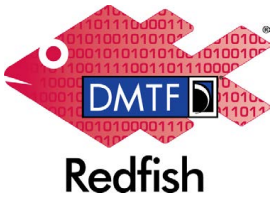


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# Redfish Resource and Schema Guide

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Redfish documentation generator

ANNEX A

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# 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 the above 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?

The following web sites provide more information about the Redfish standard:

- **Redfish Developer Hub:** http://redfish.dmtf.org Resources for developers building applications using Redfish. Contains an interactive schema explorer, hosted schema and other links.
- **Redfish User Forum:** http://www.redfishforum.com User forum monitored by DMTF Redfish personnel to answer questions about any Redfish-related topics:
- **DMTF Github Repositories:** http://www.github.com/DMTF Open source tools and libraries for working with the Redfish API.
- **Redfish Standards:** http://www.dmtf.org/standards/redfish Schemas, specs, mockups, white papers, FAQ, educational material and more.
- **DMTF Redfish Forum** (Working group that maintains the Redfish standard): http://www.dmtf.org/standards/spmf Companies involved, upcoming schedules and future work, charter, and information about joining.

# Using this guide

Every Redfish API 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 name, current version and description of the schema.
- A listing of the possible URIs where resources defined by this schema can appear in a Redfish Service (v1.6 or later). See URI listings below for more information.
- A table defining each property with additional details for those properties when needed.
- A listing of the available Actions defined for the schema.
- An example JSON payload for a resource using the schema.

The property-level details include:

| Column | Purpose |
|---|---|
| Property Name | The name of the JSON property as it will appear (case sensitive) in the JSON payload. For properties added to the schema after the initial release (v1.0.0), the version that the property was added will be shown in parenthesis. Properties that have been deprecated will also be indicated (along with the version where the deprecation occurred). |
| Type | The JSON data type(s) for the property. This can include boolean, number, string or object. String types that use defined enumerations will state " (enum)". Number types will state their units where used. |
| Attributes | Designates whether the property is read-only or read-write (if supported by the implementation), and whether a 'null' value may be returned by the Service if the value of the property 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 support for the OpenAPI Specification v3.0. 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 using a fixed path structure, with appropriate path segments equal to the value of "Id" properties of Members along the path.

Support for v1.6.0 and OpenAPI can be determined by comparing the value of the "RedfishVersion" property in the Service Root (\redfish\v1). Services reporting a value of "1.6.0" or higher (such as "1.6.1" or "1.7.0") adhere to the URI definitions shown.

The URI listings do not apply to Redfish Services reporting support of Specification versions prior to v1.6.0. For those Services, clients must utilize the hypermedia features of the API to discover links from the Service Root to each resource. While Services will typically match the URIs listed in this documents for many of their resources, this is not guaranteed and will result 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 here to avoid repetition in the Reference Guide property tables. Note that several of these properties are payload annotations, but are listed here as they are required for all Redfish resources.

| | | | |
|---|---|---|---|
| **@odata.context** | string | read-only | The @odata.context property is a URL to a metadata document with a fragment describing the data (typically rooted at the top-level singleton or collection). Technically the metadata document only has to define, or reference, any of the types that it directly uses, and different payloads could reference different metadata documents. However, since the @odata.context provides a root URL for resolving relative references (such as @odata.id's), we return the canonical metadata document. |
| **@odata.etag** | string | read-only | The current ETag for the resource. |
| **@odata.id** | string | read-only required | The @odata.id property is a string that indicates the unique identifier of a resource. |
| **@odata.type** | string | read-only required | The type of a resource. |
| **Description** | string | read-only | The Description property is used to convey a human-readable description of the resource. |
| **Id** | string | read-only | The Id property of a resource uniquely identifies the resource within the Resource Collection that contains it. The value of Id is unique within a Resource Collection. |
| **Name** | string | read-only required | The Name property is used to convey a human-readable moniker for a resource. The type of the Name property is a string. The value of Name is NOT necessarily unique across resource instances within a Resource Collection. |
| **Oem** { } | object | | This is the manufacturer/provider specific extension moniker used to divide 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 | | This object contains definitions for the Redfish Actions available for this resource. |
| **Links** { } | object | | The Links property represents 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. All directly referenced (subordinate) properties defined for a resource can be found from the root of the resource. |
| **RelatedItem** [ { | array | read-only | The RelatedItem property is represented as a set of links. The links point to a resource, or part of a resource, as defined by that resource's schema definition. This representation is not intended to be a strong linking methodology like other references. Instead it is used to show a relationship between elements or sub-elements in disparate parts of the service. For example, Fans may be in one area of the system and Processors in another area of the system. It could be that the relationship between the two is not obvious. The RelatedItem property can be used to show that one is related to the other. In this example, it might indicate that a specific fan is cooling a specific processor. |
| **@odata.id** } ] | string | read-only | The unique identifier for a resource. |

