",
            "MemberId": "0",
            "Name": "Power Supply Bay",
            "Status": {
                "State": "Enabled",
                "Health": "Warning"
            },
            "Oem": {},
            "PowerSupplyType": "AC",
            "LineInputVoltageType": "ACWideRange",
            "LineInputVoltage": 120,
            "PowerCapacityWatts": 800,
            "LastPowerOutputWatts": 325,
            "Model": "499253-B21",
            "Manufacturer": "ManufacturerName",
            "FirmwareVersion": "1.00",
            "SerialNumber": "1Z0000001",
            "PartNumber": "0000001A3A",
            "SparePartNumber": "0000001A3A",
            "InputRanges": [
                {
                    "InputType": "AC",
                    "MinimumVoltage": 100,
                    "MaximumVoltage": 120,
                    "OutputWattage": 800
                },
                {
                    "InputType": "AC",
                    "MinimumVoltage": 200,
                    "MaximumVoltage": 240,
                    "OutputWattage": 1300
                }
            ],
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ]
        }
    ],
    "Actions": {
        "#Power.PowerSupplyReset": {
```

```
            "target": "/redfish/v1/Chassis/1U/Power/Actions/Power.PowerSupplyReset"
        }
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Chassis/1U/Power"
}
```

PowerDistribution 1.0.0

v1.0
2019.4

This is the schema definition for a power distribution component or unit, such as a floor power distribution unit (PDU) or switchgear.

URIs:

/redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*

/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*

/redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*

AssetTag	string	read-write (null)	The user-assigned asset tag for this equipment.
Branches {	object		A link to the branch circuits for this equipment. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Circuit. See the Circuit schema for details.*
EquipmentType	string (enum)	read-only required	The type of equipment this resource represents. *For the possible property values, see EquipmentType in Property Details.*
Feeders {	object		A link to the feeder circuits for this equipment. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Circuit. See the Circuit schema for details.*
FirmwareVersion	string	read-only	The firmware version of this equipment.
Links {	object		The links to other resources that are related to this resource.
Chassis [{	array		An array of links to the chassis that contain this equipment.

@odata.id }]	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
Facility {	object		A link to the facility that contains this equipment. *See the Facility schema for details on this property.*
@odata.id }	string	read-only	*Link to a Facility resource. See the Links section and the Facility schema for details.*
ManagedBy [{	array		An array of links to the managers responsible for managing this equipment.
@odata.id }]	string	read-only	*Link to a Manager resource. See the Links section and the Manager schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
Location { }	object		The location of the equipment. *For property details, see Location.*
Mains {	object		A link to the power input circuits for this equipment. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Circuit. See the Circuit schema for details.*
Manufacturer	string	read-only (null)	The manufacturer of this equipment.
Metrics {	object		A link to the summary metrics for this equipment. *See the PowerDistributionMetrics schema for details on this property.*
@odata.id }	string	read-only	*Link to a PowerDistributionMetrics resource. See the Links section and the PowerDistributionMetrics schema for details.*
Model	string	read-only (null)	The product model number of this equipment.
OutletGroups {	object		A link to the outlet groups for this equipment. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of OutletGroup. See the OutletGroup schema for details.*
Outlets {	object		A link to the outlets for this

			equipment. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Outlet. See the Outlet schema for details.*
PartNumber	string	read-only (null)	The part number for this equipment.
ProductionDate	string	read-only (null)	The production or manufacturing date of this equipment.
Sensors {	object		A link to the collection of sensors located in the equipment and sub-components. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Sensor. See the Sensor schema for details.*
SerialNumber	string	read-only (null)	The serial number for this equipment.
Status { }	object		The status and health of the resource and its subordinate or dependent resources. *For property details, see Status.*
Subfeeds {	object		A link to the subfeed circuits for this equipment. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Circuit. See the Circuit schema for details.*
TransferConfiguration {	object	(null)	The configuration settings for an automatic transfer switch.
ActiveMainsId	string	read-write (null)	The mains circuit that is switched on and qualified to supply power to the output circuit.
AutoTransferEnabled	boolean	read-write (null)	Indicates if the qualified alternate mains circuit is automatically switched on when the preferred mains circuit becomes unqualified and is automatically switched off.
ClosedTransitionAllowed	boolean	read-write (null)	Indicates if a make-before-break switching sequence of the mains circuits is permitted when they are both qualified and in synchronization.
ClosedTransitionTimeoutSeconds	integer	read-write (null)	The time in seconds to wait for a closed transition to occur.
PreferredMainsId	string	read-write (null)	The preferred source for the mains circuit to this equipment.

RetransferDelaySeconds	integer	read-write (null)	The time in seconds to delay the automatic transfer from the alternate mains circuit back to the preferred mains circuit.
RetransferEnabled	boolean	read-write (null)	Indicates if the automatic transfer is permitted from the alternate mains circuit back to the preferred mains circuit after the preferred mains circuit is qualified again and the Retransfer Delay time has expired.
TransferDelaySeconds	integer	read-write (null)	The time in seconds to delay the automatic transfer from the preferred mains circuit to the alternate mains circuit when the preferred mains circuit is disqualified.
TransferInhibit }	boolean	read-write (null)	Indicates if any transfer is inhibited.
TransferCriteria {	object	(null)	The criteria used to initiate a transfer for an automatic transfer switch.
OverNominalFrequencyHz	number (Hz)	read-write (null)	The frequency in Hertz over the nominal value that satisfies a criterion for transfer.
OverVoltageRMSPercentage	number (%)	read-write (null)	The positive percentage of voltage RMS over the nominal value that satisfies a criterion for transfer.
TransferSensitivity	string (enum)	read-write (null)	The sensitivity to voltage waveform quality to satisfy the criterion for initiating a transfer. *For the possible property values, see TransferSensitivity in Property Details.*
UnderNominalFrequencyHz	number (Hz)	read-write (null)	The frequency in Hertz under the nominal value that satisfies a criterion for transfer.
UnderVoltageRMSPercentage }	number (%)	read-write (null)	The negative percentage of voltage RMS under the nominal value that satisfies a criterion for transfer.
UUID	string	read-only (null)	The UUID for this equipment.
Version	string	read-only (null)	The hardware version of this equipment.

Actions

TransferControl

This action transfers control to the alternative input circuit.

Action URI: {Base URI of target resource}/Actions/PowerDistribution.TransferControl

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

EquipmentType:

The type of equipment this resource represents.

string	Description
AutomaticTransferSwitch	An automatic power transfer switch.
FloorPDU	A power distribution unit providing feeder circuits for further power distribution.
ManualTransferSwitch	A manual power transfer switch.
RackPDU	A power distribution unit providing outlets for a rack or similiar quantity of devices.
Switchgear	Electrical switchgear.

TransferSensitivity:

The sensitivity to voltage waveform quality to satisfy the criterion for initiating a transfer.

string	Description
High	High sensitivity for initiating a transfer.
Low	Low sensitivity for initiating a transfer.
Medium	Medium sensitivity for initiating a transfer.

Example Response


```
{
    "@odata.type": "#PowerDistribution.v1_0_0.PowerDistribution",
    "Id": "1",
    "EquipmentType": "RackPDU",
    "Name": "RackPDU1",
    "FirmwareVersion": "4.3.0",
    "Version": "1.03b",
    "ProductionDate": "2017-01-11T08:00:00Z",
    "Manufacturer": "Contoso",
    "Model": "ZAP4000",
    "SerialNumber": "29347ZT536",
    "PartNumber": "AA-23",
    "UUID": "32354641-4135-4332-4a35-313735303734",
    "AssetTag": "PDX-92381",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
```

```
    "Location": {
        "Placement": {
            "Row": "North 1"
        }
    },
    "Mains": {
        "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Mains"
    },
    "Branches": {
        "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Branches"
    },
    "Outlets": {
        "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Outlets"
    },
    "OutletGroups": {
        "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/OutletGroups"
    },
    "Metrics": {
        "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Metrics"
    },
    "Sensors": {
        "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors"
    },
    "Links": {
        "Facility": {
            "@odata.id": "/redfish/v1/Facilities/Room237"
        }
    },
    "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1"
}
```


PowerDistributionMetrics 1.0.0

v1.0
2019.4

This is the schema definition for the metrics of a power distribution component or unit, such as a floor power distribution unit (PDU) or switchgear.

URIs:

/redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Metrics

/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Metrics

/redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Metrics

EnergykWh {	object (excerpt)		The energy consumption of this unit. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.

LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
Reading	number	read-only (null)	The sensor value.
SensorResetTime }	string	read-only (null)	The date and time when the time-based properties were last reset.
PowerWatts {	object (excerpt)		The total power reading for this equipment. *This object is an excerpt of the Sensor resource located at the URI shown in DataSourceUri.*
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
DataSourceUri	string	read-only (null)	The link to the Resource that provides the data for this sensor.
PowerFactor	number	read-only (null)	The power factor for this sensor.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading }	number	read-only (null)	The sensor value.

Actions

ResetMetrics

This action resets the summary metrics related to this equipment.

Action URI: {Base URI of target resource}/Actions/ PowerDistributionMetrics.ResetMetrics

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Example Response


```
{
    "@odata.type": "#PowerDistributionMetrics.v1_0_0.PowerDistributionMetrics",
    "Id": "Metrics",
    "Name": "Summary Metrics",
    "PowerWatts": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/PDUPower",
        "Reading": 6438,
        "ApparentVA": 6300,
        "ReactiveVAR": 100,
        "PowerFactor": 0.93
    },
    "EnergykWh": {
        "DataSourceUri": "/redfish/v1/PowerEquipment/RackPDUs/1/Sensors/PDUEnergy",
        "Reading": 56438
```

```
    },
    "Actions": {
        "#PowerDistributionMetrics.ResetMetrics": {
            "target": "/redfish/v1/PowerEquipment/RackPDUs/1/Metrics/PowerDistributionMetri
        }
    },
    "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1/Metrics"
}
```


PowerDomain 1.0.0

v1.0
2019.4

This is the schema definition for the DCIM power domain.

URIs:

/redfish/v1/Facilities/*{FacilityId}*/PowerDomains/*{PowerDomainId}*

Links {	object		The links to other resources that are related to this resource.
FloorPDUs [{	array		An array of links to the floor power distribution units in this power domain.
@odata.id }]	string	read-only	*Link to a PowerDistribution resource. See the Links section and the PowerDistribution schema for details.*
ManagedBy [{	array		An array of links to the managers responsible for managing this power domain.
@odata.id }]	string	read-only	*Link to a Manager resource. See the Links section and the Manager schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
RackPDUs [{	array		An array of links to the rack-level power distribution units in this power domain.
@odata.id }]	string	read-only	*Link to a PowerDistribution resource. See the Links section and the PowerDistribution schema for details.*
Switchgear [{	array		An array of links to the switchgear in this power domain.
@odata.id }]	string	read-only	*Link to a PowerDistribution resource. See the Links section and the PowerDistribution schema for details.*
TransferSwitches [{	array		An array of links to the transfer switches in this power domain.
@odata.id	string	read-only	*Link to a PowerDistribution resource. See the Links*

}] }			*section and the PowerDistribution schema for details.*
Status { }	object		The status and health of the resource and its subordinate or dependent resources. *For property details, see Status.*

Example Response

```
{
    "@odata.type": "#PowerDomain.v1_0_0.PowerDomain",
    "Id": "Row1",
    "Name": "Row #1 Domain",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },

    "Links": {
        "ManagedBy": [
            {
                "@odata.id": "/redfish/v1/Managers/BMC"
            }
        ],
        "RackPDUs": [
            {
                "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs/1"
            }
        ]
    },
    "@odata.id": "/redfish/v1/Facilities/Room237/PowerDomains/Row1"
}
```

PowerEquipment 1.0.0

v1.0
2019.4

This is the schema definition for the set of power equipment.

URIs:

/redfish/v1/PowerEquipment

FloorPDUs {	object		A link to a collection of floor power distribution units. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of PowerDistribution. See the PowerDistribution schema for details.*
Links {	object		The links to other resources that are related to this resource.

ManagedBy [{	array		An array of links to the managers responsible for managing this power equipment.
@odata.id }]	string	read-only	*Link to a Manager resource. See the Links section and the Manager schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
RackPDUs {	object		A link to a collection of rack-level power distribution units. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of PowerDistribution. See the PowerDistribution schema for details.*
Status { }	object		The status and health of the resource and its subordinate or dependent resources. *For property details, see Status.*
Switchgear {	object		A link to a collection of switchgear. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of PowerDistribution. See the PowerDistribution schema for details.*
TransferSwitches {	object		A link to a collection of transfer switches. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of PowerDistribution. See the PowerDistribution schema for details.*

Example Response


```
{
    "@odata.type": "#PowerEquipment.v1_0_0.PowerEquipment",
    "Id": "PowerEquipment",
    "Name": "DCIM Power Equipment",
    "Status": {
        "State": "Enabled",
        "HealthRollup": "OK"
    },
    "FloorPDUs": {
        "@odata.id": "/redfish/v1/PowerEquipment/FloorPDUs"
    },
    "RackPDUs": {
        "@odata.id": "/redfish/v1/PowerEquipment/RackPDUs"
    },
    "TransferSwitches": {
        "@odata.id": "/redfish/v1/PowerEquipment/TransferSwitches"
    },
    "Links": {},
    "@odata.id": "/redfish/v1/PowerEquipment"
}
```

PrivilegeRegistry 1.1.4

v1.1	*v1.0*
2017.1	2016.3

The PrivilegeRegistry schema describes the operation-to-privilege mappings.

Mappings [{	array		The mappings between entities and the relevant privileges that access those entities.
Entity	string	read-only	The Resource name, such as `Manager`.
OperationMap {	object		List mapping between HTTP methods and privilege required for the Resource.
DELETE [{	array		The privilege required to complete an HTTP DELETE operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
GET [{	array		The privilege required to complete an HTTP GET operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
HEAD [{	array		The privilege required to complete an HTTP HEAD operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
PATCH [{	array		The privilege required to complete an HTTP PATCH operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
POST [{	array		The privilege required to complete an HTTP POST operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
PUT [{	array		The privilege required to complete an HTTP PUT operation.
Privilege [ ] }] }	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.

PropertyOverrides [{	array		The privilege overrides of properties within a Resource.
OperationMap {	object		The mapping between the HTTP operation and the privilege required to complete the operation.
DELETE [{	array		The privilege required to complete an HTTP DELETE operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
GET [{	array		The privilege required to complete an HTTP GET operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
HEAD [{	array		The privilege required to complete an HTTP HEAD operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
PATCH [{	array		The privilege required to complete an HTTP PATCH operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
POST [{	array		The privilege required to complete an HTTP POST operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
PUT [{	array		The privilege required to complete an HTTP PUT operation.
Privilege [ ] }] }	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
Targets [ ] }]	array (string, null)	read-only	The set of URIs, Resource types, or properties.
ResourceURIOverrides [{	array		The privilege overrides of Resource URIs.
OperationMap {	object		The mapping between the HTTP operation and the privilege required to complete the operation.

DELETE [{	array		The privilege required to complete an HTTP DELETE operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
GET [{	array		The privilege required to complete an HTTP GET operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
HEAD [{	array		The privilege required to complete an HTTP HEAD operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
PATCH [{	array		The privilege required to complete an HTTP PATCH operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
POST [{	array		The privilege required to complete an HTTP POST operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
PUT [{	array		The privilege required to complete an HTTP PUT operation.
Privilege [ ] }] }	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
Targets [ ] }]	array (string, null)	read-only	The set of URIs, Resource types, or properties.
SubordinateOverrides [{	array		The privilege overrides of the subordinate Resource.
OperationMap {	object		The mapping between the HTTP operation and the privilege required to complete the operation.
DELETE [{	array		The privilege required to complete an HTTP DELETE operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.

GET [{	array		The privilege required to complete an HTTP GET operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
HEAD [{	array		The privilege required to complete an HTTP HEAD operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
PATCH [{	array		The privilege required to complete an HTTP PATCH operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
POST [{	array		The privilege required to complete an HTTP POST operation.
Privilege [ ] }]	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
PUT [{	array		The privilege required to complete an HTTP PUT operation.
Privilege [ ] }] }	array (string)	read-only	An array of privileges that are required to complete a specific HTTP operation on a Resource.
Targets [ ] }] }]	array (string, null)	read-only	The set of URIs, Resource types, or properties.
OEMPrivilegesUsed [ ]	array (string)	read-only	The set of OEM privileges used in this mapping.
PrivilegesUsed [ ]	array (string (enum))	read-only	The set of Redfish standard privileges used in this mapping. *For the possible property values, see PrivilegesUsed in Property Details.*

Property Details

PrivilegesUsed:

The set of Redfish standard privileges used in this mapping.

string	Description
ConfigureComponents	Can configure components that this service manages.
ConfigureManager	Can configure managers.

string	Description
ConfigureSelf	Can change the password for the current user account and log out of their own sessions.
ConfigureUsers	Can configure users and their accounts.
Login	Can log in to the service and read Resources.
NoAuth	Authentication is not required.

Example Response


```
{
    "@odata.type": "#PrivilegeRegistry.v1_1_4.PrivilegeRegistry",
    "Id": "Contoso_1.0.1_PrivilegeRegistry",
    "Name": "Privilege Map",
    "PrivilegesUsed": [
        "Login",
        "ConfigureManager",
        "ConfigureUsers",
        "ConfigureComponents",
        "ConfigureSelf"
    ],
    "OEMPrivilegesUsed": [],
    "Mappings": [
        {
            "Entity": "Manager",
            "OperationMap": {
                "GET": [
                    {
                        "Privilege": [
                            "Login"
                        ]
                    }
                ],
                "HEAD": [
                    {
                        "Privilege": [
                            "Login"
                        ]
                    }
                ],
                "PATCH": [
                    {
                        "Privilege": [
                            "ConfigureManager"
                        ]
                    }
                ],
                "POST": [
                    {
                        "Privilege": [
                            "ConfigureManager"
                        ]
                    }
                ],
```