## Payload annotations

Payload annotations are a mechanism in which a service provides additional information about a given 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 named `Property@Schema.Term`, where `Property` is the JSON property being annotated, `Schema` is the schema file where the definition for the annotation is found, and `Term` is the name of the Annotation.

| | | | |
|---|---|---|---|
| **@Message.ExtendedInfo** { } | object | | Allows the service to provide a set of Message structures for a given property to indicate additional information; this 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 | Indicates to the client the different string values the service accepts for a given property or action parameter. |

In the example below, the property `ResetType` is being annotated with the `AllowableValues` term, which is defined in the `Redfish` schema (an alias for RedfishExtensions). This is used to indicate to the client that the service supports the values `On` and `ForceOff` 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 form of `@Schema.Term`, 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 term can be applied to an Action to specify a URI to an ActionInfo resource which describes the parameters supported by this instance of the Action. |
| **@Redfish.CollectionCapabilities** { } | object | | Reference to the resource that represents the POST capabilities of a given collection. See the CollectionCapabilities object for details on this property. |
| **@Redfish.MaintenanceWindow** { } | object | | Maintenance window configuration of a resource for when to apply settings or operations. See the MaintenanceWindow object for details on this property. |
| **@Redfish.OperationApplyTime** | string (enum) | read-write | The requested apply time from a client when performing a Create, Delete, or Action operation. *See @Redfish.OperationApplyTime in Property Details, below, for the possible values of this property.* |
| **@Redfish.OperationApplyTimeSupport** { } | object | | Indicates if a client is allowed to request for a specific apply time of a Create, Delete, or Action operation of a given resource via the OperationApplyTime term. See the OperationApplyTimeSupport object for details on this property. |
| **@Redfish.Settings** { } | object | | Reference to the resource that represents the settings to be applied to this object. See the Settings object for details on this property. |
| **@Redfish.SettingsApplyTime** { } | object | | Configuration settings for when the values in the settings object are applied to a given resource. See the PreferredApplyTime object for details on this property. |

### Property Details

**@Redfish.OperationApplyTime:**

The requested apply time from a client when performing a Create, Delete, or Action operation.

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

In the example below, the object is being annotated with the `ActionInfo` term, which is defined in the `Redfish` schema (an alias for RedfishExtensions). This is used to indicate to the client that it can find more information about the given action, in this case `#ComputerSystem.Reset`, at the URI `/redfish/v1/Systems/1/ResetActionInfo`.

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

# Common objects

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

## Identifier

This type describes any additional identifiers for a resource.

| | | | |
|---|---|---|---|
| **DurableName** *(v1.1+)* | string | read-only (null) | This indicates the world wide, persistent name of the resource. |
| **DurableNameFormat** *(v1.1+)* | | read-only | This represents the format of the DurableName property. |

## IPv4Address

This type describes an IPv4 Address.

| | | | |
|---|---|---|---|
| **Address** | string | read-write (null) | This is the IPv4 Address. |
| **AddressOrigin** | | read-only | This indicates how the address was determined. |
| **Gateway** | string | read-write (null) | This is the IPv4 gateway for this address. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **SubnetMask** | | read-write | This is the IPv4 Subnet mask. |

## IPv6Address

This type describes an IPv6 Address.

| | | | |
|---|---|---|---|
| **Address** | string | read-write (null) | This is the IPv6 Address. |
| **AddressOrigin** | | read-only | This indicates how the address was determined. |
| **AddressState** | | read-only | The current state of this address as defined in RFC 4862. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **PrefixLength** | | read-only | This is the IPv6 Address Prefix Length. |

## IPv6GatewayStaticAddress

This object 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 (null) | The Prefix Length of this IPv6 address. |

## IPv6StaticAddress

This object 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** | | read-write required | The Prefix Length of this IPv6 address. |

## Location

This type describes the location of a resource.

| | | | |
|---|---|---|---|
| **AltitudeMeters** *(v1.6+)* | number (meters) | read-write (null) | The altitude of the resource in meters. |
| **Contacts** *(v1.7+)* [ { | array | read-write | 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) | This indicates the location of the resource. *Deprecated v1.5+. This property has been Deprecated in favor of new properties defined in Resource.v1_3_0.Location and Resource.v1_5_0.Location.* |
| **InfoFormat** *(v1.1+, deprecated v1.5)* | string | read-only (null) | This represents the format of the Info property. *Deprecated v1.5+. This property has been Deprecated in favor of new properties defined in Resource.v1_3_0.Location and Resource.v1_5_0.Location.* |
| **Latitude** *(v1.6+)* | number (deg) | read-write (null) | The latitude resource. |
| **Longitude** *(v1.6+)* | number (deg) | read-write (null) | The longitude resource in degrees. |
| **Oem** *(v1.1+)* { } | object | | See the OEM object definition in the Common properties section. |
| **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 then the LocationOrdinalValue will be 2. |
| **LocationType** | string (enum) | read-only (null) | The type of location of the part, such as slot, bay, socket and slot.<br>*See LocationType in Property Details, below, for the possible values of this property.* |
| **Orientation** | string (enum) | read-only (null) | The orientation for the ordering of the slot enumeration used by the LocationOrdinalValue property.<br>*See Orientation in Property Details, below, for the possible values of this property.* |
| **Reference** | string (enum) | read-only (null) | The reference point for the part location. This is used to give guidance as to the general location of the part.<br>*See Reference in Property Details, below, for the possible values of this property.* |
| **ServiceLabel** | string | read-only | This is the label of the part location, such as a silk screened name or a printed label. |

| | | | |
|---|---|---|---|
| } | | (null) | |
| **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) | Name of a rack location within a row. |
| **RackOffset** | integer | read-write (null) | Vertical location of the item in terms of RackOffsetUnits. |
| **RackOffsetUnits** | string (enum) | read-write (null) | The type of Rack Units in use.<br>*See RackOffsetUnits in Property Details, below, for the possible values of this property.* |
| **Row** | string | read-write (null) | Name of row. |
| } | | | |
| **PostalAddress** *(v1.3+)* { | object | | Postal address of the addressed resource. |
| **AdditionalCode** | string | read-write (null) | Additional code. |
| **AdditionalInfo** *(v1.7+)* | string | read-write (null) | Room designation or other additional info. |
| **Building** | string | read-write (null) | Name of the building. |
| **City** | string | read-write (null) | City, township, or shi (JP). |
| **Community** | string | read-write (null) | Postal community name. |
| **Country** | string | read-write (null) | 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, chou (JP). |
| **Floor** | string | read-write (null) | Floor. |
| **GPSCoords** *(deprecated v1.6)* | string | read-write (null) | The GPS coordinates of the part. *Deprecated v1.6+. This property has been Deprecated in favor of Location.v1_6_0.Longitude and Location.v1_6_0.Latitude* |
| **HouseNumber** | integer | read-write (null) | Numeric portion of house number. |
| **HouseNumberSuffix** | string | read-write (null) | House number suffix. |
| **Landmark** | string | read-write (null) | Landmark. |
| **LeadingStreetDirection** | string | read-write (null) | A leading street direction. |
| **Location** *(deprecated v1.7)* | string | read-write (null) | Room designation or other additional info. *Deprecated v1.7+. This property has been Deprecated in favor of the property AdditionalInfo found in the 1.7.0 definition of PostalAddress.* |
| **Name** | string | read-write (null) | Name. |
| **Neighborhood** | string | read-write (null) | Neighborhood or block. |
| **PlaceType** | string | read-write (null) | A description of the type of place that is addressed. |
| **POBox** | string | read-write (null) | Post office box (P.O. box). |
| **PostalCode** | string | read-write (null) | Postal code (or zip code). |
| **Road** | string | read-write (null) | A primary road or street. |
| **RoadBranch** | string | read-write (null) | Road branch. |
| **RoadPostModifier** | string | read-write | Road post-modifier. |

| | | | |
|---|---|---|---|
| | | (null) | |
| **RoadPreModifier** | string | read-write (null) | Road pre-modifier. |
| **RoadSection** | string | read-write (null) | Road Section. |
| **RoadSubBranch** | string | read-write (null) | Road sub branch. |
| **Room** | string | read-write (null) | Name or number of the room. |
| **Seat** | string | read-write (null) | Seat (desk, cubicle, 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**<br>} | string | read-write (null) | Name or number of the unit (apartment, suite). |

## Property Details

**LocationType:**

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

| string | Description |
|---|---|
| Bay | Defines a bay as the type of location. |
| Connector | Defines a connector as the type of location. |
| Slot | Defines a slot as the type of location. |
| Socket | Defines a socket as the type of location. |