```
                "PUT": [
                    {
                        "Privilege": [
                            "ConfigureManager"
                        ]
                    }
                ],
                "DELETE": [
                    {
                        "Privilege": [
                            "ConfigureManager"
                        ]
                    }
                ]
            }
        }
    ]
}
```

Processor 1.7.0

v1.7	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.3	2019.1	2018.3	2018.1	2017.3	2017.1	1.0

The Processor schema describes the information about a single processor that a system contains. A processor includes both performance characteristics, clock speed, architecture, core count, and so on, and compatibility, such as the CPU ID instruction results.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*

/redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*

AccelerationFunctions *(v1.4+)* {	object		The link to the collection of acceleration functions associated

			with this processor. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of AccelerationFunction. See the AccelerationFunction schema for details.*
Assembly *(v1.2+)* {	object		The link to an assembly associated with this processor. *See the Assembly schema for details on this property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the Links section and the Assembly schema for details.*
FirmwareVersion *(v1.7+)*	string	read-only	The firmware version of the processor.
FPGA *(v1.4+)* {	object		The properties for processors of the FPGA type.
ExternalInterfaces [{	array		An array of the FPGA external interfaces.
Ethernet {	object		The Ethernet-related information for this FPGA interface.
MaxLanes	integer	read-only (null)	The number of lanes supported by this interface.
MaxSpeedMbps	integer (Mbit/s)	read-only (null)	The maximum speed supported by this interface.
Oem { } }	object		See the Oem object definition in the Common properties section.
InterfaceType	string (enum)	read-only (null)	The FPGA interface type. *For the possible property values, see InterfaceType in Property Details.*
PCIe {	object		The PCIe-related information for this FPGA interface.
LanesInUse	integer	read-only (null)	The number of PCIe lanes in use by this device.
MaxLanes	integer	read-only (null)	The number of PCIe lanes supported by this device.
MaxPCIeType	string (enum)	read-only (null)	The highest version of the PCIe specification supported by this device. *For the possible property values, see MaxPCIeType in Property Details.*

Oem { }	object		See the Oem object definition in the Common properties section.
PCIeType } }]	string (enum)	read-only (null)	The version of the PCIe specification in use by this device. *For the possible property values, see PCIeType in Property Details.*
FirmwareId	string	read-only	The FPGA firmware identifier.
FirmwareManufacturer	string	read-only	The FPGA firmware manufacturer.
FirmwareVersion	string	read-only	The FPGA firmware version.
FpgaType	string (enum)	read-only	The FPGA type. *For the possible property values, see FpgaType in Property Details.*
HostInterface {	object		The FPGA interface to the host.
Ethernet {	object		The Ethernet-related information for this FPGA interface.
MaxLanes	integer	read-only (null)	The number of lanes supported by this interface.
MaxSpeedMbps	integer (Mbit/s)	read-only (null)	The maximum speed supported by this interface.
Oem { } }	object		See the Oem object definition in the Common properties section.
InterfaceType	string (enum)	read-only (null)	The FPGA interface type. *For the possible property values, see InterfaceType in Property Details.*
PCIe {	object		The PCIe-related information for this FPGA interface.
LanesInUse	integer	read-only (null)	The number of PCIe lanes in use by this device.
MaxLanes	integer	read-only (null)	The number of PCIe lanes supported by this device.
MaxPCIeType	string (enum)	read-only (null)	The highest version of the PCIe specification supported by this device. *For the possible property values, see MaxPCIeType in Property Details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeType } }	string (enum)	read-only (null)	The version of the PCIe specification in use by this device. *For the possible property values,*

			see PCIeType in Property Details.
Model	string	read-only	The FPGA model.
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeVirtualFunctions	integer	read-write	The number of the PCIe Virtual Functions.
ProgrammableFromHost	boolean	read-write (null)	An indication of whether the FPGA firmware can be reprogrammed from the host by using system software.
ReconfigurationSlots [{	array		An array of the FPGA reconfiguration slots. An FPGA uses a reconfiguration slot to contain an acceleration function that can change as the FPGA is provisioned.
AccelerationFunction {	object		The link to the acceleration function that the code programmed into a reconfiguration slot provides. *See the AccelerationFunction schema for details on this property.*
@odata.id }	string	read-only	*Link to a AccelerationFunction resource. See the Links section and the AccelerationFunction schema for details.*
ProgrammableFromHost	boolean	read-write (null)	An indication of whether the reconfiguration slot can be reprogrammed from the host by using system software.
SlotId	string	read-only (null)	The FPGA reconfiguration slot identifier.
UUID }] }	string	read-only (null)	The UUID for this reconfiguration slot.
InstructionSet	string (enum)	read-only (null)	The instruction set of the processor. *For the possible property values, see InstructionSet in Property Details.*
Links *(v1.1+)* {	object		The links to other Resources that are related to this Resource.
Chassis {	object		The link to the chassis that contains this processor. *See the Chassis schema for details on this property.*

@odata.id }	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
ConnectedProcessors *(v1.4+)* [{	array		An array of links to the processors directly connected to this processor.
@odata.id }]	string	read-only	*Link to another Processor resource.*
Endpoints *(v1.4+)* [{	array		An array of links to the endpoints that connect to this processor.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
PCIeDevice *(v1.4+)* {	object		The link to the PCIe device associated with this processor. *See the PCIeDevice schema for details on this property.*
@odata.id }	string	read-only	*Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details.*
PCIeFunctions *(v1.4+)* [{	array		An array of links to the PCIeFunctions associated with this Processor.
@odata.id }] }	string	read-only	*Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.*
Location *(v1.2+)* { }	object		The location of the processor. *For property details, see Location.*
Manufacturer	string	read-only (null)	The processor manufacturer.
MaxSpeedMHz	integer (MHz)	read-only (null)	The maximum clock speed of the processor.
MaxTDPWatts *(v1.4+)*	integer (Watts)	read-only (null)	The maximum Thermal Design Power (TDP) in watts.
Metrics *(v1.4+)* {	object		The link to the metrics associated with this processor. *See the ProcessorMetrics schema for details on this property.*
@odata.id }	string	read-only	*Link to a ProcessorMetrics resource. See the Links section and the ProcessorMetrics schema for details.*

Model	string	read-only (null)	The product model number of this device.
PartNumber *(v1.7+)*	string	read-only (null)	The part number of the processor.
ProcessorArchitecture	string (enum)	read-only (null)	The architecture of the processor. *For the possible property values, see ProcessorArchitecture in Property Details.*
ProcessorId {	object		The identification information for this processor.
EffectiveFamily	string	read-only (null)	The effective family for this processor.
EffectiveModel	string	read-only (null)	The effective model for this processor.
IdentificationRegisters	string	read-only (null)	The raw manufacturer-provided processor identification registers for this processor.
MicrocodeInfo	string	read-only (null)	The microcode information for this processor.
Step	string	read-only (null)	The step value for this processor.
VendorId }	string	read-only (null)	The vendor identification for this processor.
ProcessorMemory *(v1.4+)* [{	array		The memory directly attached or integrated within this Procesor.
CapacityMiB	integer (mebibytes)	read-only (null)	The memory capacity in MiB.
IntegratedMemory	boolean	read-only (null)	An indication of whether this memory is integrated within the processor.
MemoryType	string (enum)	read-only (null)	The type of memory used by this processor. *For the possible property values, see MemoryType in Property Details.*
SpeedMHz }]	integer	read-only (null)	The operating speed of the memory in MHz.
ProcessorType	string (enum)	read-only (null)	The type of processor. *For the possible property values, see ProcessorType in Property Details.*
SerialNumber *(v1.7+)*	string	read-only (null)	The serial number of the processor.

Socket	string	read-only (null)	The socket or location of the processor.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
SubProcessors *(v1.3+)* {	object		The link to the collection of subprocessors associated with this system, such as cores or threads, that are part of a processor. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Processor.* *See the Processor schema for details.*
TDPWatts *(v1.4+)*	integer (Watts)	read-only (null)	The nominal Thermal Design Power (TDP) in watts.
TotalCores	integer	read-only (null)	The total number of cores that this processor contains.
TotalEnabledCores *(v1.5+)*	integer	read-only (null)	The total number of enabled cores that this processor contains.
TotalThreads	integer	read-only (null)	The total number of execution threads that this processor supports.
UUID *(v1.4+)*	string	read-only (null)	The UUID for this processor.
Version *(v1.7+)*	string	read-only (null)	The hardware version of the processor.

Actions

Reset

This action resets the processor.

Action URI: {Base URI of target resource}/Actions/Processor.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

Property Details

FpgaType:

The FPGA type.

string	Description
Discrete	The discrete FPGA device.
Integrated	The FPGA device integrated with other processor in the single chip.

InstructionSet:

The instruction set of the processor.

string	Description
ARM-A32	ARM 32-bit.
ARM-A64	ARM 64-bit.
IA-64	Intel IA-64.
MIPS32	MIPS 32-bit.
MIPS64	MIPS 64-bit.
OEM	OEM-defined.
PowerISA *(v1.4+)*	PowerISA-64 or PowerISA-32.
x86	x86 32-bit.
x86-64	x86 64-bit.

InterfaceType:

The FPGA interface type.

string	Description
Ethernet	An Ethernet interface.
OEM	An OEM-defined interface.
PCIe	A PCI Express interface.
QPI	The Intel QuickPath Interconnect.
UPI	The Intel UltraPath Interconnect.

MaxPCIeType:

The highest version of the PCIe specification supported by this device.

string	Description
Gen1	A PCIe v1.0 slot.

string	Description
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

MemoryType:

The type of memory used by this processor.

string	Description
DDR	Double data rate synchronous dynamic random-access memory.
DDR2	Double data rate type two synchronous dynamic random-access memory.
DDR3	Double data rate type three synchronous dynamic random-access memory.
DDR4	Double data rate type four synchronous dynamic random-access memory.
DDR5	Double data rate type five synchronous dynamic random-access memory.
Flash	Flash memory.
GDDR	Synchronous graphics random-access memory.
GDDR2	Double data rate type two synchronous graphics random-access memory.
GDDR3	Double data rate type three synchronous graphics random-access memory.
GDDR4	Double data rate type four synchronous graphics random-access memory.
GDDR5	Double data rate type five synchronous graphics random-access memory.
GDDR5X	Double data rate type five synchronous graphics random-access memory.
GDDR6	Double data rate type five synchronous graphics random-access memory.
HBM1	High Bandwidth Memory.
HBM2	The second generation of High Bandwidth Memory.
HBM3	The third generation of High Bandwidth Memory.
L1Cache	L1 cache.
L2Cache	L2 cache.
L3Cache	L3 cache.
L4Cache	L4 cache.
L5Cache	L5 cache.
L6Cache	L6 cache.

string	Description
L7Cache	L7 cache.
OEM	OEM-defined.
SDRAM	Synchronous dynamic random-access memory.
SGRAM	Synchronous graphics RAM.
SRAM	Static random-access memory.

PCIeType:

The version of the PCIe specification in use by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

ProcessorArchitecture:

The architecture of the processor.

string	Description
ARM	ARM.
IA-64	Intel Itanium.
MIPS	MIPS.
OEM	OEM-defined.
Power *(v1.4+)*	Power.
x86	x86 or x86-64.

ProcessorType:

The type of processor.

string	Description
Accelerator	An accelerator.
Core *(v1.3+)*	A core in a processor.
CPU	A CPU.
DSP	A DSP.

string	Description
FPGA	An FPGA.
GPU	A GPU.
OEM	An OEM-defined processing unit.
Thread *(v1.3+)*	A thread in a processor.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

Example Response


```
{
    "@odata.type": "#Processor.v1_7_0.Processor",
    "Id": "CPU1",
    "Name": "Processor",
    "Socket": "CPU 1",
    "ProcessorType": "CPU",
    "ProcessorArchitecture": "x86",
    "InstructionSet": "x86-64",
    "Manufacturer": "Intel(R) Corporation",
    "Model": "Multi-Core Intel(R) Xeon(R) processor 7xxx Series",
    "ProcessorId": {
        "VendorId": "GenuineIntel",
        "IdentificationRegisters": "0x34AC34DC8901274A",
        "EffectiveFamily": "0x42",
        "EffectiveModel": "0x61",
        "Step": "0x1",
        "MicrocodeInfo": "0x429943"
    },
    "MaxSpeedMHz": 3700,
    "TotalCores": 8,
```

```
    "TotalThreads": 16,
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Processors/CPU1"
}
```


ProcessorMetrics 1.0.2

v1.0
2018.3

The ProcessorMetrics schema contains usage and health statistics for a processor.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/ProcessorMetrics

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/ProcessorMetrics

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/ProcessorMetrics

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/ProcessorMetrics

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/ProcessorSummary/ProcessorMetrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/ProcessorMetrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/ProcessorMetrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/ProcessorMetrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/ProcessorMetrics

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/ProcessorSummary/ProcessorMetrics

/redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/ProcessorMetrics

/redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors/*{ProcessorId2}*/ProcessorMetrics

/redfish/v1/Systems/*{ComputerSystemId}*/ProcessorSummary/ProcessorMetrics

AverageFrequencyMHz	number (MHz)	read-only (null)	The average frequency of the processor.
BandwidthPercent	number (%)	read-only (null)	The CPU bandwidth as a percentage.
Cache [{	array		The processor cache metrics.

CacheMiss	number	read-only (null)	The number of cache line misses in millions.
CacheMissesPerInstruction	number	read-only (null)	The number of cache misses per instruction.
HitRatio	number	read-only (null)	The cache line hit ratio.
Level	string	read-only (null)	The cache level.
OccupancyBytes	integer (bytes)	read-only (null)	The total cache level occupancy in bytes.
OccupancyPercent }]	number (%)	read-only (null)	The total cache occupancy percentage.
ConsumedPowerWatt	number (Watts)	read-only (null)	The power, in watts, that the processor has consumed.
CoreMetrics [{	array		The processor core metrics.
CoreCache [{	array		The cache metrics of this core in the processor.
CacheMiss	number	read-only (null)	The number of cache line misses in millions.
CacheMissesPerInstruction	number	read-only (null)	The number of cache misses per instruction.
HitRatio	number	read-only (null)	The cache line hit ratio.
Level	string	read-only (null)	The cache level.
OccupancyBytes	integer (bytes)	read-only (null)	The total cache level occupancy in bytes.
OccupancyPercent }]	number (%)	read-only (null)	The total cache occupancy percentage.
CoreId	string	read-only (null)	The processor core identifier.
CStateResidency [{	array		The C-state residency of this core in the processor.
Level	string	read-only (null)	The C-state level, such as C0, C1, or C2.
ResidencyPercent }]	number (%)	read-only (null)	The percentage of time that the processor or core has spent in this particular level of C-state.
InstructionsPerCycle	number	read-only (null)	The number of instructions per clock cycle of this core.

IOStallCount	number	read-only (null)	The number of stalled cycles due to I/O operations.
MemoryStallCount	number	read-only (null)	The number of stalled cycles due to memory operations.
UnhaltedCycles }]	number	read-only (null)	The unhalted cycles count of this core.
FrequencyRatio	number	read-only (null)	The frequency relative to the nominal processor frequency ratio.
KernelPercent	number (%)	read-only (null)	The percentage of time spent in kernel mode.
LocalMemoryBandwidthBytes	integer (bytes)	read-only (null)	The local memory bandwidth usage in bytes.
RemoteMemoryBandwidthBytes	integer (bytes)	read-only (null)	The remote memory bandwidth usage in bytes.
TemperatureCelsius	number (Celsius)	read-only (null)	The temperature of the processor.
ThrottlingCelsius	number (Celsius)	read-only (null)	The CPU margin to throttle (temperature offset in degree Celsius).
UserPercent	number (%)	read-only (null)	The percentage of time spent in user mode.

Example Response


```
{
    "@odata.type": "#ProcessorMetrics.v1_0_2.ProcessorMetrics",
    "Id": "Metrics",
    "Name": "Processor Metrics",
    "BandwidthPercent": 62,
    "AverageFrequencyMHz": 2400,
    "ThrottlingCelsius": 65,
    "TemperatureCelsius": 41,
    "ConsumedPowerWatt": 82,
    "FrequencyRatio": 0.00432,
    "Cache": [
        {
            "Level": "3",
            "CacheMiss": 0.12,
            "HitRatio": 0.719,
            "CacheMissesPerInstruction": 0.00088,
            "OccupancyBytes": 3030144,
            "OccupancyPercent": 90.1
        }
    ],
    "LocalMemoryBandwidthBytes": 18253611008,
    "RemoteMemoryBandwidthBytes": 81788928,
    "KernelPercent": 2.3,
    "UserPercent": 34.7,
    "CoreMetrics": [
        {
```

```
            "CoreId": "core0",
            "InstructionsPerCycle": 1.16,
            "UnhaltedCycles": 6254383746,
            "MemoryStallCount": 58372,
            "IOStallCount": 2634872,
            "CoreCache": [
                {
                    "Level": "2",
                    "CacheMiss": 0.472,
                    "HitRatio": 0.57,
                    "CacheMissesPerInstruction": 0.00346,
                    "OccupancyBytes": 198231,
                    "OccupancyPercent": 77.4
                }
            ],
            "CStateResidency": [
                {
                    "Level": "C0",
                    "Residency": 1.13
                },
                {
                    "Level": "C1",
                    "Residency": 26
                },
                {
                    "Level": "C3",
                    "Residency": 0.00878
                },
                {
                    "Level": "C6",
                    "Residency": 0.361
                },
                {
                    "Level": "C7",
                    "Residency": 72.5
                }
            ]
        }
    ],
    "Oem": {},
    "@odata.id": "/redfish/v1/Systems/1/Processors/FPGA1/ProcessorMetrics"
}
```


ResourceBlock 1.3.2

v1.3	*v1.2*	*v1.1*	*v1.0*
2018.3	2018.2	2018.1	2017.1

The schema definition of the Resource Block, its components, and affinity to composed devices.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*

CompositionStatus {	object	required	The composition status details for this Resource Block.
CompositionState	string (enum)	read-only required (null)	The current state of the Resource Block from a composition perspective. *For the possible property values, see CompositionState in Property Details.*
MaxCompositions *(v1.1+)*	integer	read-only (null)	The maximum number of compositions in which this Resource Block can participate simultaneously.
NumberOfCompositions *(v1.1+)*	integer	read-only (null)	The number of compositions in which this Resource Block is currently participating.
Reserved	boolean	read-write (null)	An indication of whether any client has reserved the Resource Block.
SharingCapable *(v1.1+)*	boolean	read-only (null)	An indication of whether this Resource Block can participate in multiple compositions simultaneously.
SharingEnabled *(v1.1+)* }	boolean	read-write (null)	An indication of whether this Resource Block is allowed to participate in multiple compositions simultaneously.
ComputerSystems [{	array		An array of links to the computer systems available in this Resource Block.
@odata.id }]	string	read-only	*Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details.*
Drives *(v1.3+)* [{	array		An array of links to the Drives available in this Resource Block.
@odata.id }]	string	read-only	*Link to a Drive resource. See the Links section and the Drive schema for details.*
EthernetInterfaces [{	array		An array of links to the Ethernet interfaces available in this Resource Block.
@odata.id }]	string	read-only	*Link to a EthernetInterface resource. See the Links section and the EthernetInterface schema for details.*
Links {	object		The links to other Resources that are related to this Resource.
Chassis [{	array		An array of links to the Chassis in which this Resource Block is contained.

@odata.id }]	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
ComputerSystems [{	array		An array of links to the computer systems that are composed from this Resource Block.
@odata.id }]	string	read-only	*Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
Zones [{	array		An array of links to the Zones in which this Resource Block is bound.
@odata.id }] }	string	read-only	*Link to a Zone resource. See the Links section and the Zone schema for details.*
Memory [{	array		An array of links to the memory available in this Resource Block.
@odata.id }]	string	read-only	*Link to a Memory resource. See the Links section and the Memory schema for details.*
NetworkInterfaces [{	array		An array of links to the Network Interfaces available in this Resource Block.
@odata.id }]	string	read-only	*Link to a NetworkInterface resource. See the Links section and the NetworkInterface schema for details.*
Processors [{	array		An array of links to the processors available in this Resource Block.
@odata.id }]	string	read-only	*Link to a Processor resource. See the Links section and the Processor schema for details.*
ResourceBlockType [ ]	array (string (enum))	read-only	The types of Resources available on this Resource Block. *For the possible property values, see ResourceBlockType in Property Details.*
SimpleStorage [{	array		An array of links to the simple storage available in this Resource Block.
@odata.id }]	string	read-only	*Link to a SimpleStorage resource. See the Links section and the SimpleStorage schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent

			Resources. *For property details, see Status.*
Storage [{	array		An array of links to the storage available in this Resource Block.
@odata.id }]	string	read-only	*Link to a Storage resource. See the Links section and the Storage schema for details.*

Property Details

CompositionState:

The current state of the Resource Block from a composition perspective.

string	Description
Composed	Final successful state of a Resource Block that has participated in composition.
ComposedAndAvailable *(v1.1+)*	The Resource Block is currently participating in one or more compositions, and is available to use in more compositions.
Composing	Intermediate state indicating composition is in progress.
Failed	The final composition resulted in failure and manual intervention may be required to fix it.
Unavailable *(v1.2+)*	The Resource Block has been made unavailable by the service, such as due to maintenance being performed on the Resource Block.
Unused	The Resource Block is free and can participate in composition.

ResourceBlockType:

The types of Resources available on this Resource Block.

string	Description
Compute	This Resource Block contains Resources of the Processor type and Memory type in a manner that creates a compute complex.
ComputerSystem	This Resource Block contains Resources of the ComputerSystem type.
Expansion	This Resource Block is capable of changing over time based on its configuration. Different types of devices within this Resource Block can be added and removed over time.
Memory	This Resource Block contains Resources of the Memory type.
Network	This Resource Block contains network Resources, such as the EthernetInterface and NetworkInterface types.
Processor	This Resource Block contains Resources of the Processor type.
Storage	This Resource Block contains storage Resources, such as the Storage

string	Description
	and SimpleStorage types.

Example Response