**Orientation:**

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

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

**RackOffsetUnits:**

The type of Rack Units in use.

| string | Description |
|---|---|
| EIA_310 | Defines a rack unit as being equal to 1.75 in (44.45 mm). |
| OpenU | Defines a rack unit as being equal to 48 mm (1.89 in). |

**Reference:**

The reference point for the part location. This is used to give guidance as to the general location of the part.

| string | Description |
|---|---|
| Bottom | Defines the part as being in the bottom of the unit. |
| Front | Defines the part as being in the front of the unit. |
| Left | Defines the part as being in the left of the unit. |
| Middle | Defines the part as being in the middle of the unit. |

| | |
|---|---|
| Rear | Defines the part as being in the rear of the unit. |
| Right | Defines the part as being in the right of the unit. |
| Top | Defines the part as being in the top of the unit. |

## MaintenanceWindow

This object indicates if a given resource has a maintenance window assignment for applying settings or operations.

| | | | |
|---|---|---|---|
| **MaintenanceWindowDurationInSeconds** *(v1.2+)* | integer (seconds) | read-write required | The value of this property as specified by client indicates the expiry time of maintenance window in seconds. |
| **MaintenanceWindowStartTime** *(v1.2+)* | string | read-write required | The value of this property as specified by client to indicate the start time of a maintenance window. |

## Message

This type describes a Message returned by the Redfish service.

| | | | |
|---|---|---|---|
| **Message** | string | read-only (null) | This is 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 | This is the key for this message which can be used to look up the message in a message registry. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **RelatedProperties** [ ] | array (string) | read-only | This is an array 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) | This is the severity of the errors. |

## OperationApplyTimeSupport

This object indicates if a client is allowed to request for a specific apply time of a Create, Delete, or Action operation of a given resource.

| | | | |
|---|---|---|---|
| **MaintenanceWindowDurationInSeconds** *(v1.2+)* | integer (seconds) | read-only | The value of this property as specified by client indicates the expiry time of maintenance window in seconds. |
| **MaintenanceWindowResource** *(v1.2+)* { | object | | The value of this property is used to indicate the location of the maintenance window settings. |
| **@odata.id**<br>} | string | read-only | The unique identifier for a resource. |
| **MaintenanceWindowStartTime** *(v1.2+)* | string | read-only | The value of this property as specified by client to indicate the start time of a maintenance window. |
| **SupportedValues** [ ] | array (string (enum)) | read-only | This property indicates the types of apply times the client is allowed request when performing a Create, Delete, or Action operation.<br>*See SupportedValues in Property Details, below, for the possible values of this property.* |

### Property Details

**SupportedValues:**

This property indicates the types of apply times the client is allowed request when performing a Create, Delete, or Action operation.

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

## PreferredApplyTime

This object indicates when the future configuration (i.e. Settings resource) should be applied.

| | | | |
|---|---|---|---|
| **ApplyTime** *(v1.1+)* | string (enum) | read-write | This property indicates when the future configuration (i.e. Settings resource) should be applied.<br>*See ApplyTime in Property Details, below, for the possible values of this property.* |
| **MaintenanceWindowDurationInSeconds** *(v1.1+)* | integer (seconds) | read-write | The value of this property as specified by client indicates the expiry time of maintenance window in seconds. |
| **MaintenanceWindowStartTime** *(v1.1+)* | string | read-write | The value of this property as specified by client to indicate the start time of a maintenance window. |

### Property Details

**ApplyTime:**

This property indicates when the future configuration (i.e. Settings resource) should be applied.

| 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. |

## Schedule

Schedule a series of occurrences.

| | | | |
|---|---|---|---|
| **EnabledDaysOfMonth** [ ] | array (integer, null) | read-write | Days of month when scheduled occurrences are enabled. Zero 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 month and months of year. Days of the Week.<br>*See EnabledDaysOfWeek in Property Details, below, for the possible values of this property.* |
| **EnabledIntervals** *(v1.1+)* [ ] | array (string, null) | read-write | Intervals when scheduled occurrences are enabled. |
| **EnabledMonthsOfYear** [ ] | array (string (enum)) | read-write (null) | Months of year when scheduled occurrences are enabled. Months of the year.<br>*See EnabledMonthsOfYear in Property Details, below, for the possible values of this property.* |
| **InitialStartTime** | string | read-write (null) | Time for initial occurrence. |
| **Lifetime** | string | read-write (null) | The time after provisioning when the schedule as a whole expires. |
| **MaxOccurrences** | integer | read-write (null) | Maximum number of scheduled occurrences. |
| **Name** | string | read-write (null) | The Schedule name. |
| **RecurrenceInterval** | string | read-write (null) | Distance until the next occurrences. |

### Property Details

**EnabledDaysOfWeek:**

Days of the week when scheduled occurrences are enabled, for enabled days of month and months of year. 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:**

Months of year when scheduled occurrences 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. |
| November | November. |
| October | October. |
| September | September. |

## Settings

This type describes the settings of a resouce.

| | | | |
|---|---|---|---|
| **ETag** | string | read-only (null) | The ETag of the resource to which the settings were applied, after the application. |
| **MaintenanceWindowResource** *(v1.2+)* { | object | | The value of this property is used to indicate the location of the maintenance window settings. |
| **@odata.id**<br>} | string | read-only | The unique identifier for a resource. |
| **Messages** [ { } ] | array (object) | | This is an array of messages associated with the task. This type describes a Message returned by the Redfish service. See the Message object for details on this property. |
| **SettingsObject** { | object | | Reference to the resource the client may PUT/PATCH to in order to change this resource. |
| **@odata.id**<br>} | string | read-only | The unique identifier for a resource. |
| **SupportedApplyTimes** [ ] | array (string (enum)) | read-only | This property indicates when a Settings resource can be applied.<br>*See SupportedApplyTimes in Property Details, below, for the possible values of this property.* |
| **Time** | string | read-only (null) | Indicates the time the settings were applied. |

### Property Details

**SupportedApplyTimes:**

This property indicates when a Settings resource can be applied.

| 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. |

## Status

This type describes the status and health of a resource and its children.

| | | | |
|---|---|---|---|
| **Health** | string (enum) | read-only (null) | This represents the health state of this resource in the absence of its dependent resources.<br>*See Health in Property Details, below, for the possible values of this property.* |
| **HealthRollup** | string (enum) | read-only (null) | This represents the overall health state from the view of this resource.<br>*See HealthRollup in Property Details, below, for the possible values of this property.* |

| | | | |
|---|---|---|---|
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **State** | string (enum) | read-only (null) | This indicates the known state of the resource, such as if it is enabled.<br>*See State in Property Details, below, for the possible values of this property.* |

### Property Details

**Health:**

This represents the health state of this resource in the absence of its dependent resources.

| string | Description |
|---|---|
| Critical | A critical condition exists that requires immediate attention. |
| OK | Normal. |
| Warning | A condition exists that requires attention. |

**HealthRollup:**

This represents the overall health state from the view of this resource.

| string | Description |
|---|---|
| Critical | A critical condition exists that requires immediate attention. |
| OK | Normal. |
| Warning | A condition exists that requires attention. |

**State:**

This indicates the known state of the resource, such as if it is enabled.

| string | Description |
|---|---|
| Absent | This function or resource is not present or not detected. |
| Deferring | The element will not process any commands but will queue new requests. |
| Disabled | This function or resource has been disabled. |
| Enabled | This function or resource has been enabled. |
| InTest | This function or resource is undergoing testing. |
| Quiesced | The element is enabled but only processes a restricted set of commands. |
| StandbyOffline | This function or resource is enabled, but awaiting an external action to activate it. |
| StandbySpare | This function or resource is part of a redundancy set and is awaiting a failover or other external action to activate it. |
| Starting | This function or resource is starting. |
| UnavailableOffline | This function or resource is present but cannot be used. |
| Updating | The element is updating and may be unavailable or degraded. |

## Redundancy

This is the redundancy definition to be used in other resource schemas.

| | | | |
|---|---|---|---|
| **@odata.id** | string | read-only required | The unique identifier for a resource. |
| **Actions** { } | object | | The available actions for this resource. |
| **MaxNumSupported** | integer | read-only required (null) | This is the maximum number of members allowable for this particular redundancy group. |
| **MemberId** | string | read-only required | This is the identifier for the member within the collection. |
| **MinNumNeeded** | integer | read-only required (null) | This is the minumum number of members needed for this group to be redundant. |
| **Mode** | string (enum) | read-write required (null) | This is the redundancy mode of the group.<br>*See Mode in Property Details, below, for the possible values of this property.* |
| **Name** | string | read-only required | The name of the resource or array element. |
| **Oem** { } | object | | This is the manufacturer/provider specific extension moniker used to divide the Oem object into sections. See the Oem object for details on this property. |

| | | | |
|---|---|---|---|
| **RedundancyEnabled** | boolean | read-write (null) | This indicates whether redundancy is enabled. |
| **RedundancySet** [ { | array | read-only required | Contains any ids that represent components of this redundancy set. |
| **@odata.id** } ] | string | read-only | The unique identifier for a resource. |
| **RedundancySet@odata.count** | integer | read-only | The number of items in a collection. |
| **Status** { } | object | required | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Property Details