```
{
    "@odata.type": "#ResourceBlock.v1_3_2.ResourceBlock",
    "Id": "ComputeBlock1",
    "Name": "Compute Block 1",
    "ResourceBlockType": [
        "Compute"
    ],
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "CompositionStatus": {
        "Reserved": false,
        "CompositionState": "Composed",
        "SharingCapable": false,
        "MaxCompositions": 1,
        "NumberOfCompositions": 1
    },
    "Processors": [
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Proce
        },
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Proce
        }
    ],
    "Memory": [
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Memor
        },
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Memor
        },
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Memor
        },
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Memor
        }
    ],
    "Storage": [],
    "SimpleStorage": [],
    "EthernetInterfaces": [
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Ether
        }
    ],
    "ComputerSystems": [],
    "Links": {
        "ComputerSystems": [
            {
```

```
                "@odata.id": "/redfish/v1/Systems/ComposedSystem"
            }
        ],
        "Chassis": [
            {
                "@odata.id": "/redfish/v1/Chassis/ComposableModule1"
            }
        ],
        "Zones": [
            {
                "@odata.id": "/redfish/v1/CompositionService/ResourceZones/1"
            }
        ]
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1"
}
```


Role 1.2.4

v1.2	*v1.1*	*v1.0*
2017.2	2017.1	1.0

The Role schema contains a Redfish Role to use in conjunction with a manager account.

URIs:

/redfish/v1/AccountService/Roles/*{RoleId}*

/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/Roles/*{RoleId}*

AssignedPrivileges [ ]	array (string (enum))	read-write	The Redfish privileges for this Role. *For the possible property values, see AssignedPrivileges in Property Details.*
IsPredefined	boolean	read-only	An indication of whether the Role is a Redfish-predefined Role rather than a custom Redfish Role.
OemPrivileges [ ]	array (string)	read-write	The OEM privileges for this Role.
RoleId *(v1.2+)*	string	read-only required on create	The name of the Role.

Property Details

AssignedPrivileges:

The Redfish privileges for this Role.

string	Description
ConfigureComponents	Can configure components that this service manages.
ConfigureManager	Can configure managers.
ConfigureSelf	Can change the password for the current user account and log out of their own sessions.
ConfigureUsers	Can configure users and their accounts.
Login	Can log in to the service and read Resources.
NoAuth	Authentication is not required.

Example Response


```
{
    "@odata.type": "#Role.v1_2_4.Role",
    "Id": "Administrator",
    "Name": "User Role",
    "Description": "Admin User Role",
    "IsPredefined": true,
    "AssignedPrivileges": [
        "Login",
        "ConfigureManager",
        "ConfigureUsers",
        "ConfigureSelf",
        "ConfigureComponents"
    ],
    "OemPrivileges": [
        "OemClearLog",
        "OemPowerControl"
    ],
    "@odata.id": "/redfish/v1/AccountService/Roles/Administrator"
}
```


RouteEntry 1.0.0

v1.0
2019.4

The RouteEntry schema describes the content of route entry rows. Each route entry contains route sets that list the possible routes for the route entry.

URIs:

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/LPRT/*{LPRTId}*

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/MPRT/*{MPRTId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/MSDT/*{MSDTId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/LPRT/*{LPRTId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/MPRT/*{MPRTId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/SSDT/*{SSDTId}*

MinimumHopCount	integer	read-write	The minimum number of hops.
RawEntryHex	string	read-write	The raw data of route entry rows.
RouteSet {	object		The link to the collection of route set entries associated with this route. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of RouteSetEntry. See the RouteSetEntry schema for details.*

RouteSetEntry 1.0.0

v1.0
2019.4

The RouteSetEntry schema contains the information about a route. It is part of a larger set that contains possible routes for a particular route entry.

URIs:

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/LPRT/*{LPRTId}*/RouteSet/*{RouteId}*

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/MPRT/*{MPRTId}*/RouteSet/*{RouteId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/MSDT/*{MSDTId}*/RouteSet/*{RouteId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/LPRT/*{LPRTId}*/RouteSet/*{RouteId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/MPRT/*{MPRTId}*/RouteSet/*{RouteId}*

/redfish/v1/Systems/*{ComputerSystemId}*/FabricAdapters/*{FabricAdapterId}*/SSDT/*{SSDTId}*/RouteSet/*{RouteId}*

EgressIdentifier	integer	read-write	The egress interface identifier.
HopCount	integer	read-write	The number of hops.
Valid	boolean	read-write	An indication of whether the entry is valid.
VCAction	integer	read-write	The Virtual Channel Action index.

SecureBoot 1.0.6

v1.0
2016.1

The SecureBoot schema contains UEFI Secure Boot information and represents properties for managing the UEFI Secure Boot functionality of a system.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/SecureBoot

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/SecureBoot

/redfish/v1/Systems/*{ComputerSystemId}*/SecureBoot

SecureBootCurrentBoot	string (enum)	read-only (null)	Secure Boot state during the current boot cycle. *For the possible property values, see SecureBootCurrentBoot in Property Details.*
SecureBootEnable	boolean	read-write (null)	An indication of whether UEFI Secure Boot is enabled.
SecureBootMode	string (enum)	read-only (null)	Current Secure Boot Mode. *For the possible property values, see SecureBootMode in Property Details.*

Actions

ResetKeys

This action resets the Secure Boot keys.

Action URI: {Base URI of target resource}/Actions/SecureBoot.ResetKeys

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetKeysType }	string (enum)	required	The type of keys to reset or delete. *For the possible property values, see ResetKeysType in Property Details.*

Property Details

ResetKeysType:

The type of keys to reset or delete.

string	Description
DeleteAllKeys	Delete the content of all UEFI Secure Boot key databases (PK, KEK, DB, DBX). This puts the system in Setup Mode.

string	Description
DeletePK	Delete the content of the PK UEFI Secure Boot database. This puts the system in Setup Mode.
ResetAllKeysToDefault	Reset the content of all UEFI Secure Boot key databases (PK, KEK, DB, DBX) to their default values.

SecureBootCurrentBoot:

Secure Boot state during the current boot cycle.

string	Description
Disabled	Secure Boot is currently disabled.
Enabled	Secure Boot is currently enabled.

SecureBootMode:

Current Secure Boot Mode.

string	Description
AuditMode	Secure Boot is currently in Audit Mode.
DeployedMode	Secure Boot is currently in Deployed Mode.
SetupMode	Secure Boot is currently in Setup Mode.
UserMode	Secure Boot is currently in User Mode.

Example Response


```
{
    "@odata.type": "#SecureBoot.v1_0_6.SecureBoot",
    "Id": "SecureBoot",
    "Name": "UEFI Secure Boot",
    "Actions": {
        "#SecureBoot.ResetKeys": {
            "target": "/redfish/v1/Systems/1/SecureBoot/Actions/SecureBoot.ResetKeys",
            "ResetKeysType@Redfish.AllowableValues": [
                "ResetAllKeysToDefault",
                "DeleteAllKeys",
                "DeletePK"
            ]
        },
        "Oem": {}
    },
    "SecureBootEnable": false,
    "SecureBootCurrentBoot": "Disabled",
    "SecureBootMode": "UserMode",
    "Oem": {},
    "@odata.id": "/redfish/v1/Systems/1/SecureBoot"
}
```

Sensor 1.1.0

v1.1	*v1.0*
2019.4	2018.3

The Sensor schema describes a sensor and its properties.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/Sensors/*{SensorId}*

/redfish/v1/PowerEquipment/FloorPDUs/*{PowerDistributionId}*/Sensors/*{SensorId}*

/redfish/v1/PowerEquipment/RackPDUs/*{PowerDistributionId}*/Sensors/*{SensorId}*

/redfish/v1/PowerEquipment/Sensors/*{SensorId}*

/redfish/v1/PowerEquipment/TransferSwitches/*{PowerDistributionId}*/Sensors/*{SensorId}*

Accuracy	number (%)	read-only (null)	The estimated percent error of measured versus actual values.
AdjustedMaxAllowableOperatingValue	number	read-only (null)	The adjusted maximum allowable operating value for this equipment based on the environmental conditions.
AdjustedMinAllowableOperatingValue	number	read-only (null)	The adjusted minimum allowable operating value for this equipment based on the environmental conditions.
ApparentVA	number (V.A)	read-only (null)	The product of voltage and current for an AC circuit, in Volt-Ampere units.
CrestFactor *(v1.1+)*	number	read-only (null)	The crest factor for this sensor.
ElectricalContext	string (enum)	read-only (null)	The combination of current-carrying conductors. *For the possible property values, see ElectricalContext in Property Details.*
Implementation *(v1.1+)*	string (enum)	read-only (null)	The implementation of the sensor. *For the possible property values, see Implementation in Property Details.*
LifetimeReading *(v1.1+)*	number	read-only (null)	The total accumulation value for this sensor.
LoadPercent *(deprecated v1.1)*	number (%)	read-only (null)	The power load utilization for this sensor. *Deprecated in v1.1 and later. This property has been deprecated in favor of using a Sensor instance with a*

			ReadingType of `Percent` to show utilization values when needed.
Location { }	object		The location information for this sensor. *For property details, see Location.*
MaxAllowableOperatingValue	number	read-only (null)	The maximum allowable operating value for this equipment.
MinAllowableOperatingValue	number	read-only (null)	The minimum allowable operating value for this equipment.
PeakReading	number	read-only (null)	The peak sensor value.
PeakReadingTime	string	read-only (null)	The time when the peak sensor value occurred.
PhysicalContext	string (enum)	read-only (null)	The area or device to which this sensor measurement applies. *For the possible property values, see PhysicalContext in Property Details.*
PhysicalSubContext	string (enum)	read-only (null)	The usage or location within a device to which this sensor measurement applies. *For the possible property values, see PhysicalSubContext in Property Details.*
PowerFactor	number	read-only (null)	The power factor for this sensor.
Precision	number	read-only (null)	The number of significant digits in the reading.
ReactiveVAR	number (V.A)	read-only (null)	The square root of the difference term of squared ApparentVA and squared Power (Reading) for a circuit, in var units.
Reading	number	read-only (null)	The sensor value.
ReadingRangeMax	number	read-only (null)	The maximum possible value for this sensor.
ReadingRangeMin	number	read-only (null)	The minimum possible value for this sensor.
ReadingTime *(v1.1+)*	string	read-only (null)	The date and time that the reading was acquired from the sensor.
ReadingType	string (enum)	read-only (null)	The type of sensor. *For the possible property values, see ReadingType in Property Details.*

ReadingUnits	string	read-only (null)	The units of the reading and thresholds.
SensingFrequency *(deprecated v1.1)*	number	read-only (null)	The time interval between readings of the physical sensor. *Deprecated in v1.1 and later. This property has been deprecated in favor of the SensingInterval property, which uses the duration time format for interoperability.*
SensingInterval *(v1.1+)*	string	read-only (null)	The time interval between readings of the sensor.
SensorResetTime	string	read-only (null)	The date and time when the time-based properties were last reset.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
THDPercent *(v1.1+)*	number	read-only (null)	The total harmonic distortion (THD).
Thresholds {	object		The set of thresholds defined for this sensor.
LowerCaution {	object		The value at which the reading is below normal range.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading }	number	read-write (null)	The threshold value.
LowerCritical {	object		The value at which the reading is below normal range but not yet fatal.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading }	number	read-write (null)	The threshold value.

LowerFatal {	object		The value at which the reading is below normal range and fatal.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading }	number	read-write (null)	The threshold value.
UpperCaution {	object		The value at which the reading is above normal range.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading }	number	read-write (null)	The threshold value.
UpperCritical {	object		The value at which the reading is above normal range but not yet fatal.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading }	number	read-write (null)	The threshold value.
UpperFatal {	object		The value at which the reading is above normal range and fatal.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading	number	read-write	The threshold value.

} }		(null)	
VoltageType	string (enum)	read-only (null)	The voltage type for this sensor. *For the possible property values, see VoltageType in Property Details.*

Actions

ResetMetrics

Resets metrics related to this sensor.

Action URI: {Base URI of target resource}/Actions/Sensor.ResetMetrics

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

Activation:

The direction of crossing that activates this threshold.

string	Description
Decreasing	Value decreases below the threshold.
Either	Value crosses the threshold in either direction.
Increasing	Value increases above the threshold.

ElectricalContext:

The combination of current-carrying conductors.

string	Description
Line1	The circuits that share the L1 current-carrying conductor.
Line1ToLine2	The circuit formed by L1 and L2 current-carrying conductors.
Line1ToNeutral	The circuit formed by L1 and neutral current-carrying conductors.
Line1ToNeutralAndL1L2	The circuit formed by L1, L2, and neutral current-carrying conductors.
Line2	The circuits that share the L2 current-carrying conductor.
Line2ToLine3	The circuit formed by L2 and L3 current-carrying conductors.
Line2ToNeutral	The circuit formed by L2 and neutral current-carrying conductors.
Line2ToNeutralAndL1L2	The circuit formed by L1, L2, and Neutral current-carrying

string	Description
	conductors.
Line2ToNeutralAndL2L3	The circuits formed by L2, L3, and neutral current-carrying conductors.
Line3	The circuits that share the L3 current-carrying conductor.
Line3ToLine1	The circuit formed by L3 and L1 current-carrying conductors.
Line3ToNeutral	The circuit formed by L3 and neutral current-carrying conductors.
Line3ToNeutralAndL3L1	The circuit formed by L3, L1, and neutral current-carrying conductors.
LineToLine	The circuit formed by two current-carrying conductors.
LineToNeutral	The circuit formed by a line and neutral current-carrying conductor.
Neutral	The grounded current-carrying return circuit of current-carrying conductors.
Total	The circuit formed by all current-carrying conductors.

Implementation:

The implementation of the sensor.

string	Description
PhysicalSensor	The reading is acquired from a physical sensor.
Reported	The reading is obtained from software or a device.
Synthesized	The reading is obtained by applying a calculation on one or more properties. The calculation is not provided.

PhysicalContext:

The area or device to which this sensor measurement applies.

string	Description
Accelerator	An accelerator.
ACInput	An AC input.
ACMaintenanceBypassInput	An AC maintenance bypass input.
ACOutput	An AC output.
ACStaticBypassInput	An AC static bypass input.
ACUtilityInput	An AC utility input.
ASIC	An ASIC device, such as a networking chip or chipset

string	Description
	component.
Back	The back of the chassis.
Backplane	A backplane within the chassis.
Chassis	The entire chassis.
ComputeBay	Within a compute bay.
CoolingSubsystem	The entire cooling, or air and liquid, subsystem.
CPU	A processor (CPU).
CPUSubsystem	The entire processor (CPU) subsystem.
DCBus	A DC bus.
Exhaust	The air exhaust point or points or region of the chassis.
ExpansionBay	Within an expansion bay.
Fan	A fan.
FPGA	An FPGA.
Front	The front of the chassis.
GPU	A graphics processor (GPU).
GPUSubsystem	The entire graphics processor (GPU) subsystem.
Intake	The air intake point or points or region of the chassis.
LiquidInlet	The liquid inlet point of the chassis.
LiquidOutlet	The liquid outlet point of the chassis.
Lower	The lower portion of the chassis.
Memory	A memory device.
MemorySubsystem	The entire memory subsystem.
Motor	A motor.
NetworkBay	Within a networking bay.
NetworkingDevice	A networking device.
PowerSubsystem	The entire power subsystem.
PowerSupply	A power supply.
PowerSupplyBay	Within a power supply bay.
Rectifier	A rectifier device.

string	Description
Room	The room.
StorageBay	Within a storage bay.
StorageDevice	A storage device.
SystemBoard	The system board (PCB).
Transformer	A transformer.
Upper	The upper portion of the chassis.
VoltageRegulator	A voltage regulator device.

PhysicalSubContext:

The usage or location within a device to which this sensor measurement applies.

string	Description
Input	The input.
Output	The output.

ReadingType:

The type of sensor.

string	Description
AirFlow	Airflow.
Altitude	Altitude.
Barometric	Barometric pressure.
Current	Current.
EnergyJoules	Energy (Joules).
EnergykWh	Energy (kWh).
Frequency	Frequency.
Humidity	Relative Humidity.
LiquidFlow	Liquid flow.
LiquidLevel	Liquid level.
Percent *(v1.1+)*	Percent.
Power	Power.
Pressure	Pressure.
Rotational	Rotational.

string	Description
Temperature	Temperature.
Voltage	Voltage (AC or DC).

VoltageType:

The voltage type for this sensor.

string	Description
AC	Alternating current.
DC	Direct current.

Example Response