**Mode:**

This is the redundancy mode of the group.

| string | Description |
|---|---|
| Failover | Failure of one unit will automatically cause its functions to be taken over by a standby or offline unit in the redundancy set. |
| N+m | Multiple units are available and active such that normal operation will continue if one or more units fail. |
| NotRedundant | 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. |

# 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 Collection resource 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 will have the same resource type (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 required | The unique identifier for a resource. |
| **@odata.type** | string | read-only required | The type of a resource. |
| **Description** | string | read-only (null) | Provides a description of this resource and is used for commonality in the schema definitions. |
| **Members** [ { | array | read-only required | Contains the members of this collection. |
| **@odata.id** } ] | string | read-only | A 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 element. |
| **Oem** { } | object | | This is the manufacturer/provider specific extension moniker used to divide the Oem object into sections. |

As shown in the example below, a Redfish Service may provide management functionality for several Computer Systems, and therefore a ComputerSystemCollection resource is provided. This example shows a Service with four ComputerSystem instances ("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.ComputerSystemCollection",
    "@odata.id": "/redfish/v1/Systems"
}
```

## Resource Collection URIs (Redfish v1.6+)

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 which must be discovered by following the links from the Service Root (/redfish/v1/).

| Collection Type | URIs |
|---|---|
| BootOptionCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/BootOptions<br>/redfish/v1/Systems/*{ComputerSystemId}*/BootOptions |
| ChassisCollection | /redfish/v1/Chassis |
| ComputerSystemCollection | /redfish/v1/Systems |
| EndpointCollection | /redfish/v1/Fabrics/*{FabricId}*/Endpoints |
| EthernetInterfaceCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces<br>/redfish/v1/Managers/*{ManagerId}*/EthernetInterfaces<br>/redfish/v1/Managers/*{ManagerId}*/HostInterfaces/*{HostInterfaceId}*/HostEthernetInterfaces<br>/redfish/v1/Systems/*{ComputerSystemId}*/EthernetInterfaces |
| EventDestinationCollection | /redfish/v1/EventService/Subscriptions |
| ExternalAccountProviderCollection | /redfish/v1/AccountService/ExternalAccountProviders<br>/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/ExternalAccountProviders |
| FabricCollection | /redfish/v1/Fabrics/*{FabricId}* |
| HostInterfaceCollection | /redfish/v1/Managers/*{ManagerId}*/HostInterfaces |
| JobCollection | /redfish/v1/JobService/Jobs<br>/redfish/v1/JobService/Jobs/*{JobId}*/Steps |
| JsonSchemaFileCollection | /redfish/v1/JsonSchemas |
| LogEntryCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*/Entries<br>/redfish/v1/Managers/*{ManagerId}*/LogServices/*{LogServiceId}*/Entries<br>/redfish/v1/Systems/*{ComputerSystemId}*/LogServices/*{LogServiceId}*/Entries |
| LogServiceCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/LogServices<br>/redfish/v1/Managers/*{ManagerId}*/LogServices<br>/redfish/v1/Systems/*{ComputerSystemId}*/LogServices |
| ManagerAccountCollection | /redfish/v1/AccountService/Accounts<br>/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/Accounts |
| ManagerCollection | /redfish/v1/Managers |
| MemoryChunksCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks<br>/redfish/v1/Systems/*{ComputerSystemId}*/MemoryDomains/*{MemoryDomainId}*/MemoryChunks |
| MemoryCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Memory<br>/redfish/v1/Systems/*{ComputerSystemId}*/Memory |
| MemoryDomainCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/MemoryDomains<br>/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<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkDeviceFunctions<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkDeviceFunctions<br>/redfish/v1/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkDeviceFunctions |
| NetworkInterfaceCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces<br>/redfish/v1/Systems/*{ComputerSystemId}*/NetworkInterfaces |
| NetworkPortCollection | /redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkPorts<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkPorts<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkPorts<br>/redfish/v1/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*/NetworkPorts |

| | |
|---|---|
| PortCollection | /redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports |
| ProcessorCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Processors/*{ProcessorId}*/SubProcessors<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors<br>/redfish/v1/Systems/*{ComputerSystemId}*/Processors<br>/redfish/v1/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*/SubProcessors |
| ResourceBlockCollection | /redfish/v1/CompositionService/ResourceBlocks |
| RoleCollection | /redfish/v1/AccountService/Roles<br>/redfish/v1/Managers/*{ManagerId}*/RemoteAccountService/Roles |
| SerialInterfaceCollection | /redfish/v1/Managers/*{ManagerId}*/SerialInterfaces |
| SessionCollection | /redfish/v1/SessionService/Sessions |
| SimpleStorageCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/SimpleStorage<br>/redfish/v1/Systems/*{ComputerSystemId}*/SimpleStorage |