```
{
    "@odata.type": "#Sensor.v1_1_0.Sensor",
    "Id": "CabinetTemp",
    "Name": "Rack Temperature",
    "ReadingType": "Temperature",
    "ReadingTime": "2019-12-25T04:14:33+06:00",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Reading": 31.6,
    "ReadingUnits": "C",
    "ReadingRangeMin": 0,
    "ReadingRangeMax": 70,
    "Accuracy": 0.25,
    "Precision": 1,
    "SensingInterval": "PT3S",
    "PhysicalContext": "Chassis",
    "Thresholds": {
        "UpperCritical": {
            "Reading": 40,
            "Activation": "Increasing"
        },
        "UpperCaution": {
            "Reading": 35,
            "Activation": "Increasing"
        },
        "LowerCaution": {
            "Reading": 10,
            "Activation": "Increasing"
        }
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Chassis/1/Sensors/CabinetTemp"
}
```

SerialInterface 1.1.5

v1.1	*v1.0*
2017.1	1.0

The SerialInterface schema describes an asynchronous serial interface, such as an RS-232 interface, available to a system or device.

URIs:

/redfish/v1/Managers/*{ManagerId}*/SerialInterfaces/*{SerialInterfaceId}*

BitRate	string (enum)	read-write	The receive and transmit rate of data flow, typically in bits-per-second (bps), over the serial connection. *For the possible property values, see BitRate in Property Details.*
ConnectorType	string (enum)	read-only	The type of connector used for this interface. *For the possible property values, see ConnectorType in Property Details.*
DataBits	string (enum)	read-write	The number of data bits that follow the start bit over the serial connection. *For the possible property values, see DataBits in Property Details.*
FlowControl	string (enum)	read-write	The type of flow control, if any, that is imposed on the serial connection. *For the possible property values, see FlowControl in Property Details.*
InterfaceEnabled	boolean	read-write (null)	An indication of whether this interface is enabled.
Parity	string (enum)	read-write	The type of parity used by the sender and receiver to detect errors over the serial connection. *For the possible property values, see Parity in Property Details.*
PinOut	string (enum)	read-only (null)	The physical pinout configuration for a serial connector. *For the possible property values, see PinOut in Property Details.*
SignalType	string (enum)	read-only	The type of signal used for the communication connection. *For the possible property values, see SignalType in Property Details.*
StopBits	string (enum)	read-write	The period of time before the next start bit is transmitted. *For the possible property values, see StopBits in Property Details.*

Property Details

BitRate:

The receive and transmit rate of data flow, typically in bits-per-second (bps), over the serial

connection.

string	Description
115200	A bit rate of 115200bps.
1200	A bit rate of 1200bps.
19200	A bit rate of 19200bps.
230400	A bit rate of 230400bps.
2400	A bit rate of 2400bps.
38400	A bit rate of 38400bps.
4800	A bit rate of 4800bps.
57600	A bit rate of 57600bps.
9600	A bit rate of 9600bps.

ConnectorType:

The type of connector used for this interface.

string	Description
DB25 Female	A DB25 Female connector.
DB25 Male	A DB25 Male connector.
DB9 Female	A DB9 Female connector.
DB9 Male	A DB9 Male connector.
mUSB	A mUSB connector.
RJ11	An RJ11 connector.
RJ45	An RJ45 connector.
USB	A USB connector.
uUSB	A uUSB connector.

DataBits:

The number of data bits that follow the start bit over the serial connection.

string	Description
5	Five bits of data following the start bit.
6	Six bits of data following the start bit.
7	Seven bits of data following the start bit.
8	Eight bits of data following the start bit.

FlowControl:

The type of flow control, if any, that is imposed on the serial connection.

string	Description
Hardware	Out-of-band flow control imposed.
None	No flow control imposed.
Software	XON/XOFF in-band flow control imposed.

Parity:

The type of parity used by the sender and receiver to detect errors over the serial connection.

string	Description
Even	An even parity bit.
Mark	A mark parity bit.
None	No parity bit.
Odd	An odd parity bit.
Space	A space parity bit.

PinOut:

The physical pinout configuration for a serial connector.

string	Description
Cisco	The Cisco pinout configuration.
Cyclades	The Cyclades pinout configuration.
Digi	The Digi pinout configuration.

SignalType:

The type of signal used for the communication connection.

string	Description
Rs232	The serial interface follows RS232.
Rs485	The serial interface follows RS485.

StopBits:

The period of time before the next start bit is transmitted.

string	Description
1	One stop bit following the data bits.
2	Two stop bits following the data bits.

Example Response


```
{
    "@odata.type": "#SerialInterface.v1_1_5.SerialInterface",
    "Id": "TTY0",
    "Name": "Manager Serial Interface 1",
    "Description": "Management for Serial Interface",
    "InterfaceEnabled": true,
    "SignalType": "Rs232",
    "BitRate": "115200",
    "Parity": "None",
    "DataBits": "8",
    "StopBits": "1",
    "FlowControl": "None",
    "ConnectorType": "RJ45",
    "PinOut": "Cyclades",
    "@odata.id": "/redfish/v1/Managers/BMC/SerialInterfaces/TTY0"
}
```


ServiceRoot 1.6.0

v1.6	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2018.3	2018.2	2017.3	2017.1	2016.2	1.0

The ServiceRoot schema describes the root of the Redfish Service, located at the '/redfish/v1' URI. All other Resources accessible through the Redfish interface on this device are linked directly or indirectly from the Service Root.

URIs:

/redfish/v1

/redfish/v1/

AccountService {	object		The link to the Account Service. *See the AccountService schema for details on this property.*
@odata.id }	string	read-only	*Link to a AccountService resource. See the Links section and the AccountService schema for details.*
CertificateService *(v1.5+)* {	object		The link to the Certificate Service. *See the CertificateService schema for details on this property.*
@odata.id }	string	read-only	*Link to a CertificateService resource. See the Links section and the CertificateService schema for details.*
Chassis {	object		The link to a collection of chassis. *Contains a link to a resource.*
@odata.id	string	read-only	*Link to Collection of Chassis. See the*

}			*Chassis schema for details.*
CompositionService *(v1.2+)* {	object		The link to the Composition Service. *See the CompositionService schema for details on this property.*
@odata.id }	string	read-only	*Link to a CompositionService resource. See the Links section and the CompositionService schema for details.*
EventService {	object		The link to the Event Service. *See the EventService schema for details on this property.*
@odata.id }	string	read-only	*Link to a EventService resource. See the Links section and the EventService schema for details.*
Fabrics *(v1.1+)* {	object		The link to a collection of all fabric entities. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Fabric. See the Fabric schema for details.*
Facilities *(v1.6+)* {	object		The link to a collection of facilities. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Facility. See the Facility schema for details.*
JobService *(v1.4+)* {	object		The link to the JobService. *See the JobService schema for details on this property.*
@odata.id }	string	read-only	*Link to a JobService resource. See the Links section and the JobService schema for details.*
JsonSchemas {	object		The link to a collection of JSON Schema files. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of JsonSchemaFile. See the JsonSchemaFile schema for details.*
Links {	object	required	The links to other Resources that are related to this Resource.
Oem { }	object		See the Oem object definition in the Common properties section.
Sessions {	object	required	The link to a collection of Sessions. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Session. See the Session schema for details.*

}			
Managers {	object		The link to a collection of managers. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Manager. See the Manager schema for details.*
PowerEquipment *(v1.6+)* {	object		The link to a set of power equipment. *See the PowerEquipment schema for details on this property.*
@odata.id }	string	read-only	*Link to a PowerEquipment resource. See the Links section and the PowerEquipment schema for details.*
Product *(v1.3+)*	string	read-only (null)	The product associated with this Redfish Service.
ProtocolFeaturesSupported *(v1.3+)* {	object		The information about protocol features that the service supports.
ExcerptQuery *(v1.4+)*	boolean	read-only	An indication of whether the service supports the excerpt query parameter.
ExpandQuery {	object		The information about the use of $expand in the service.
ExpandAll	boolean	read-only	An indication of whether the service supports the asterisk (`*`) option of the $expand query parameter.
Levels	boolean	read-only	An indication of whether the service supports the $levels option of the $expand query parameter.
Links	boolean	read-only	An indication of whether this service supports the tilde (`~`) option of the $expand query parameter.
MaxLevels	integer	read-only	The maximum $levels option value in the $expand query parameter.
NoLinks }	boolean	read-only	An indication of whether the service supports the period (`.`) option of the $expand query parameter.
FilterQuery	boolean	read-only	An indication of whether the service supports the $filter query parameter.
OnlyMemberQuery *(v1.4+)*	boolean	read-only	An indication of whether the service supports the only query parameter.
SelectQuery }	boolean	read-only	An indication of whether the service supports the $select query parameter.
RedfishVersion	string	read-only	The version of the Redfish Service.
Registries {	object		The link to a collection of Registries.

			Contains a link to a resource.
@odata.id }	string	read-only	*Link to Collection of MessageRegistryFile. See the MessageRegistryFile schema for details.*
ResourceBlocks *(v1.5+)* {	object		The link to a collection of all Resource Block Resources. This collection is intended for implementations that do not contain a Composition Service but that expose Resources to an orchestrator that implements a Composition Service. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of ResourceBlock. See the ResourceBlock schema for details.*
SessionService {	object		The link to the Sessions Service. *See the SessionService schema for details on this property.*
@odata.id }	string	read-only	*Link to a SessionService resource. See the Links section and the SessionService schema for details.*
StorageServices *(v1.1+)* {	object		The link to a collection of all storage service entities.
@odata.id }	string	read-only	The unique identifier for a resource.
StorageSystems *(v1.1+)* {	object		The link to a collection of storage systems.
@odata.id }	string	read-only	The unique identifier for a resource.
Systems {	object		The link to a collection of systems. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of ComputerSystem. See the ComputerSystem schema for details.*
Tasks {	object		The link to the Task Service. *See the TaskService schema for details on this property.*
@odata.id }	string	read-only	*Link to a TaskService resource. See the Links section and the TaskService schema for details.*
TelemetryService *(v1.4+)* {	object		The link to the Telemetry Service. *See the TelemetryService schema for details on this property.*

@odata.id }	string	read-only	*Link to a TelemetryService resource. See the Links section and the TelemetryService schema for details.*
UpdateService *(v1.1+)* {	object		The link to the Update Service. *See the UpdateService schema for details on this property.*
@odata.id }	string	read-only	*Link to a UpdateService resource. See the Links section and the UpdateService schema for details.*
UUID	string	read-only (null)	Unique identifier for a service instance. When SSDP is used, this value should be an exact match of the UUID value returned in a 200 OK from an SSDP M-SEARCH request during discovery.
Vendor *(v1.5+)*	string	read-only (null)	The vendor or manufacturer associated with this Redfish Service.

Example Response


```
{
    "@odata.type": "#ServiceRoot.v1_6_0.ServiceRoot",
    "Id": "RootService",
    "Name": "Root Service",
    "RedfishVersion": "1.6.0",
    "UUID": "92384634-2938-2342-8820-489239905423",
    "Product": "UR99 1U Server",
    "ProtocolFeaturesSupported": {
        "ExpandQuery": {
            "ExpandAll": true,
            "Levels": true,
            "MaxLevels": 2,
            "Links": true,
            "NoLinks": true
        },
        "SelectQuery": false,
        "FilterQuery": false,
        "OnlyMemberQuery": true,
        "ExcerptQuery": true
    },
    "Systems": {
        "@odata.id": "/redfish/v1/Systems"
    },
    "Chassis": {
        "@odata.id": "/redfish/v1/Chassis"
    },
    "Managers": {
        "@odata.id": "/redfish/v1/Managers"
    },
    "UpdateService": {
        "@odata.id": "/redfish/v1/UpdateService"
    },
    "CompositionService": {
```

```
        "@odata.id": "/redfish/v1/CompositionService"
    },
    "Tasks": {
        "@odata.id": "/redfish/v1/TaskService"
    },
    "SessionService": {
        "@odata.id": "/redfish/v1/SessionService"
    },
    "AccountService": {
        "@odata.id": "/redfish/v1/AccountService"
    },
    "EventService": {
        "@odata.id": "/redfish/v1/EventService"
    },
    "Links": {
        "Sessions": {
            "@odata.id": "/redfish/v1/SessionService/Sessions"
        }
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/"
}
```


Session 1.2.1

v1.2	*v1.1*	*v1.0*
2019.1	2017.1	1.0

The Session Resource describes a single connection (session) between a client and a Redfish Service instance.

URIs:

/redfish/v1/SessionService/Sessions/*{SessionId}*

OemSessionType *(v1.2+)*	string	read-only (null)	The active OEM-defined session type.
Password	string	read-only required on create (null)	The password for this session. The value is `null` in responses.
SessionType *(v1.2+)*	string (enum)	read-only (null)	The active session type. *For the possible property values, see SessionType in Property Details.*
UserName	string	read-only required on create (null)	The UserName for the account for this session.

Property Details

SessionType:

The active session type.

string	Description
HostConsole	The host's console, which could be connected through Telnet, SSH, or other protocol.
IPMI	Intelligent Platform Management Interface.
KVMIP	Keyboard-Video-Mouse over IP Session.
ManagerConsole	The manager's console, which could be connected through Telnet, SSH, SM CLP, or other protocol.
OEM	OEM Type. For OEM session types, see the OemSessionType property.
Redfish	A Redfish session.
VirtualMedia	Virtual media.
WebUI	A non-Redfish web user interface session, such as a graphical interface or another web-based protocol.

Example Response


```
{
    "@odata.type": "#Session.v1_2_1.Session",
    "Id": "1234567890ABCDEF",
    "Name": "User Session",
    "Description": "Manager User Session",
    "UserName": "Administrator",
    "Oem": {},
    "@odata.id": "/redfish/v1/SessionService/Sessions/1234567890ABCDEF"
}
```


SessionService 1.1.6

v1.1	*v1.0*
2016.2	1.0

The SessionService schema describes the Session Service and its properties, with links to the actual list of sessions.

URIs:

/redfish/v1/SessionService

ServiceEnabled	boolean	read-write	An indication of whether this service is enabled. If `true`,

		(null)	this service is enabled. If `false`, it is disabled, and new sessions cannot be created, old sessions cannot be deleted, and established sessions may continue operating.
Sessions {	object		The link to a collection of sessions. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Session. See the Session schema for details.*
SessionTimeout	integer (seconds)	read-write	The number of seconds of inactivity that a session may have before the Session Service closes the session due to inactivity.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Example Response

```
{
    "@odata.type": "#SessionService.v1_1_6.SessionService",
    "Id": "SessionService",
    "Name": "Session Service",
    "Description": "Session Service",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "ServiceEnabled": true,
    "SessionTimeout": 30,
    "Sessions": {
        "@odata.id": "/redfish/v1/SessionService/Sessions"
    },
    "@odata.id": "/redfish/v1/SessionService"
}
```

SimpleStorage 1.2.3

v1.2	*v1.1*	*v1.0*
2017.1	2016.1	1.0

The SimpleStorage schema represents the properties of a storage controller and its directly-attached devices.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/SimpleStorage/*{SimpleStorageId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/SimpleStorage/*{SimpleStorageId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/SimpleStorage/*{SimpleStorageId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/SimpleStorage/*{SimpleStorageId}*

/redfish/v1/Systems/*{ComputerSystemId}*/SimpleStorage/*{SimpleStorageId}*

Devices [{	array		The storage devices.
CapacityBytes *(v1.1+)*	integer (bytes)	read-only (null)	The size, in bytes, of the storage device.
Manufacturer	string	read-only (null)	The name of the manufacturer of this device.
Model	string	read-only (null)	The product model number of this device.
Name	string	read-only required	The name of the Resource or array member.
Oem { }	object		See the Oem object definition in the Common properties section.
Status { } }]	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Links *(v1.2+)* {	object		The links to other Resources that are related to this Resource.
Chassis {	object		The link to the chassis that contains this simple storage. *See the Chassis schema for details on this property.*
@odata.id }	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UefiDevicePath	string	read-only (null)	The UEFI device path to access this storage controller.

Example Response


```
{
    "@odata.type": "#SimpleStorage.v1_2_3.SimpleStorage",
    "Id": "1",
    "Name": "Simple Storage Controller",
    "Description": "System SATA",
    "UefiDevicePath": "Acpi(PNP0A03,0)/Pci(1F|1)/Ata(Primary,Master)/HD(Part3, Sig00110011)
    "Status": {
        "State": "Enabled",
        "Health": "OK",
```

```
        "HealthRollup": "Warning"
    },
    "Devices": [
        {
            "Name": "SATA Bay 1",
            "Manufacturer": "Contoso",
            "Model": "3000GT8",
            "CapacityBytes": 8000000000000,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            }
        },
        {
            "Name": "SATA Bay 2",
            "Manufacturer": "Contoso",
            "Model": "3000GT7",
            "CapacityBytes": 4000000000000,
            "Status": {
                "State": "Enabled",
                "Health": "Warning"
            }
        },
        {
            "Name": "SATA Bay 3",
            "Status": {
                "State": "Absent"
            }
        },
        {
            "Name": "SATA Bay 4",
            "Status": {
                "State": "Absent"
            }
        }
    ],
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/SimpleStorage/1"
}
```


SoftwareInventory 1.2.3

v1.2	*v1.1*	*v1.0*
2018.1	2016.3	2016.2

The SoftwareInventory schema contains an inventory of software components. This can include software components such as BIOS, BMC firmware, firmware for other devices, system drivers, or provider software.

URIs:

/redfish/v1/UpdateService/FirmwareInventory/*{SoftwareInventoryId}*

/redfish/v1/UpdateService/SoftwareInventory/*{SoftwareInventoryId}*

LowestSupportedVersion *(v1.1+)*	string	read-only (null)	The lowest supported version of this software.
Manufacturer *(v1.2+)*	string	read-only (null)	The manufacturer or producer of this software.
RelatedItem *(v1.1+)* [{	array		The IDs of the Resources associated with this software inventory item.
@odata.id }]	string	read-only	The unique identifier for a resource.
ReleaseDate *(v1.2+)*	string	read-only (null)	The release date of this software.
SoftwareId *(v1.1+)*	string	read-only	The implementation-specific label that identifies this software.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UefiDevicePaths *(v1.1+)* [ ]	array (string, null)	read-only	The list of UEFI device paths of the components associated with this software inventory item.
Updateable	boolean	read-only (null)	An indication of whether the Update Service can update this software.
Version	string	read-only (null)	The version of this software.

Example Response


```
{
    "@odata.type": "#SoftwareInventory.v1_2_3.SoftwareInventory",
    "Id": "BMC",
    "Name": "Contoso BMC Firmware",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Updateable": true,
    "Manufacturer": "Contoso",
    "ReleaseDate": "2017-08-22T12:00:00",
    "Version": "1.45.455b66-rev4",
    "SoftwareId": "1624A9DF-5E13-47FC-874A-DF3AFF143089",
    "LowestSupportedVersion": "1.30.367a12-rev1",
    "UefiDevicePaths": [
        "BMC(0x1,0x0ABCDEF)"
    ],
    "RelatedItem": [
        {
            "@odata.id": "/redfish/v1/Managers/1"
        }
    ],
    "Actions": {
        "Oem": {}
```