| SoftwareInventoryCollection | /redfish/v1/UpdateService/FirmwareInventory<br>/redfish/v1/UpdateService/SoftwareInventory |
| StorageCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage<br>/redfish/v1/Systems/*{ComputerSystemId}*/Storage |
| SwitchCollection | /redfish/v1/Fabrics/*{FabricId}*/Switches |
| TaskCollection | /redfish/v1/TaskService/Tasks |
| TriggersCollection | /redfish/v1/TelemetryService/Triggers |
| VirtualMediaCollection | /redfish/v1/Managers/*{ManagerId}*/VirtualMedia |
| VLanNetworkInterfaceCollection | /redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkDeviceFunctions/*{NetworkDeviceFunctionId}*/Ethernet/VLANs<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs<br>/redfish/v1/Managers/*{ManagerId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs<br>/redfish/v1/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs |
| VolumeCollection | /redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Storage/*{StorageId}*/Volumes<br>/redfish/v1/CompositionService/ResourceBlocks/*{ResourceBlockId}*/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Volumes<br>/redfish/v1/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Volumes |
| ZoneCollection | /redfish/v1/CompositionService/ResourceZones<br>/redfish/v1/Fabrics/*{FabricId}*/Zones |

# Reference Guide

This guide was produced using the contents of the schema files from DMTF Redfish Schema bundle DSP8010 version 2018.2 and merged with supplemental text using the DMTF's Redfish Documentation Generator.

## AccountService 1.3.1

The AccountService schema contains properties for managing user accounts. The properties are common to all user accounts, such as password requirements, and control features such as account lockout. The schema also contains links to the collections of Manager Accounts and Roles.

**URIs:**

/redfish/v1/AccountService

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

| | | | |
|---|---|---|---|
| **AccountLockoutCounterResetAfter** | integer (seconds) | read-write | The interval of time in seconds between the last failed login attempt and reset of the lockout threshold counter. This value must be less than or equal to AccountLockoutDuration. Reset sets the counter to zero. |
| **AccountLockoutDuration** | integer (seconds) | read-write (null) | The time in seconds an account is locked out. The value must be greater than or equal to the value of the AccountLockoutCounterResetAfter property. If set to 0, no lockout occurs. |
| **AccountLockoutThreshold** | integer | read-write (null) | The number of failed login attempts allowed before a user account is locked for a specified duration. A value of 0 means it is never locked. |
| **Accounts** { | object | | A link to a collection of Manager Accounts. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of ManagerAccount. See the ManagerAccount schema for details. |
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **ActiveDirectory** *(v1.3+)* { | object | | The first ActiveDirectory external account provider this AccountService supports. |
| **AccountProviderType** | string (enum) | read-only (null) | This property contains the type of external account provider this resource references.<br>*See AccountProviderType in Property Details, below, for the possible values of this property.* |
| **Authentication** { | object | (null) | This property contains the authentication information for the external account provider. |
| **AuthenticationType** | string (enum) | read-write (null) | This property contains the type of authentication used to connect to the external account provider.<br>*See AuthenticationType in Property Details, below, for the possible values of this property.* |
| **KerberosKeytab** | string | read-write (null) | This property is used with a PATCH or PUT to write a base64 encoded version of the kerberos keytab for the account. This property is null on a GET. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **Password** | string | read-write (null) | This property is used with a PATCH or PUT to write the password for the account service. This property is null on a GET. |
| **Token** | string | read-write (null) | This property is used with a PATCH or PUT to write the token for the account. This property is null on a GET. |
| **Username**<br>} | string | read-write | This property contains the user name for the account service. |
| **LDAPService** { | object | (null) | This property contains additional mapping information needed to parse a generic LDAP service. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **SearchSettings** { | object | (null) | This property contains the settings needed to search an external LDAP service. |
| **BaseDistinguishedNames** [ ] | array (string, null) | read-write | The base distinguished names to use when searching the LDAP service. |
| **GroupNameAttribute** | string | read-write (null) | The attribute name that contains the name of the Group. |
| **GroupsAttribute** | string | read-write (null) | The attribute name that contains the Groups for a user. |
| **UsernameAttribute**<br>}<br>} | string | read-write (null) | The attribute name that contains the Username. |
| **RemoteRoleMapping** [ { | array | read-write | This property contains a collection of 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 role in 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) | This property is the name of the remote group (or in the case of a Redfish Service, remote role) that will be mapped to the local role referenced by this entity. |