```
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/UpdateService/FirmwareInventory/BMC"
}
```


Storage 1.8.0

v1.8	*v1.7*	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.3	2019.1	2018.3	2018.2	2017.3	2017.2	2017.1	2016.2	2016.1

The Storage schema defines a storage subsystem and its respective properties. A storage subsystem represents a set of physical or virtual storage controllers and the Resources, such as volumes, that can be accessed from that subsystem.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*

ConsistencyGroups *(v1.8+)* {	object		The consistency groups, each of which contains a set of volumes that are treated by an application or set of applications as a single resource, that are managed by this storage subsystem.
@odata.id }	string	read-only	The unique identifier for a resource.
Drives [{	array		The set of drives attached to the storage controllers that this Resource represents.
@odata.id }]	string	read-only	*Link to a Drive resource. See the Links section and the Drive schema for details.*
EndpointGroups *(v1.8+)* {	object		All of the endpoint groups, each of which contains a set of endpoints that are used for a common purpose such as an ACL or logical identification, that belong to this storage subsystem.
@odata.id }	string	read-only	The unique identifier for a resource.

FileSystems *(v1.8+)* {	object		All filesystems that are allocated by this storage subsystem.
@odata.id }	string	read-only	The unique identifier for a resource.
Links {	object		The links to other Resources that are related to this Resource.
Enclosures [{	array		An array of links to the chassis to which this storage subsystem is attached.
@odata.id }]	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
Redundancy [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common objects section. *For property details, see Redundancy.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
StorageControllers [{	array		The set of storage controllers that this Resource represents.
@odata.id	string	read-only required	The unique identifier for a resource.
Actions *(v1.2+)* { }	object		The available actions for this Resource.
Assembly *(v1.4+)* {	object		The link to the assembly associated with this storage controller. *See the Assembly schema for details on this property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the Links section and the Assembly schema for details.*
AssetTag	string	read-write (null)	The user-assigned asset tag for this storage controller.
CacheSummary *(v1.5+)* {	object		The cache memory of the

			storage controller in general detail.
PersistentCacheSizeMiB	integer (mebibytes)	read-only (null)	The portion of the cache memory that is persistent, measured in MiB.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
TotalCacheSizeMiB }	integer (mebibytes)	read-only required (null)	The total configured cache memory, measured in MiB.
ControllerRates *(v1.7+)* {	object		This property describes the various controller rates used for processes such as Volume Rebuild or Consistency Checks.
ConsistencyCheckRatePercent	integer	read-write (null)	The percentage of controller Resources used for performing a data consistency check on volumes.
RebuildRatePercent	integer	read-write (null)	The percentage of controller Resources used for rebuilding/ repairing volumes.
TransformationRatePercent }	integer	read-write (null)	The percentage of controller Resources used for transforming volumes from one configuration to another.
FirmwareVersion	string	read-only (null)	The firmware version of this storage controller.
Identifiers [{ }]	array (object)		The Durable names for the storage controller. Any additional identifiers for a Resource. *For property details, see Identifier.*
Links *(v1.1+)* {	object		The links to other Resources that are related to this Resource.
Endpoints [{	array		An array of links to the endpoints that connect to this controller.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
Oem { }	object		See the Oem object definition in

			the Common properties section.
PCIeFunctions *(v1.7+)* [{	array		An array of links to the PCIe functions that the stroage controller produces.
@odata.id }]	string	read-only	*Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.*
StorageServices *(v1.4+)* [{	array		An array of links to the Storage Services that connect to this controller.
@odata.id }] }	string	read-only	The unique identifier for a resource.
Location *(v1.4+)* { }	object		The location of the storage controller. *For property details, see Location.*
Manufacturer	string	read-only (null)	The manufacturer of this storage controller.
MemberId	string	read-only required	The identifier for the member within the collection.
Model	string	read-only (null)	The model number for the storage controller.
Name *(v1.3+)*	string	read-only (null)	The name of the Storage Controller.
Oem { }	object		See the Oem object definition in the Common properties section.
PartNumber	string	read-only (null)	The part number for this storage controller.
PCIeInterface *(v1.5+)* {	object		The PCIe interface details for this controller.
LanesInUse	integer	read-only (null)	The number of PCIe lanes in use by this device.
MaxLanes	integer	read-only (null)	The number of PCIe lanes supported by this device.
MaxPCIeType	string (enum)	read-only (null)	The highest version of the PCIe specification supported by this device. *For the possible property values, see MaxPCIeType in Property Details.*
Oem { }	object		See the Oem object definition in

			the Common properties section.
PCIeType }	string (enum)	read-only (null)	The version of the PCIe specification in use by this device. *For the possible property values, see PCIeType in Property Details.*
Ports *(v1.7+)* {	object		The link to the collection of Ports that exist on the storage controller. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Port. See the Port schema for details.*
SerialNumber	string	read-only (null)	The serial number for this storage controller.
SKU	string	read-only (null)	The SKU for this storage controller.
SpeedGbps	number (Gbit/s)	read-only (null)	The maximum speed of the storage controller's device interface.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
SupportedControllerProtocols [ ]	array (string (enum))	read-only	The supported set of protocols for communicating to this storage controller. *For the possible property values, see SupportedControllerProtocols in Property Details.*
SupportedDeviceProtocols [ ]	array (string (enum))	read-only	The protocols that the storage controller can use to communicate with attached devices. *For the possible property values, see SupportedDeviceProtocols in Property Details.*
SupportedRAIDTypes *(v1.6+)* [ ] }]	array (string (enum))	read-only (null)	The set of RAID types supported by the storage controller. *For the possible property values, see SupportedRAIDTypes in Property Details.*
StorageGroups *(v1.8+)* {	object		All of the storage groups, each

			of which contains a set of volumes and endpoints that are managed as a group for mapping and masking, that belong to this storage subsystem.
@odata.id }	string	read-only	The unique identifier for a resource.
StoragePools *(v1.8+)* {	object		The set of all storage pools that are allocated by this storage subsystem. A storage pool is the set of storage capacity that can be used to produce volumes or other storage pools.
@odata.id }	string	read-only	The unique identifier for a resource.
Volumes {	object		The set of volumes that the storage controllers produce.
@odata.id }	string	read-only	The unique identifier for a resource.

Actions

SetEncryptionKey

This action sets the encryption key for the storage subsystem.

Action URI: {Base URI of target resource}/Actions/Storage.SetEncryptionKey

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
EncryptionKey }	string	required	The encryption key to set on the storage subsystem.

Property Details

MaxPCIeType:

The highest version of the PCIe specification supported by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.

string	Description
Gen5	A PCIe v5.0 slot.

PCIeType:

The version of the PCIe specification in use by this device.

string	Description
Gen1	A PCIe v1.0 slot.
Gen2	A PCIe v2.0 slot.
Gen3	A PCIe v3.0 slot.
Gen4	A PCIe v4.0 slot.
Gen5	A PCIe v5.0 slot.

SupportedControllerProtocols:

The supported set of protocols for communicating to this storage controller.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
I2C	Inter-Integrated Circuit Bus.
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.
NFSv3	Network File System (NFS) version 3.
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).
NVMeOverFabrics	NVMe over Fabrics.

string	Description
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).
USB	Universal Serial Bus (USB).

SupportedDeviceProtocols:

The protocols that the storage controller can use to communicate with attached devices.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
I2C	Inter-Integrated Circuit Bus.
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.

string	Description
NFSv3	Network File System (NFS) version 3.
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).
NVMeOverFabrics	NVMe over Fabrics.
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).
USB	Universal Serial Bus (USB).

SupportedRAIDTypes:

The set of RAID types supported by the storage controller.

string	Description
RAID0	A placement policy where consecutive logical blocks of data are uniformly distributed across a set of independent storage devices without offering any form of redundancy.
RAID00	A placement policy that creates a RAID 0 stripe set over two or more RAID 0 sets.
RAID01	A data placement policy that creates a mirrored device (RAID 1) over a set of striped devices (RAID 0).
RAID1	A placement policy where each logical block of data is stored on more than one independent storage device.
RAID10	A placement policy that creates a striped device (RAID 0) over a set of mirrored devices (RAID 1).

string	Description
RAID10E	A placement policy that uses a RAID 0 stripe set over two or more RAID 10 sets.
RAID10Triple	A placement policy that uses a striped device (RAID 0) over a set of triple mirrored devices (RAID 1Triple).
RAID1E	A placement policy that uses a form of mirroring implemented over a set of independent storage devices where logical blocks are duplicated on a pair of independent storage devices so that data is uniformly distributed across the storage devices.
RAID1Triple	A placement policy where each logical block of data is mirrored three times across a set of three independent storage devices.
RAID3	A placement policy using parity-based protection where logical bytes of data are uniformly distributed across a set of independent storage devices and where the parity is stored on a dedicated independent storage device.
RAID4	A placement policy using parity-based protection where logical blocks of data are uniformly distributed across a set of independent storage devices and where the parity is stored on a dedicated independent storage device.
RAID5	A placement policy using parity-based protection for storing stripes of 'n' logical blocks of data and one logical block of parity across a set of 'n+1' independent storage devices where the parity and data blocks are interleaved across the storage devices.
RAID50	A placement policy that uses a RAID 0 stripe set over two or more RAID 5 sets of independent storage devices.
RAID6	A placement policy using parity-based protection for storing stripes of 'n' logical blocks of data and two logical blocks of independent parity across a set of 'n+2' independent storage devices where the parity and data blocks are interleaved across the storage devices.
RAID60	A placement policy that uses a RAID 0 stripe set over two or more RAID 6 sets of independent storage devices.
RAID6TP	A placement policy that uses parity-based protection for storing stripes of 'n' logical blocks of data and three logical blocks of independent parity across a set of 'n+3' independent storage devices where the parity and data blocks are interleaved across the storage devices.

Example Response


```
{
    "@odata.type": "#Storage.v1_8_0.Storage",
    "Id": "1",
    "Name": "Local Storage Controller",
    "Description": "Integrated RAID Controller",
    "Status": {
        "State": "Enabled",
        "Health": "OK",
        "HealthRollup": "OK"
    },
    "StorageControllers": [
```

```
        {
            "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1#/StorageControllers/0",
            "MemberId": "0",
            "Name": "Contoso Integrated RAID",
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "Identifiers": [
                {
                    "DurableNameFormat": "NAA",
                    "DurableName": "345C59DBD970859C"
                }
            ],
            "Manufacturer": "Contoso",
            "Model": "12Gbs Integrated RAID",
            "SerialNumber": "2M220100SL",
            "PartNumber": "CT18754",
            "SpeedGbps": 12,
            "FirmwareVersion": "1.0.0.7",
            "SupportedControllerProtocols": [
                "PCIe"
            ],
            "SupportedDeviceProtocols": [
                "SAS",
                "SATA"
            ]
        }
    ],
    "Drives": [
        {
            "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/35D38F11ACEF7BD3
        },
        {
            "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/3F5A8C54207B7233
        },
        {
            "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/32ADF365C6C1B7BD
        },
        {
            "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/3D58ECBC375FD9F2
        }
    ],
    "Volumes": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Volumes"
    },
    "Links": {},
    "Actions": {
        "#Storage.SetEncryptionKey": {
            "target": "/redfish/v1/Systems/437XR1138R2/Storage/1/Actions/Storage.SetEncrypt
        }
    },
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1"
}
```

Switch 1.3.0

v1.3	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.2	2017.3	2016.2

The Switch schema contains properties that describe a fabric switch.

URIs:

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*

AssetTag	string	read-write (null)	The user-assigned asset tag for this switch.
DomainID	integer	read-only (null)	The domain ID for this switch.
FirmwareVersion *(v1.2+)*	string	read-only (null)	The firmware version of this switch.
IndicatorLED	string (enum)	read-write (null)	The state of the indicator LED, which identifies the switch. *For the possible property values, see IndicatorLED in Property Details.*
IsManaged	boolean	read-write (null)	An indication of whether the switch is in a managed or unmanaged state.
Links {	object		The links to other Resources that are related to this Resource.
Chassis {	object		The link to the chassis that contains this switch. *See the Chassis schema for details on this property.*
@odata.id }	string	read-only	*Link to a Chassis resource. See the Links section and the Chassis schema for details.*
Endpoints *(v1.3+)* [{	array		An array of links to the endpoints that connect to this switch.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
ManagedBy [{	array		An array of links to the managers that manage this switch.
@odata.id }]	string	read-only	*Link to a Manager resource. See the Links section and the Manager schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
Location *(v1.1+)* { }	object		The location of the switch. *For property details, see Location.*

LogServices {	object		The link to the collection of Log Services associated with this switch. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of LogService. See the LogService schema for details.*
Manufacturer	string	read-only (null)	The manufacturer of this switch.
Model	string	read-only (null)	The product model number of this switch.
PartNumber	string	read-only (null)	The part number for this switch.
Ports {	object		The link to the collection ports for this switch. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Port. See the Port schema for details.*
PowerState	string (enum)	read-only (null)	The current power state of the switch. *For the possible property values, see PowerState in Property Details.*
Redundancy [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common objects section. *For property details, see Redundancy.*
SerialNumber	string	read-only (null)	The serial number for this switch.
SKU	string	read-only (null)	The SKU for this switch.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
SupportedProtocols *(v1.3+)* [ ]	array (string (enum))	read-only	The protocols this switch supports. *For the possible property values, see SupportedProtocols in Property Details.*
SwitchType	string (enum)	read-only (null)	The protocol being sent over this switch. *For the possible property values, see SwitchType in Property Details.*
TotalSwitchWidth	integer	read-only (null)	The total number of lanes, phys, or other physical transport links that this switch contains.
UUID *(v1.3+)*	string	read-only (null)	The UUID for this switch.

Actions

Reset

This action resets this switch.

Action URI: {Base URI of target resource}/Actions/Switch.Reset

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ResetType }	string (enum)	optional	The type of reset. *For the possible property values, see ResetType in Property Details.*

Property Details

IndicatorLED:

The state of the indicator LED, which identifies the switch.

string	Description
Blinking	The indicator LED is blinking.
Lit	The indicator LED is lit.
Off	The indicator LED is off.

PowerState:

The current power state of the switch.

string	Description
Off	The state is powered off.
On	The state is powered on.
PoweringOff	A temporary state between on and off.
PoweringOn	A temporary state between off and on.

ResetType:

The type of reset.

string	Description
ForceOff	Turn off the unit immediately (non-graceful shutdown).
ForceOn	Turn on the unit immediately.
ForceRestart	Shut down immediately and non-gracefully and restart the system.
GracefulRestart	Shut down gracefully and restart the system.

string	Description
GracefulShutdown	Shut down gracefully and power off.
Nmi	Generate a diagnostic interrupt, which is usually an NMI on x86 systems, to stop normal operations, complete diagnostic actions, and, typically, halt the system.
On	Turn on the unit.
PowerCycle	Power cycle the unit.
PushPowerButton	Simulate the pressing of the physical power button on this unit.

SupportedProtocols:

The protocols this switch supports.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
I2C	Inter-Integrated Circuit Bus.
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.
NFSv3	Network File System (NFS) version 3.
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).
NVMeOverFabrics	NVMe over Fabrics.
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.

string	Description
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).
USB	Universal Serial Bus (USB).

SwitchType:

The protocol being sent over this switch.

string	Description
AHCI	Advanced Host Controller Interface (AHCI).
FC	Fibre Channel.
FCoE	Fibre Channel over Ethernet (FCoE).
FCP	Fibre Channel Protocol for SCSI.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol (FTP).
GenZ	GenZ.
HTTP	Hypertext Transport Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
I2C	Inter-Integrated Circuit Bus.
iSCSI	Internet SCSI.
iWARP	Internet Wide Area RDMA Protocol (iWARP).
MultiProtocol	Multiple Protocols.
NFSv3	Network File System (NFS) version 3.
NFSv4	Network File System (NFS) version 4.
NVMe	Non-Volatile Memory Express (NVMe).

string	Description
NVMeOverFabrics	NVMe over Fabrics.
OEM	OEM-specific.
PCIe	PCI Express.
RoCE	RDMA over Converged Ethernet Protocol.
RoCEv2	RDMA over Converged Ethernet Protocol Version 2.
SAS	Serial Attached SCSI.
SATA	Serial AT Attachment.
SFTP	SSH File Transfer Protocol (SFTP).
SMB	Server Message Block (SMB). Also known as the Common Internet File System (CIFS).
TCP	Transmission Control Protocol (TCP).
TFTP	Trivial File Transfer Protocol (TFTP).
UDP	User Datagram Protocol (UDP).
UHCI	Universal Host Controller Interface (UHCI).
USB	Universal Serial Bus (USB).

Example Response


```
{
    "@odata.type": "#Switch.v1_3_0.Switch",
    "Id": "Switch1",
    "Name": "SAS Switch",
    "SwitchType": "SAS",
    "Manufacturer": "Contoso",
    "Model": "SAS1000",
    "SKU": "67B",
    "SerialNumber": "2M220100SL",
    "PartNumber": "76-88883",
    "Ports": {
        "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch1/Ports"
    },
    "Redundancy": [
        {
            "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch1#/Redundancy/0",
            "MemberId": "Redundancy",
            "Mode": "Sharing",
            "MaxNumSupported": 2,
            "MinNumNeeded": 1,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "RedundancySet": [
```

```
                {
                    "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch1"
                },
                {
                    "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch2"
                }
            ]
        }
    ],
    "Links": {
        "Chassis": {
            "@odata.id": "/redfish/v1/Chassis/Switch1"
        },
        "ManagedBy": [
            {
                "@odata.id": "/redfish/v1/Managers/Switch1"
            },
            {
                "@odata.id": "/redfish/v1/Managers/Switch2"
            }
        ],
        "Oem": {}
    },
    "Actions": {
        "#Switch.Reset": {
            "target": "/redfish/v1/Fabrics/SAS/Switches/Switch1/Actions/Switch.Reset",
            "ResetType@Redfish.AllowableValues": [
                "ForceRestart",
                "GracefulRestart"
            ]
        },
        "Oem": {}
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch1"
}
```


Task 1.4.3

v1.4	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2018.3	2018.2	2018.1	2017.1	1.0

The Task schema contains information about a task that the Redfish Task Service schedules or executes. Tasks represent operations that take more time than a client typically wants to wait.

URIs:

/redfish/v1/TaskService/Tasks/*{TaskId}*

EndTime	string	read-only	The date and time when the task was completed. This property will only appear when the task is complete.

HidePayload *(v1.3+)*	boolean	read-only	An indication of whether the contents of the payload are hidden from view after the task has been created. If `true`, responses do not return the payload. If `false`, responses return the payload. If this property is not present when the task is created, the default is `false`.
Messages [{ }]	array (object)		An array of messages associated with the task. The message that the Redfish Service returns. *For property details, see Message (v1.0.8).*
Payload *(v1.3+)* {	object		The HTTP and JSON payload details for this task, unless they are hidden from view by the service.
HttpHeaders [ ]	array (string)	read-only	An array of HTTP headers that this task includes.
HttpOperation	string	read-only	The HTTP operation to perform to execute this task.
JsonBody	string	read-only	The JSON payload to use in the execution of this task.
TargetUri }	string	read-only	The URI of the target for this task.
PercentComplete *(v1.4+)*	integer (%)	read-only (null)	The completion percentage of this task.
StartTime	string	read-only	The date and time when the task was started.
TaskMonitor *(v1.2+)*	string	read-only	The URI of the Task Monitor for this task.
TaskState	string (enum)	read-only	The state of the task. *For the possible property values, see TaskState in Property Details.*
TaskStatus	string (enum)	read-only	The completion status of the task. *For the possible property values, see TaskStatus in Property Details.*

Property Details

TaskState:

The state of the task.

string	Description
Cancelled *(v1.2+)*	Task has been cancelled by an operator or internal process.
Cancelling *(v1.2+)*	Task is in the process of being cancelled.
Completed	Task was completed.

string	Description
Exception	Task has stopped due to an exception condition.
Interrupted	Task has been interrupted.
Killed *(deprecated v1.2)*	Task was terminated. *This value has been deprecated and is being replaced by the Cancelled value, which has more determinate semantics.*
New	A new task.
Pending	Task is pending and has not started.
Running	Task is running normally.
Service	Task is running as a service.
Starting	Task is starting.
Stopping	Task is in the process of stopping.
Suspended	Task has been suspended.

TaskStatus:

The completion status of the task.

string	Description
Critical	A critical condition requires immediate attention.
OK	Normal.
Warning	A condition requires attention.

Example Response


```
{
    "@odata.type": "#Task.v1_4_3.Task",
    "Id": "545",
    "Name": "Task 545",
    "TaskMonitor": "/taskmon/545",
    "TaskState": "Completed",
    "StartTime": "2012-03-07T14:44+06:00",
    "EndTime": "2012-03-07T14:45+06:00",
    "TaskStatus": "OK",
    "Messages": [
        {
            "MessageId": "Base.1.0.PropertyNotWriteable",
            "RelatedProperties": [
                "SKU"
            ],
            "Message": "The property SKU is a read only property and cannot be assigned a v
            "MessageArgs": [
                "SKU"
            ],
            "Severity": "Warning"
```

```
        }
    ],
    "@odata.id": "/redfish/v1/TaskService/Tasks/545"
}
```


TaskService 1.1.4

v1.1	*v1.0*
2017.1	1.0

The TaskService schema describes a Task Service that enables management of long-duration operations, includes the properties for the Task Service itself, and has links to the actual Resource Collection of Tasks.

URIs:

/redfish/v1/TaskService

CompletedTaskOverWritePolicy	string (enum)	read-only	The overwrite policy for completed tasks. This property indicates whether the Task Service overwrites completed task information. *For the possible property values, see CompletedTaskOverWritePolicy in Property Details.*
DateTime	string	read-only (null)	The current date and time, with UTC offset, setting that the Task Service uses.
LifeCycleEventOnTaskStateChange	boolean	read-only	An indication of whether a task state change sends an event.
ServiceEnabled	boolean	read-write (null)	An indication of whether this service is enabled.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
Tasks {	object		The links to the Tasks collection. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Task. See the Task schema for details.*

Property Details

CompletedTaskOverWritePolicy:

The overwrite policy for completed tasks. This property indicates whether the Task Service overwrites completed task information.

string	Description
Manual	Completed tasks are not automatically overwritten.
Oldest	Oldest completed tasks are overwritten.

Example Response


```
{
    "@odata.type": "#TaskService.v1_1_4.TaskService",
    "Id": "TaskService",
    "Name": "Tasks Service",
    "DateTime": "2015-03-13T04:14:33+06:00",
    "CompletedTaskOverWritePolicy": "Manual",
    "LifeCycleEventOnTaskStateChange": true,
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "ServiceEnabled": true,
    "Tasks": {
        "@odata.id": "/redfish/v1/TaskService/Tasks"
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/TaskService"
}
```


TelemetryService 1.2.0

v1.2	*v1.1*	*v1.0*
2019.4	2018.3	2018.2

The TelemetryService schema describes a Telemetry Service. The Telemetry Service is used to for collecting and reporting metric data within the Redfish Service.

URIs:

/redfish/v1/TelemetryService

LogService {	object		The link to a Log Service that the Telemetry Service uses. This service may be a dedicated Log Service or a pointer a Log Service under another entity, such as Manager. *See the LogService schema for details on this property.*
@odata.id }	string	read-only	*Link to a LogService resource. See the Links section and the LogService schema for details.*
MaxReports	integer	read-only	The maximum number of metric reports

		(null)	that this service supports.
MetricDefinitions {	object		The link to the collection of metric definitions. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of MetricDefinition. See the MetricDefinition schema for details.*
MetricReportDefinitions {	object		The link to the collection of metric report definitions. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of MetricReportDefinition. See the MetricReportDefinition schema for details.*
MetricReports {	object		The link to the collection of metric reports. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of MetricReport. See the MetricReport schema for details.*
MinCollectionInterval	string	read-only (null)	The minimum time interval between gathering metric data that this service allows.
ServiceEnabled *(v1.2+)*	boolean	read-write (null)	An indication of whether this service is enabled.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
SupportedCollectionFunctions [ ]	array (string (enum))	read-write (null)	The functions that can be performed over each metric. An operation to perform over the sample. *For the possible property values, see SupportedCollectionFunctions in Property Details.*
Triggers {	object		The link to the collection of triggers, which apply to metrics. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of Triggers. See the Triggers schema for details.*

Actions

SubmitTestMetricReport

This action generates a metric report.

Action URI: {Base URI of target resource}/Actions/

TelemetryService.SubmitTestMetricReport

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
GeneratedMetricReportValues *(v1.1+)* [{	array	required	The content of the MetricReportValues in the generated metric report.
MetricDefinition {	object		The link to the metric. *See the MetricDefinition schema for details on this property.*
@odata.id }	string	read-only	*Link to a MetricDefinition resource. See the Links section and the MetricDefinition schema for details.*
MetricId	string	read-only (null)	The metric definitions identifier for this metric.
MetricProperty	string	read-only (null)	The URI for the property from which this metric is derived.
MetricValue	string	read-only (null)	The metric value, as a string.
Timestamp }]	string	read-only (null)	The time when the metric value is obtained. A management application may establish a time series of metric data by retrieving the instances of metric value and sorting them according to their Timestamp.
MetricReportName	string	required	The name of the metric report in generated metric report.
MetricReportValues *(deprecated v1.1)* }	string	optional	The contents of MetricReportValues array in the generated metric report. *Deprecated in v1.1 and later. This property has been deprecated in favor of using the property 'GeneratedMetricReportValues'.*

Property Details

SupportedCollectionFunctions:

The functions that can be performed over each metric. An operation to perform over the sample.

string	Description
Average	An averaging function.
Maximum	A maximum function.
Minimum	A minimum function.
Summation	A summation function.

Example Response


```
{
    "@odata.type": "#TelemetryService.v1_2_0.TelemetryService",
    "Id": "TelemetryService",
    "Name": "Telemetry Service",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "SupportedCollectionFunctions": [
        "Average",
        "Minimum",
        "Maximum"
    ],
    "MetricDefinitions": {
        "@odata.id": "/redfish/v1/TelemetryService/MetricDefinitions"
    },
    "MetricReportDefinitions": {
        "@odata.id": "/redfish/v1/TelemetryService/MetricReportDefinitions"
    },
    "MetricReports": {
        "@odata.id": "/redfish/v1/TelemetryService/MetricReports"
    },
    "Triggers": {
        "@odata.id": "/redfish/v1/TelemetryService/Triggers"
    },
    "LogService": {
        "@odata.id": "/redfish/v1/Managers/1/LogServices/Log1"
    },
    "@odata.id": "/redfish/v1/TelemetryService"
}
```


Thermal 1.6.0

v1.6	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2018.2	2017.3	2017.1	2016.3	2016.1	1.0

The Thermal schema describes temperature monitoring and thermal management subsystems, such as cooling fans, for a computer system or similiar devices contained within a chassis.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/Thermal

Fans [{	array		The set of fans for this chassis.
@odata.id	string	read-only required	The unique identifier for a resource.
Actions *(v1.3+)* { }	object		The available actions for this Resource.
Assembly *(v1.4+)* {	object		The link to the assembly associated with this fan. *See the Assembly schema for details on this property.*
@odata.id }	string	read-only	*Link to a Assembly resource. See the Links section and the Assembly schema for details.*
FanName *(deprecated v1.1)*	string	read-only (null)	The name of the fan. *Deprecated in v1.1 and later. This property has been deprecated in favor of the Name property.*
HotPluggable *(v1.4+)*	boolean	read-only (null)	An indication of whether this device can be inserted or removed while the equipment is in operation.
IndicatorLED *(v1.2+)*	string (enum)	read-write (null)	The state of the indicator LED, which identifies this fan. *For the possible property values, see IndicatorLED in Property Details.*
Location *(v1.4+)* { }	object		The location of the fan. *For property details, see Location.*
LowerThresholdCritical	integer	read-only (null)	The value at which the reading is below normal range but not yet fatal.
LowerThresholdFatal	integer	read-only (null)	The value at which the reading is below

			normal range and fatal.
LowerThresholdNonCritical	integer	read-only (null)	The value at which the reading is below normal range.
Manufacturer *(v1.2+)*	string	read-only (null)	The manufacturer of this fan.
MaxReadingRange	integer	read-only (null)	Maximum value for this sensor.
MemberId	string	read-only required	The identifier for the member within the collection.
MinReadingRange	integer	read-only (null)	Minimum value for this sensor.
Model *(v1.2+)*	string	read-only (null)	The model number for this fan.
Name *(v1.1+)*	string	read-only (null)	Name of the fan.
Oem { }	object		See the Oem object definition in the Common properties section.
PartNumber *(v1.2+)*	string	read-only (null)	The part number for this fan.
PhysicalContext	string (enum)	read-only	The area or device associated with this fan. *For the possible property values, see PhysicalContext in Property Details.*
Reading	integer	read-only (null)	The fan speed.
ReadingUnits *(v1.0.1+)*	string (enum)	read-only (null)	The units in which the fan reading and thresholds are measured. *For the possible property values, see ReadingUnits in Property Details.*
Redundancy [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the

			Redundancy object definition in the Common objects section. *For property details, see Redundancy.*
RelatedItem [{	array		An array of IDs of the Resources that this fan services.
@odata.id }]	string	read-only	The unique identifier for a resource.
SensorNumber *(v1.5+)*	integer	read-only (null)	The numerical identifier for this fan speed sensor.
SerialNumber *(v1.2+)*	string	read-only (null)	The serial number for this fan.
SparePartNumber *(v1.2+)*	string	read-only (null)	The spare part number for this fan.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
UpperThresholdCritical	integer	read-only (null)	The value at which the reading is above normal range but not yet fatal.
UpperThresholdFatal	integer	read-only (null)	The value at which the reading is above normal range and fatal.
UpperThresholdNonCritical }]	integer	read-only (null)	The value at which the reading is above normal range.
Redundancy [{ }]	array (object)		A reference to a set of Redundancy entities that provide redundant Services for this Resource. See the Redundancy object definition in the Common objects section. *For property details, see Redundancy.*
Status { }	object		The status and health of the Resource and its

			subordinate or dependent Resources. *For property details, see Status.*
Temperatures [{	array		The set of temperature sensors for this chassis.
@odata.id	string	read-only required	The unique identifier for a resource.
Actions *(v1.3+)* { }	object		The available actions for this Resource.
AdjustedMaxAllowableOperatingValue *(v1.4+)*	integer (Celsius)	read-only (null)	Adjusted maximum allowable operating temperature for this equipment based on the current environmental conditions present.
AdjustedMinAllowableOperatingValue *(v1.4+)*	integer (Celsius)	read-only (null)	Adjusted minimum allowable operating temperature for this equipment based on the current environmental conditions present.
DeltaPhysicalContext *(v1.4+)*	string (enum)	read-only	The area or device to which the DeltaReadingCelsius temperature measurement applies, relative to PhysicalContext. *For the possible property values, see DeltaPhysicalContext in Property Details.*
DeltaReadingCelsius *(v1.4+)*	number (Celsius)	read-only (null)	Delta Temperature reading.
LowerThresholdCritical	number (Celsius)	read-only (null)	The value at which the reading is below normal range but not yet fatal.
LowerThresholdFatal	number (Celsius)	read-only (null)	The value at which the reading is below normal range and fatal.
LowerThresholdNonCritical	number (Celsius)	read-only (null)	The value at which the reading is below normal range.

LowerThresholdUser *(v1.6+)*	integer (Celsius)	read-write (null)	The value at which the reading is below the user-defined range.
MaxAllowableOperatingValue *(v1.4+)*	integer (Celsius)	read-only (null)	Maximum allowable operating temperature for this equipment.
MaxReadingRangeTemp	number (Celsius)	read-only (null)	Maximum value for this sensor.
MemberId	string	read-only required	The identifier for the member within the collection.
MinAllowableOperatingValue *(v1.4+)*	integer (Celsius)	read-only (null)	Minimum allowable operating temperature for this equipment.
MinReadingRangeTemp	number (Celsius)	read-only (null)	Minimum value for this sensor.
Name	string	read-only (null)	The temperature sensor name.
Oem { }	object		See the Oem object definition in the Common properties section.
PhysicalContext	string (enum)	read-only	The area or device to which this temperature measurement applies. *For the possible property values, see PhysicalContext in Property Details.*
ReadingCelsius	number (Celsius)	read-only (null)	The temperature in degrees Celsius.
RelatedItem [{	array		The areas or devices to which this temperature applies.
@odata.id }]	string	read-only	The unique identifier for a resource.
SensorNumber	integer	read-only (null)	The numerical identifier of the temperature sensor.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

UpperThresholdCritical	number (Celsius)	read-only (null)	The value at which the reading is above normal range but not yet fatal.
UpperThresholdFatal	number (Celsius)	read-only (null)	The value at which the reading is above normal range and fatal.
UpperThresholdNonCritical	number (Celsius)	read-only (null)	The value at which the reading is above normal range.
UpperThresholdUser *(v1.6+)* }]	integer (Celsius)	read-write (null)	The value at which the reading is above the user-defined range.

Property Details

DeltaPhysicalContext:

The area or device to which the DeltaReadingCelsius temperature measurement applies, relative to PhysicalContext.

string	Description
Accelerator	An accelerator.
ACInput	An AC input.
ACMaintenanceBypassInput	An AC maintenance bypass input.
ACOutput	An AC output.
ACStaticBypassInput	An AC static bypass input.
ACUtilityInput	An AC utility input.
ASIC	An ASIC device, such as a networking chip or chipset component.
Back	The back of the chassis.
Backplane	A backplane within the chassis.
Chassis	The entire chassis.
ComputeBay	Within a compute bay.
CoolingSubsystem	The entire cooling, or air and liquid, subsystem.
CPU	A processor (CPU).
CPUSubsystem	The entire processor (CPU) subsystem.
DCBus	A DC bus.
Exhaust	The air exhaust point or points or region of the chassis.

string	Description
ExpansionBay	Within an expansion bay.
Fan	A fan.
FPGA	An FPGA.
Front	The front of the chassis.
GPU	A graphics processor (GPU).
GPUSubsystem	The entire graphics processor (GPU) subsystem.
Intake	The air intake point or points or region of the chassis.
LiquidInlet	The liquid inlet point of the chassis.
LiquidOutlet	The liquid outlet point of the chassis.
Lower	The lower portion of the chassis.
Memory	A memory device.
MemorySubsystem	The entire memory subsystem.
Motor	A motor.
NetworkBay	Within a networking bay.
NetworkingDevice	A networking device.
PowerSubsystem	The entire power subsystem.
PowerSupply	A power supply.
PowerSupplyBay	Within a power supply bay.
Rectifier	A rectifier device.
Room	The room.
StorageBay	Within a storage bay.
StorageDevice	A storage device.
SystemBoard	The system board (PCB).
Transformer	A transformer.
Upper	The upper portion of the chassis.
VoltageRegulator	A voltage regulator device.

IndicatorLED:

The state of the indicator LED, which identifies this fan.

string	Description
Blinking	The indicator LED is blinking.
Lit	The indicator LED is lit.
Off	The indicator LED is off.

PhysicalContext:

The area or device to which this temperature measurement applies.

string	Description
Accelerator	An accelerator.
ACInput	An AC input.
ACMaintenanceBypassInput	An AC maintenance bypass input.
ACOutput	An AC output.
ACStaticBypassInput	An AC static bypass input.
ACUtilityInput	An AC utility input.
ASIC	An ASIC device, such as a networking chip or chipset component.
Back	The back of the chassis.
Backplane	A backplane within the chassis.
Chassis	The entire chassis.
ComputeBay	Within a compute bay.
CoolingSubsystem	The entire cooling, or air and liquid, subsystem.
CPU	A processor (CPU).
CPUSubsystem	The entire processor (CPU) subsystem.
DCBus	A DC bus.
Exhaust	The air exhaust point or points or region of the chassis.
ExpansionBay	Within an expansion bay.
Fan	A fan.
FPGA	An FPGA.
Front	The front of the chassis.
GPU	A graphics processor (GPU).
GPUSubsystem	The entire graphics processor (GPU) subsystem.
Intake	The air intake point or points or region of the chassis.

string	Description
LiquidInlet	The liquid inlet point of the chassis.
LiquidOutlet	The liquid outlet point of the chassis.
Lower	The lower portion of the chassis.
Memory	A memory device.
MemorySubsystem	The entire memory subsystem.
Motor	A motor.
NetworkBay	Within a networking bay.
NetworkingDevice	A networking device.
PowerSubsystem	The entire power subsystem.
PowerSupply	A power supply.
PowerSupplyBay	Within a power supply bay.
Rectifier	A rectifier device.
Room	The room.
StorageBay	Within a storage bay.
StorageDevice	A storage device.
SystemBoard	The system board (PCB).
Transformer	A transformer.
Upper	The upper portion of the chassis.
VoltageRegulator	A voltage regulator device.

ReadingUnits:

The units in which the fan reading and thresholds are measured.

string	Description
Percent	The fan reading and thresholds are measured as a percentage.
RPM	The fan reading and thresholds are measured in rotations per minute.

Example Response


```
{
    "@odata.type": "#Thermal.v1_6_0.Thermal",
    "Id": "Thermal",
    "Name": "Thermal",
    "Temperatures": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Temperatures/0",
```

```
            "MemberId": "0",
            "Name": "CPU1 Temp",
            "SensorNumber": 5,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "ReadingCelsius": 41,
            "UpperThresholdNonCritical": 42,
            "UpperThresholdCritical": 45,
            "UpperThresholdFatal": 48,
            "MinReadingRangeTemp": 0,
            "MaxReadingRangeTemp": 60,
            "PhysicalContext": "CPU",
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Processors/CPU1"
                }
            ]
        },
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Temperatures/1",
            "MemberId": "1",
            "Name": "CPU2 Temp",
            "SensorNumber": 6,
            "Status": {
                "State": "Disabled"
            },
            "UpperThresholdNonCritical": 42,
            "UpperThresholdCritical": 45,
            "UpperThresholdFatal": 48,
            "MinReadingRangeTemp": 0,
            "MaxReadingRangeTemp": 60,
            "PhysicalContext": "CPU",
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Processors/CPU2"
                }
            ]
        },
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Temperatures/2",
            "MemberId": "2",
            "Name": "Chassis Intake Temp",
            "SensorNumber": 9,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "ReadingCelsius": 25,
            "UpperThresholdUser": 28,
            "UpperThresholdNonCritical": 30,
            "UpperThresholdCritical": 40,
            "UpperThresholdFatal": 50,
            "LowerThresholdUser": 20,
            "LowerThresholdNonCritical": 10,
            "LowerThresholdCritical": 5,
            "LowerThresholdFatal": 0,
```

```
            "MinReadingRangeTemp": 0,
            "MaxReadingRangeTemp": 60,
            "PhysicalContext": "Intake",
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                },
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                }
            ]
        }
    ],
    "Fans": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Fans/0",
            "MemberId": "0",
            "Name": "BaseBoard System Fan",
            "PhysicalContext": "Backplane",
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "Reading": 2100,
            "ReadingUnits": "RPM",
            "LowerThresholdFatal": 0,
            "MinReadingRange": 0,
            "MaxReadingRange": 5000,
            "Redundancy": [
                {
                    "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Redundancy/0"
                }
            ],
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ]
        },
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Fans/1",
            "MemberId": "1",
            "Name": "BaseBoard System Fan Backup",
            "PhysicalContext": "Backplane",
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "Reading": 2050,
            "ReadingUnits": "RPM",
            "LowerThresholdFatal": 0,
            "MinReadingRange": 0,
            "MaxReadingRange": 5000,
            "Redundancy": [
                {
```

```
                    "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Redundancy/0"
                }
            ],
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ]
        }
    ],
    "Redundancy": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Redundancy/0",
            "MemberId": "0",
            "Name": "BaseBoard System Fans",
            "RedundancySet": [
                {
                    "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Fans/0"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U/Thermal#/Fans/1"
                }
            ],
            "Mode": "N+m",
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "MinNumNeeded": 1,
            "MaxNumSupported": 2
        }
    ],
    "@odata.id": "/redfish/v1/Chassis/1U/Thermal"
}
```


Triggers 1.1.1

v1.1	*v1.0*
2019.1	2018.2

The Triggers schema describes a trigger that applies to metrics.

URIs:

/redfish/v1/TelemetryService/Triggers/*{TriggersId}*

DiscreteTriggerCondition	string (enum)	read-only (null)	The conditions when a discrete metric triggers. *For the possible property values, see DiscreteTriggerCondition in Property Details.*

DiscreteTriggers [{	array		The list of discrete triggers.
DwellTime	string	read-write (null)	The amount of time that a trigger event persists before the metric action is performed.
Name	string	read-only (null)	The name of trigger.
Severity	string (enum)	read-write (null)	The severity of the event message. *For the possible property values, see Severity in Property Details.*
Value }]	string	read-write (null)	The discrete metric value that constitutes a trigger event.
EventTriggers *(v1.1+)* [ ]	array (string, null)	read-write	The array of MessageIds that specify when a trigger condition is met based on an event.
Links *(v1.1+)* {	object		The links to other Resources that are related to this Resource.
MetricReportDefinitions [{	array		The metric report definitions that generate new metric reports when a trigger condition is met and when the TriggerActions property contains `RedfishMetricReport`.
@odata.id }]	string	read-only	*Link to a MetricReportDefinition resource. See the Links section and the MetricReportDefinition schema for details.*
Oem { } }	object		See the Oem object definition in the Common properties section.
MetricProperties [ ]	array (string, null)	read-write	An array of URIs with wildcards and property identifiers for this trigger. Each wildcard shall be replaced with its corresponding entry in the Wildcard array property.
MetricType	string (enum)	read-only (null)	The metric type of the trigger. *For the possible property values, see MetricType in Property Details.*
NumericThresholds {	object		The thresholds when a numeric metric triggers.
LowerCritical {	object		The value at which the reading is below normal range and requires attention.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.

Reading }	number	read-write (null)	The threshold value.
LowerWarning {	object		The value at which the reading is below normal range.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading }	number	read-write (null)	The threshold value.
UpperCritical {	object		The value at which the reading is above normal range and requires attention.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading }	number	read-write (null)	The threshold value.
UpperWarning {	object		The value at which the reading is above normal range.
Activation	string (enum)	read-write (null)	The direction of crossing that activates this threshold. *For the possible property values, see Activation in Property Details.*
DwellTime	string	read-write (null)	The duration the sensor value must violate the threshold before the threshold is activated.
Reading } }	number	read-write (null)	The threshold value.
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
TriggerActions [ ]	array (string (enum))	read-only	The actions that the trigger initiates. The actions to perform when a trigger condition is met. *For the possible property values, see TriggerActions in Property Details.*

Wildcards [{	array		The wildcards and their substitution values for the entries in the MetricProperties array property.
Name	string	read-only (null)	The wildcard.
Values [ ] }]	array (string, null)	read-only	An array of values to substitute for the wildcard.

Property Details

Activation:

The direction of crossing that activates this threshold.

string	Description
Decreasing	Value decreases below the threshold.
Either	Value crosses the threshold in either direction.
Increasing	Value increases above the threshold.

DiscreteTriggerCondition:

The conditions when a discrete metric triggers.

string	Description
Changed	A discrete trigger condition is met whenever the metric value changes.
Specified	A discrete trigger condition is met when the metric value becomes one of the values that the DiscreteTriggers property lists.

MetricType:

The metric type of the trigger.

string	Description
Discrete	The trigger is for a discrete sensor.
Numeric	The trigger is for numeric sensor.

Severity:

The severity of the event message.

string	Description
Critical	A critical condition requires immediate attention.
OK	Normal.
Warning	A condition requires attention.

TriggerActions:

The actions that the trigger initiates. The actions to perform when a trigger condition is met.

string	Description
LogToLogService	When a trigger condition is met, record in a log.
RedfishEvent	When a trigger condition is met, the Service sends an event to subscribers.
RedfishMetricReport	When a trigger condition is met, force an update of the specified metric reports.

Example Response


```
{
    "@odata.type": "#Triggers.v1_1_1.Triggers",
    "Id": "PlatformPowerCapTriggers",
    "Name": "Triggers for platform power consumed",
    "MetricType": "Numeric",
    "TriggerActions": [
        "RedfishEvent"
    ],
    "NumericThresholds": {
        "UpperCritical": {
            "Reading": 50,
            "Activation": "Increasing",
            "DwellTime": "PT0.001S"
        },
        "UpperWarning": {
            "Reading": 48.1,
            "Activation": "Increasing",
            "DwellTime": "PT0.004S"
        }
    },
    "MetricProperties": [
        "/redfish/v1/Chassis/1/Power#/PowerControl/0/PowerConsumedWatts"
    ],
    "@odata.id": "/redfish/v1/TelemetryService/Triggers/PlatformPowerCapTriggers"
}
```


UpdateService 1.8.0

v1.8	*v1.7*	*v1.6*	*v1.5*	*v1.4*	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.3	2019.2	2019.1	2018.3	2018.2	2017.1	2016.3	2016.2

The UpdateService schema describes the Update Service and the properties for the Service itself with links to collections of firmware and software inventory. The Update Service also provides methods for updating software and firmware of the Resources in a Redfish Service.

URIs:

/redfish/v1/UpdateService

FirmwareInventory {	object		An inventory of firmware. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of SoftwareInventory. See the SoftwareInventory schema for details.*
HttpPushUri *(v1.1+)*	string	read-only	The URI used to perform an HTTP or HTTPS push update to the Update Service. The format of the message is vendor-specific.
HttpPushUriOptions *(v1.4+)* {	object		The options for HttpPushUri-provided software updates.
HttpPushUriApplyTime {	object		The settings for when to apply HttpPushUri-provided firmware.
ApplyTime	string (enum)	read-write	The time when to apply the HttpPushUri-provided software update. *For the possible property values, see ApplyTime in Property Details.*
MaintenanceWindowDurationInSeconds	integer (seconds)	read-write	The expiry time, in seconds, of the maintenance window.
MaintenanceWindowStartTime } }	string	read-write	The start time of a maintenance window.
HttpPushUriOptionsBusy *(v1.4+)*	boolean	read-write (null)	An indication of whether a client has reserved the HttpPushUriOptions properties for software updates.
HttpPushUriTargets *(v1.2+)* [ ]	array (string, null)	read-write	An array of URIs that indicate where to apply the update image.
HttpPushUriTargetsBusy *(v1.2+)*	boolean	read-write (null)	An indication of whether any client has reserved the HttpPushUriTargets

			property.
MaxImageSizeBytes *(v1.5+)*	integer (bytes)	read-only (null)	The maximum size in bytes of the software update image that this Service supports.
MultipartHttpPushUri *(v1.6+)*	string	read-only	The URI used to perform a Redfish Specification-defined Multipart HTTP or HTTPS push update to the Update Service.
ServiceEnabled	boolean	read-write (null)	An indication of whether this service is enabled.
SoftwareInventory {	object		An inventory of software. *Contains a link to a resource.*
@odata.id }	string	read-only	*Link to Collection of SoftwareInventory. See the SoftwareInventory schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*

Actions

SimpleUpdate

This action updates software components.

Action URI: {Base URI of target resource}/Actions/UpdateService.SimpleUpdate

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ImageURI	string	required	The URI of the software image to install.
Password *(v1.4+)*	string	optional	The password to access the URI specified by the ImageURI parameter.
Targets *(v1.2+)* [ ]	array (string)	optional	An array of URIs that indicate where to apply the update image.
TransferProtocol	string (enum)	optional	The network protocol that the Update Service uses to retrieve the software image file located at the URI provided in ImageURI, if

			the URI does not contain a scheme. *For the possible property values, see TransferProtocol in Property Details.*
Username *(v1.4+)* }	string	optional	The user name to access the URI specified by the ImageURI parameter.

StartUpdate

This action starts an update of software components.

Action URI: {Base URI of target resource}/Actions/UpdateService.StartUpdate

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

Property Details

ApplyTime:

The time when to apply the HttpPushUri-provided software update.

string	Description
AtMaintenanceWindowStart	Apply during an administrator-specified maintenance window.
Immediate	Apply immediately.
InMaintenanceWindowOnReset	Apply after a reset but within an administrator-specified maintenance window.
OnReset	Apply on a reset.

TransferProtocol:

The network protocol that the Update Service uses to retrieve the software image file located at the URI provided in ImageURI, if the URI does not contain a scheme.

string	Description
CIFS	Common Internet File System (CIFS).
FTP	File Transfer Protocol (FTP).
HTTP	Hypertext Transfer Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
NFS *(v1.3+)*	Network File System (NFS).
NSF *(deprecated v1.3)*	Network File System (NFS). *This value has been deprecated in favor of NFS.*
OEM	A manufacturer-defined protocol.
SCP	Secure Copy Protocol (SCP).

string	Description
SFTP *(v1.1+)*	Secure File Transfer Protocol (SFTP).
TFTP	Trivial File Transfer Protocol (TFTP).

Example Response


```
{
    "@odata.type": "#UpdateService.v1_8_0.UpdateService",
    "Id": "UpdateService",
    "Name": "Update service",
    "Status": {
        "State": "Enabled",
        "Health": "OK",
        "HealthRollup": "OK"
    },
    "ServiceEnabled": true,
    "HttpPushUri": "/FWUpdate",
    "FirmwareInventory": {
        "@odata.id": "/redfish/v1/UpdateService/FirmwareInventory"
    },
    "SoftwareInventory": {
        "@odata.id": "/redfish/v1/UpdateService/SoftwareInventory"
    },
    "Actions": {
        "#UpdateService.SimpleUpdate": {
            "target": "/redfish/v1/UpdateService/Actions/SimpleUpdate",
            "@Redfish.ActionInfo": "/redfish/v1/UpdateService/SimpleUpdateActionInfo"
        },
        "Oem": {}
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/UpdateService"
}
```


VCATEntry 1.0.0

v1.0
2019.4

The Schema definition of the Virtual Channel Action Table entries. A Virtual Channel is a mechanism used to create multiple, logical communication streams across a physical link.

URIs:

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*/VCAT/*{VCATEntryId}*

/redfish/v1/Systems/*{SystemId}*/FabricAdapters/*{FabricAdapterId}*/Ports/*{PortId}*/VCAT/*{VCATEntryId}*

/redfish/v1/Systems/*{SystemId}*/FabricAdapters/*{FabricAdapterId}*/REQ-VCAT/*{VCATEntryId}*

/redfish/v1/Systems/*{SystemId}*/FabricAdapters/*{FabricAdapterId}*/RSP-VCAT/*{VCATEntryId}*

RawEntryHex	string	read-only (null)	The hexadecimal value of the Virtual Channel Action Table entries.
VCEntries [{	array		An array of entries of the Virtual Channel Action Table.
Threshold	string	read-only (null)	The configured threshold.
VCMask }]	string	read-only (null)	The bits corresponding to the supported Virtual Channel.

VirtualMedia 1.3.2

v1.3	*v1.2*	*v1.1*	*v1.0*
2018.3	2017.3	2017.1	1.0

The VirtualMedia schema contains properties related to the monitor and control of an instance of virtual media, such as a remote CD, DVD, or USB device. A manager for a system or device provides virtual media functionality.

URIs:

/redfish/v1/Managers/*{ManagerId}*/VirtualMedia/*{VirtualMediaId}*

ConnectedVia	string (enum)	read-only (null)	The current virtual media connection method. *For the possible property values, see ConnectedVia in Property Details.*
Image	string	read-write (null)	The URI of the location of the selected image.
ImageName	string	read-only (null)	The current image name.
Inserted	boolean	read-write (null)	An indication of whether virtual media is inserted into the virtual device.
MediaTypes [ ]	array (string (enum))	read-only	The media types supported as virtual media. *For the possible property values, see MediaTypes in Property Details.*
Password *(v1.3+)*	string	read-write (null)	The password to access the Image parameter-specified URI. This property is null in responses.
TransferMethod *(v1.3+)*	string (enum)	read-write (null)	The transfer method to use with the Image. *For the possible property values, see TransferMethod in Property Details.*
TransferProtocolType *(v1.3+)*	string (enum)	read-write (null)	The network protocol to use with the image. *For the possible property values, see TransferProtocolType in Property Details.*

UserName *(v1.3+)*	string	read-write (null)	The user name to access the Image parameter-specified URI.
WriteProtected	boolean	read-write (null)	An indication of whether the media is write-protected.

Actions

EjectMedia

This action detaches remote media from virtual media.

Action URI: {Base URI of target resource}/Actions/VirtualMedia.EjectMedia

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

InsertMedia

This action attaches remote media to virtual media.

Action URI: {Base URI of target resource}/Actions/VirtualMedia.InsertMedia

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
Image	string	required	The URI of the remote media to attach to the virtual media.
Inserted	boolean	optional	An indication of whether the image is treated as inserted upon completion of the action. The default is `true`.
Password *(v1.3+)*	string	optional	The password to access the Image parameter-specified URI.
TransferMethod *(v1.3+)*	string (enum)	optional	The transfer method to use with the Image. *For the possible property values, see TransferMethod in Property Details.*
TransferProtocolType *(v1.3+)*	string (enum)	optional	The network protocol to use with the image. *For the possible property values, see TransferProtocolType in Property Details.*
UserName *(v1.3+)*	string	optional	The user name to access the Image parameter-specified URI.
WriteProtected	boolean	optional	An indication of whether the remote media is treated as write-protected. The default is `true`.
}			

Property Details

ConnectedVia:

The current virtual media connection method.

string	Description
Applet	Connected to a client application.
NotConnected	No current connection.
Oem	Connected through an OEM-defined method.
URI	Connected to a URI location.

MediaTypes:

The media types supported as virtual media.

string	Description
CD	A CD-ROM format (ISO) image.
DVD	A DVD-ROM format image.
Floppy	A floppy disk image.
USBStick	An emulation of a USB storage device.

TransferMethod:

The transfer method to use with the Image.

string	Description
Stream	Stream image file data from the source URI.
Upload	Upload the entire image file from the source URI to the service.

TransferProtocolType:

The network protocol to use with the image.

string	Description
CIFS	Common Internet File System (CIFS).
FTP	File Transfer Protocol (FTP).
HTTP	Hypertext Transfer Protocol (HTTP).
HTTPS	Hypertext Transfer Protocol Secure (HTTPS).
NFS	Network File System (NFS).
OEM	A manufacturer-defined protocol.
SCP	Secure Copy Protocol (SCP).

string	Description
SFTP	Secure File Transfer Protocol (SFTP).
TFTP	Trivial File Transfer Protocol (TFTP).

Example Response


```
{
    "@odata.type": "#VirtualMedia.v1_3_2.VirtualMedia",
    "Id": "CD1",
    "Name": "Virtual CD",
    "MediaTypes": [
        "CD",
        "DVD"
    ],
    "Image": "redfish.dmtf.org/freeImages/freeOS.1.1.iso",
    "ImageName": "mymedia-read-only",
    "ConnectedVia": "Applet",
    "Inserted": true,
    "WriteProtected": false,
    "@odata.id": "/redfish/v1/Managers/BMC/VirtualMedia/CD1"
}
```


VLanNetworkInterface 1.1.4

v1.1	*v1.0*
2017.1	1.0

The attributes of a VLAN.

URIs:

/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkDeviceFunctions/*{NetworkDeviceFunctionId}*/Ethernet/VLANs/*{VLanNetworkInterfaceId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs/*{VLanNetworkInterfaceId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs/*{VLanNetworkInterfaceId}*

/redfish/v1/Managers/*{ManagerId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs/*{VLanNetworkInterfaceId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs/*{VLanNetworkInterfaceId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs/*{VLanNetworkInterfaceId}*

/redfish/v1/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs/*{VLanNetworkInterfaceId}*

VLANEnable	boolean	read-write required on create (null)	An indication of whether this VLAN is enabled for this interface.

VLANId	integer	read-write required on create (null)	The ID for this VLAN.

Example Response

```
{
    "@odata.type": "#VLanNetworkInterface.v1_1_4.VLanNetworkInterface",
    "Id": "1",
    "Name": "VLAN Network Interface",
    "Description": "System NIC 1 VLAN",
    "VLANEnable": true,
    "VLANId": 101,
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/EthernetInterfaces/12446A3B0411/VLANs/1"
}
```

Volume 1.4.0

Volume contains properties used to describe a volume, virtual disk, LUN, or other logical storage entity for any system.

URIs:

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Volumes/*{VolumeId}*

/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Volumes/*{VolumeId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Volumes/*{VolumeId}*

/redfish/v1/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Volumes/*{VolumeId}*

/redfish/v1/StorageServices/*{StorageServiceId}*/ConsistencyGroups/*{ConsistencyGroupId}*/Volumes/*{VolumeId}*

/redfish/v1/StorageServices/*{StorageServiceId}*/FileSystems/*{FileSystemId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes/*{VolumeId}*

/redfish/v1/StorageServices/*{StorageServiceId}*/StoragePools/*{StoragePoolId}*/AllocatedVolumes/*{VolumeId}*

/redfish/v1/StorageServices/*{StorageServiceId}*/StoragePools/*{StoragePoolId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes/*{VolumeId}*

/redfish/v1/StorageServices/*{StorageServiceId}*/Volumes/*{VolumeId}*

/redfish/v1/StorageServices/*{StorageServiceId}*/Volumes/*{VolumeId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes/*{VolumeId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/ConsistencyGroups/*{ConsistencyGroupId}*/Volumes/*{VolumeId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/FileSystems/*{FileSystemId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes/*{VolumeId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/StoragePools/*{StoragePoolId}*/AllocatedVolumes/*{VolumeId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/StoragePools/*{StoragePoolId}*/CapacitySources/*{CapacitySourceId}*/ProvidingVolumes/*{VolumeId}*

/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Volumes/*{VolumeId}*

AccessCapabilities *(v1.1+)* [ ]	array (string (enum))	read-write (null)	Supported IO access capabilities. Values of StorageAccessCapability describe abilities to read or write storage. *For the possible property values, see AccessCapabilities in Property Details.*
AllocatedPools *(v1.1+)* {	object		An array of references to StoragePools allocated from this Volume.
@odata.id }	string	read-only	The unique identifier for a resource.
BlockSizeBytes	integer (bytes)	read-only (null)	The size of the smallest addressable unit (Block) of this volume in bytes.
Capacity *(v1.1+)* { }	object		Capacity utilization. *For property details, see Capacity (v1.0.0).*
CapacityBytes	integer (bytes)	read-write (null)	The size in bytes of this Volume.
CapacitySources *(v1.1+)* [{	array		An array of space allocations to this volume.
@odata.id }]	string	read-only	The unique identifier for a resource.
Compressed *(v1.4+)*	boolean	read-write (null)	Indicator of whether or not the Volume has compression enabled.
Deduplicated *(v1.4+)*	boolean	read-write (null)	Indicator of whether or not the Volume has deduplication enabled.
DisplayName *(v1.4+)*	string	read-write (null)	A user-configurable string to name the volume.
Encrypted	boolean	read-write (null)	Is this Volume encrypted.
EncryptionTypes [ ]	array (string (enum))	read-write	The types of encryption used by this Volume. *For the possible property values, see EncryptionTypes in Property Details.*
Identifiers [{ }]	array (object)		The Durable names for the volume. Any

			additional identifiers for a Resource. *For property details, see Identifier.*
IOStatistics *(v1.2+)* { }	object		Statistics for this volume. *For property details, see IOStatistics (v1.0.3).*
Links {	object		Contains references to other resources that are related to this resource.
ClassOfService *(v1.1+)* {	object		The ClassOfService that this storage volume conforms to.
@odata.id }	string	read-only	The unique identifier for a resource.
ClientEndpoints *(v1.4+)* [{	array		An array of references to the client Endpoints associated with this volume.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
ConsistencyGroups *(v1.4+)* [{	array		An array of references to the ConsistencyGroups associated with this volume.
@odata.id }]	string	read-only	The unique identifier for a resource.
DedicatedSpareDrives *(v1.2+)* [{	array		An array of references to the drives which are dedicated spares for this volume.
@odata.id }]	string	read-only	*Link to a Drive resource. See the Links section and the Drive schema for details.*
Drives [{	array		An array of references to the drives which contain this volume. This will reference Drives that either wholly or only partly contain this volume.
@odata.id }]	string	read-only	*Link to a Drive resource. See the Links section and the Drive schema for*

			details.
Oem { }	object		See the Oem object definition in the Common properties section.
OwningStorageService *(v1.4+)* {	object		A pointer to the StorageService that owns or contains this volume.
@odata.id }	string	read-only	The unique identifier for a resource.
ServerEndpoints *(v1.4+)* [{	array		An array of references to the server Endpoints associated with this volume.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*
SpareResourceSets *(v1.3+)* [{	array		An array of references to SpareResourceSets.
@odata.id }]	string	read-only	The unique identifier for a resource.
StorageGroups *(v1.4+)* [{	array		An array of references to the StorageGroups associated with this volume.
@odata.id }] }	string	read-only	The unique identifier for a resource.
LogicalUnitNumber *(v1.4+)*	integer	read-only (null)	Indicates the host-visible LogicalUnitNumber assigned to this Volume.
LowSpaceWarningThresholdPercents *(v1.1+)* [ ]	array (%) (integer, null)	read-write	Low space warning.
Manufacturer *(v1.1+)*	string	read-only (null)	The manufacturer or OEM of this storage volume.
MaxBlockSizeBytes *(v1.1+)*	integer (bytes)	read-only (null)	Max Block size in bytes.
MediaSpanCount *(v1.4+)*	integer	read-only (null)	Indicates the number of media elements used per span in the secondary RAID for a hierarchical

			RAID type.
Model *(v1.1+)*	string	read-only (null)	The model number for this storage volume.
Operations [{	array		The operations currently running on the Volume.
AssociatedTask {	object		A reference to the task associated with the operation if any. *See the Task schema for details on this property.*
@odata.id }	string	read-only	*Link to a Task resource. See the Links section and the Task schema for details.*
OperationName	string	read-only (null)	The name of the operation.
PercentageComplete }]	integer	read-only (null)	The percentage of the operation that has been completed.
OptimumIOSizeBytes	integer (bytes)	read-only (null)	The size in bytes of this Volume's optimum IO size.
ProvisioningPolicy *(v1.4+)*	string (enum)	read-write (null)	This property specifies the volume's storage allocation, or provisioning policy. *For the possible property values, see ProvisioningPolicy in Property Details.*
RAIDType *(v1.3.1+)*	string (enum)	read-only (null)	The RAID type of this volume. *For the possible property values, see RAIDType in Property Details.*
ReadCachePolicy *(v1.4+)*	string (enum)	read-write (null)	Indicates the read cache policy setting for the Volume. *For the possible property values, see ReadCachePolicy in Property Details.*
RecoverableCapacitySourceCount *(v1.3+)*	integer	read-write (null)	Current number of capacity source resources that are available as replacements.

RemainingCapacityPercent *(v1.2+)*	integer	read-only (null)	The percentage of the capacity remaining in the Volume.
ReplicaInfo *(v1.1+)* { }	object		Describes this storage volume in its role as a target replica. *For property details, see ReplicaInfo (v1.2.0).*
ReplicaTargets *(v1.3+)* [{	array		The resources that are target replicas of this source.
@odata.id }]	string	read-only	The unique identifier for a resource.
Status { }	object		The property contains the status of the Volume. *For property details, see Status.*
StorageGroups *(v1.1+)* {	object		An array of references to Storage Groups that includes this volume.
@odata.id }	string	read-only	The unique identifier for a resource.
StripSizeBytes *(v1.4+)*	integer (bytes)	read-write (null)	The number of blocks (bytes) in a strip in a disk array that uses striped data mapping.
VolumeType	string (enum)	read-only (null)	The type of this volume. *For the possible property values, see VolumeType in Property Details.*
VolumeUsage *(v1.4+)*	string (enum)	read-only (null)	Indicates the Volume usage type setting for the Volume. *For the possible property values, see VolumeUsage in Property Details.*
WriteCachePolicy *(v1.4+)*	string (enum)	read-write (null)	Indicates the write cache policy setting for the Volume. *For the possible property values, see WriteCachePolicy in Property Details.*
WriteCacheState *(v1.4+)*	string (enum)	read-only (null)	Indicates the WriteCacheState policy setting for the Volume. *For the possible property*

			values, see WriteCacheState in Property Details.
WriteHoleProtectionPolicy *(v1.4+)*	string (enum)	read-write	The policy that the RAID volume is using to address the write hole issue. *For the possible property values, see WriteHoleProtectionPolicy in Property Details.*

Actions

AssignReplicaTarget

This action is used to establish a replication relationship by assigning an existing volume to serve as a target replica for an existing source volume.

Action URI: {Base URI of target resource}/Actions/Volume.AssignReplicaTarget

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ReplicaType	string (enum)	required	The type of replica relationship to be created. *For the possible property values, see ReplicaType in Property Details.*
ReplicaUpdateMode	string (enum)	required	The replica update mode (synchronous vs asynchronous). *For the possible property values, see ReplicaUpdateMode in Property Details.*
TargetVolume }	string	required	The Uri to the existing target volume.

CheckConsistency

This action is used to force a check of the Volume's parity or redundant data to ensure it matches calculated values.

Action URI: {Base URI of target resource}/Actions/Volume.CheckConsistency

Perform the action using a POST to the specific Action URI for this resource. This action takes no parameters.

CreateReplicaTarget

This action is used to create a new volume resource to provide expanded data protection through a replica relationship with the specified source volume.

Action URI: {Base URI of target resource}/Actions/Volume.CreateReplicaTarget

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
ReplicaType	string (enum)	required	The type of replica relationship to be created. *For the possible property values, see ReplicaType in Property Details.*
ReplicaUpdateMode	string (enum)	required	The replica update mode (synchronous vs asynchronous). *For the possible property values, see ReplicaUpdateMode in Property Details.*
TargetStoragePool	string	required	The Uri to the existing target Storage Pool.
VolumeName }	string	optional	The Name for the new target volume.

Initialize

This action is used to prepare the contents of the volume for use by the system. If InitializeType is not specified in the request body, the InitializeType should be Fast.

Action URI: {Base URI of target resource}/Actions/Volume.Initialize

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
InitializeType }	string (enum)	optional	The type of initialization to be performed. *For the possible property values, see InitializeType in Property Details.*

RemoveReplicaRelationship

This action is used to disable data synchronization between a source and target volume, remove the replication relationship, and optionally delete the target volume.

Action URI: {Base URI of target resource}/Actions/Volume.RemoveReplicaRelationship

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
DeleteTargetVolume	boolean	optional	Indicate whether or not to delete the target volume as part of the operation.
TargetVolume }	string	required	The Uri to the existing target volume.

ResumeReplication

This action is used to resume the active data synchronization between a source and target volume, without otherwise altering the replication relationship.

Action URI: {Base URI of target resource}/Actions/Volume.ResumeReplication

Perform the action using a POST to the specific Action URI for this resource. Parameters for

the action are passed in a JSON body and are defined as follows:

{			
TargetVolume }	string	required	The Uri to the existing target volume.

ReverseReplicationRelationship

This action is used to reverse the replication relationship between a source and target volume.

Action URI: {Base URI of target resource}/Actions/ Volume.ReverseReplicationRelationship

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
TargetVolume }	string	required	The Uri to the existing target volume.

SplitReplication

This action is used to split the replication relationship and suspend data synchronization between a source and target volume.

Action URI: {Base URI of target resource}/Actions/Volume.SplitReplication

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
TargetVolume }	string	required	The Uri to the existing target volume.

SuspendReplication

This action is used to suspend active data synchronization between a source and target volume, without otherwise altering the replication relationship.

Action URI: {Base URI of target resource}/Actions/Volume.SuspendReplication

Perform the action using a POST to the specific Action URI for this resource. Parameters for the action are passed in a JSON body and are defined as follows:

{			
TargetVolume }	string	required	The Uri to the existing target volume.

Property Details

AccessCapabilities:

Supported IO access capabilities. Values of StorageAccessCapability describe abilities to read or write storage.

string	Description
Append	AppendOnly.
Execute	Execute access is allowed by the file share.
Read	Read.
Streaming	Streaming.
Write	Write Many.
WriteOnce	WriteOnce.

EncryptionTypes:

The types of encryption used by this Volume.

string	Description
ControllerAssisted	The volume is being encrypted by the storage controller entity.
NativeDriveEncryption	The volume is utilizing the native drive encryption capabilities of the drive hardware.
SoftwareAssisted	The volume is being encrypted by software running on the system or the operating system.

InitializeType:

The type of initialization to be performed.

string	Description
Fast	The volume is prepared for use quickly, typically by erasing just the beginning and end of the space so that partitioning can be performed.
Slow	The volume is prepared for use slowly, typically by completely erasing the volume.

ProvisioningPolicy:

This property specifies the volume's storage allocation, or provisioning policy.

string	Description
Fixed	Storage is fully allocated.
Thin	Storage may be over allocated.

RAIDType:

The RAID type of this volume.

string	Description
RAID0	A placement policy where consecutive logical blocks of data are uniformly distributed across a set of independent storage devices without offering any form of redundancy.

string	Description
RAID00	A placement policy that creates a RAID 0 stripe set over two or more RAID 0 sets.
RAID01	A data placement policy that creates a mirrored device (RAID 1) over a set of striped devices (RAID 0).
RAID1	A placement policy where each logical block of data is stored on more than one independent storage device.
RAID10	A placement policy that creates a striped device (RAID 0) over a set of mirrored devices (RAID 1).
RAID10E	A placement policy that uses a RAID 0 stripe set over two or more RAID 10 sets.
RAID10Triple	A placement policy that uses a striped device (RAID 0) over a set of triple mirrored devices (RAID 1Triple).
RAID1E	A placement policy that uses a form of mirroring implemented over a set of independent storage devices where logical blocks are duplicated on a pair of independent storage devices so that data is uniformly distributed across the storage devices.
RAID1Triple	A placement policy where each logical block of data is mirrored three times across a set of three independent storage devices.
RAID3	A placement policy using parity-based protection where logical bytes of data are uniformly distributed across a set of independent storage devices and where the parity is stored on a dedicated independent storage device.
RAID4	A placement policy using parity-based protection where logical blocks of data are uniformly distributed across a set of independent storage devices and where the parity is stored on a dedicated independent storage device.
RAID5	A placement policy using parity-based protection for storing stripes of 'n' logical blocks of data and one logical block of parity across a set of 'n+1' independent storage devices where the parity and data blocks are interleaved across the storage devices.
RAID50	A placement policy that uses a RAID 0 stripe set over two or more RAID 5 sets of independent storage devices.
RAID6	A placement policy using parity-based protection for storing stripes of 'n' logical blocks of data and two logical blocks of independent parity across a set of 'n+2' independent storage devices where the parity and data blocks are interleaved across the storage devices.
RAID60	A placement policy that uses a RAID 0 stripe set over two or more RAID 6 sets of independent storage devices.
RAID6TP	A placement policy that uses parity-based protection for storing stripes of 'n' logical blocks of data and three logical blocks of independent parity across a set of 'n+3' independent storage devices where the parity and data blocks are interleaved across the storage devices.

ReadCachePolicy:

Indicates the read cache policy setting for the Volume.

string	Description
AdaptiveReadAhead	A caching technique in which the controller dynamically determines whether to pre-fetch data anticipating future read requests, based on previous cache hit ratio.
Off	The read cache is disabled.
ReadAhead	A caching technique in which the controller pre-fetches data anticipating future read requests.

ReplicaType:

The type of replica relationship to be created.

string	Description
Clone	Create a point in time, full copy the source.
Mirror	Create and maintain a copy of the source.
Snapshot	Create a point in time, virtual copy of the source.
TokenizedClone	Create a token based clone.

ReplicaUpdateMode:

The replica update mode (synchronous vs asynchronous).

string	Description
Active	Active-Active (i.e. bidirectional) synchronous updates.
Adaptive	Allows implementation to switch between synchronous and asynchronous modes.
Asynchronous	Asynchronous updates.
Synchronous	Synchronous updates.

VolumeType:

The type of this volume.

string	Description
Mirrored	The volume is a mirrored device.
NonRedundant	The volume is a non-redundant storage device.
RawDevice	The volume is a raw physical device without any RAID or other virtualization applied.
SpannedMirrors	The volume is a spanned set of mirrored devices.

string	Description
SpannedStripesWithParity	The volume is a spanned set of devices which uses parity to retain redundant information.
StripedWithParity	The volume is a device which uses parity to retain redundant information.

VolumeUsage:

Indicates the Volume usage type setting for the Volume.

string	Description
CacheOnly	The volume is allocated for use as a non-consumable cache only volume.
Data	The volume is allocated for use as a consumable data volume.
ReplicationReserve	The volume is allocated for use as a non-consumable reserved volume for replication use.
SystemData	The volume is allocated for use as a consumable data volume reserved for system use.
SystemReserve	The volume is allocated for use as a non-consumable system reserved volume.

WriteCachePolicy:

Indicates the write cache policy setting for the Volume.

string	Description
ProtectedWriteBack	A caching technique in which the completion of a write request is signaled as soon as the data is in cache, and actual writing to non-volatile media is guaranteed to occur at a later time.
UnprotectedWriteBack	A caching technique in which the completion of a write request is signaled as soon as the data is in cache; actual writing to non-volatile media is not guaranteed to occur at a later time.
WriteThrough	A caching technique in which the completion of a write request is not signaled until data is safely stored on non-volatile media.

WriteCacheState:

Indicates the WriteCacheState policy setting for the Volume.

string	Description
Degraded	Indicates an issue with the cache state in which the cache space is diminished or disabled due to a failure or an outside influence such as a discharged battery.
Protected	Indicates that the cache state type in use generally protects write requests on non-volatile media.

string	Description
Unprotected	Indicates that the cache state type in use generally does not protect write requests on non-volatile media.

WriteHoleProtectionPolicy:

The policy that the RAID volume is using to address the write hole issue.

string	Description
DistributedLog	The policy that distributes additional log among the volume's capacity sources to address write hole issue.
Journaling	The policy that uses separate block device for write-ahead logging to adddress write hole issue.
Oem	The policy that is Oem specific.
Off	The volume is not using any policy to address the write hole issue.

Example Response


```
{
    "@odata.type": "#Volume.v1_3_1.Volume",
    "Id": "2",
    "Name": "Virtual Disk 2",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Encrypted": false,
    "RAIDType": "RAID0",
    "CapacityBytes": 107374182400,
    "Identifiers": [
        {
            "DurableNameFormat": "UUID",
            "DurableName": "0324c96c-8031-4f5e-886c-50cd90aca854"
        }
    ],
    "Links": {
        "Drives": [
            {
                "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/3D58ECBC375F
            }
        ]
    },
    "Actions": {
        "#Volume.Initialize": {
            "target": "/redfish/v1/Systems/3/Storage/RAIDIntegrated/Volumes/1/Actions/Volum
            "InitializeType@Redfish.AllowableValues": [
                "Fast",
                "Slow"
            ]
        }
    },
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Volumes/2"
```

```
}
```

Zone 1.4.0

v1.4	*v1.3*	*v1.2*	*v1.1*	*v1.0*
2019.4	2019.1	2017.3	2017.1	2016.2

The Zone schema describes a simple fabric zone for a Redfish implementation.

URIs:

/redfish/v1/CompositionService/ResourceZones/*{ZoneId}*

/redfish/v1/Fabrics/*{FabricId}*/Zones/*{ZoneId}*

DefaultRoutingEnabled *(v1.4+)*	boolean	read-write (null)	This property indicates whether routing within this zone is enabled.
ExternalAccessibility *(v1.3+)*	string (enum)	read-write (null)	Indicates accessiblity of endpoints in this zone to endpoints outside of this zone. *For the possible property values, see ExternalAccessibility in Property Details.*
Identifiers *(v1.2+)* [{ }]	array (object)	(null)	The identifiers for this zone. Any additional identifiers for a Resource. *For property details, see Identifier.*
Links {	object		The links to Resources related to but not subordinate to this Resource.
AddressPools *(v1.4+)* [{	array		An array of links to the address pools associated with this zone.
@odata.id }]	string	read-only	*Link to a AddressPool resource. See the Links section and the AddressPool schema for details.*
ContainedByZones *(v1.4+)* [{	array		An array of links to the zone that contain this zone.
@odata.id }]	string	read-only	*Link to another Zone resource.*
ContainsZones *(v1.4+)* [{	array		An array of links to the zones that are contained by this zone.
@odata.id }]	string	read-only	*Link to another Zone resource.*
Endpoints [{	array		The links to the endpoints that this zone contains.
@odata.id }]	string	read-only	*Link to a Endpoint resource. See the Links section and the Endpoint schema for details.*

InvolvedSwitches [{	array		The links to the collection of switches in this zone.
@odata.id }]	string	read-only	*Link to a Switch resource. See the Links section and the Switch schema for details.*
Oem { }	object		See the Oem object definition in the Common properties section.
ResourceBlocks *(v1.1+)* [{	array		The links to the Resource Blocks with which this zone is associated.
@odata.id }] }	string	read-only	*Link to a ResourceBlock resource. See the Links section and the ResourceBlock schema for details.*
Status { }	object		The status and health of the Resource and its subordinate or dependent Resources. *For property details, see Status.*
ZoneType *(v1.4+)*	string (enum)	read-write (null)	The type of zone. *For the possible property values, see ZoneType in Property Details.*

Property Details

ExternalAccessibility:

Indicates accessiblity of endpoints in this zone to endpoints outside of this zone.

string	Description
GloballyAccessible	Any external entity with the correct access details, which may include authorization information, can access the endpoints that this zone lists.
NonZonedAccessible	Any external entity that another zone does not explicitly list can access the endpoints that this zone lists.
ZoneOnly	Only accessible by endpoints that this zone explicitly lists.

ZoneType:

The type of zone.

string	Description
Default	The zone in which all endpoints are added by default when instantiated.
ZoneOfEndpoints	A zone that contains endpoints.
ZoneOfZones	A zone that contains zones.

Example Response


```
{
    "@odata.type": "#Zone.v1_4_0.Zone",
    "Id": "1",
    "Name": "SAS Zone 1",
    "Description": "SAS Zone 1",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Links": {
        "Endpoints": [
            {
                "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints/Initiator1"
            },
            {
                "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints/Initiator2"
            },
            {
                "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints/Drive1"
            },
            {
                "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints/Drive3"
            }
        ]
    },
    "Oem": {},
    "@odata.id": "/redfish/v1/Fabrics/SAS/Zones/1"
}
```

Redfish documentation generator

This document was created using the Redfish Documentation Generator utility, which uses the contents of the Redfish schema files (in JSON schema format) to automatically generate the bulk of the text. The source code for the utility is available for download at the DMTF's Github repository located at http://www.github.com/DMTF/Redfish-Tools.

ANNEX A

Change log

Version	Date	Description
2019.4	2019-12-06	Release built from Redfish schemas released in DSP8010 version 2019.4
2019.3	2019-10-11	Release built from Redfish schemas released in DSP8010 version 2019.3
2019.2	2019-09-13	Release built from Redfish schemas released in DSP8010 version 2019.2
2019.1	2019-05-03	Release built from Redfish schemas released in DSP8010 version 2019.1
		Added release version history to match each schema to the DSP8010 version that included it.
		Added Action URIs to the Action Details section, and removed the Action object from the property table for clarity.
2018.3	2018-12-15	Release built from Redfish schemas released in DSP8010 version 2018.3
2018.2	2018-08-10	Release built from Redfish schemas released in DSP8010 version 2018.2
		Expanded introduction section with additional information.
		Expanded Common Objects section to include previously excluded objects.
		Added URI listings for all Resources for use with Redfish Specification v1.6.0
		Added Resource Collection table showing schema names and URIs.
		Restructured common objects section utilizing new Documentation Generator functions.
2018.1	2018-05-01	Initial release. Built from Redfish schemas released in DSP8010 version 2018.1
2017.0a	2017-05-19	Work in progress release to gather feedback on content and format.