| **RemoteUser** } ] | string | read-write (null) | This property is the name of the remote user that will be mapped to the local role referenced by this entity. |
| **ServiceAddresses** [ ] | array (string, null) | read-write | This property contains the addresses of the user account providers this resource references. The format of this field depends on the Type. |
| **ServiceEnabled** } | boolean | read-write (null) | This indicates whether this service is enabled. |
| **AdditionalExternalAccountProviders** *(v1.3+)* { | object | | The additional external account providers this AccountService is using. 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 allowed before the failure attempt is logged to the manager log. |
| **LDAP** *(v1.3+)* { | object | | The first LDAP external account provider this AccountService supports. |
| **AccountProviderType** | string (enum) | read-only (null) | This property contains the type of external account provider this resource references. *See AccountProviderType in Property Details, below, for the possible values of this property.* |
| **Authentication** { | object | (null) | This property contains the authentication information for the external account provider. |
| **AuthenticationType** | string (enum) | read-write (null) | This property contains the type of authentication used to connect to the external account provider. *See AuthenticationType in Property Details, below, for the possible values of this property.* |
| **KerberosKeytab** | string | read-write (null) | This property is used with a PATCH or PUT to write a base64 encoded version of the kerberos keytab for the account. This property is null on a GET. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **Password** | string | read-write (null) | This property is used with a PATCH or PUT to write the password for the account service. This property is null on a GET. |
| **Token** | string | read-write (null) | This property is used with a PATCH or PUT to write the token for the account. This property is null on a GET. |
| **Username** } | string | read-write | This property contains the user name for the account service. |
| **LDAPService** { | object | (null) | This property contains additional mapping information needed to parse a generic LDAP service. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **SearchSettings** { | object | (null) | This property contains the settings needed to search an external LDAP service. |
| **BaseDistinguishedNames** [ ] | array (string, null) | read-write | The base distinguished names to use when searching the LDAP service. |
| **GroupNameAttribute** | string | read-write (null) | The attribute name that contains the name of the Group. |
| **GroupsAttribute** | string | read-write (null) | The attribute name that contains the Groups for a user. |
| **UsernameAttribute** } } | string | read-write (null) | The attribute name that contains the Username. |
| **RemoteRoleMapping** [ { | array | read-write | This property contains a collection of 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 role in 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) | This property is the name of the remote group (or in the case of a Redfish Service, remote role) that will be mapped to the local role referenced by this entity. |
| **RemoteUser** } ] | string | read-write (null) | This property is the name of the remote user that will be mapped to the local role referenced by this entity. |

| | | | |
|---|---|---|---|
| **ServiceAddresses** [ ] | array (string, null) | read-write | This property contains the addresses of the user account providers this resource references. The format of this field depends on the Type. |
| **ServiceEnabled**<br>} | boolean | read-write (null) | This indicates whether this service is enabled. |
| **LocalAccountAuth** *(v1.3+)* | string (enum) | read-write | Controls when this service will use the accounts defined withing this AccountService as part of authentication.<br>*See LocalAccountAuth in Property Details, below, for the possible values of this property.* |
| **MaxPasswordLength** | integer | read-only | The maximum password length for this service. |
| **MinPasswordLength** | integer | read-only | The minimum password length for this service. |
| **PrivilegeMap** *(v1.1+)* { | object | | A reference to the Privilege mapping that defines the privileges needed to perform a requested operation on a URI associated with this service. See the PrivilegeRegistry schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a PrivilegeRegistry resource. See the Links section and the PrivilegeRegistry schema for details. |
| **Roles** { | object | | A link to a collection of Roles. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Role. See the Role schema for details. |
| **ServiceEnabled** | boolean | read-write (null) | Indicates whether this service is enabled. If set to false, the AccountService is disabled. This means no users can be created, deleted or modified. Any service attempting to access the AccountService resource (for example, the Session Service) will fail. New sessions cannot be started when the service is disabled. However, established sessions may still continue operating. This does not affect Basic AUTH connections. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

## Property Details

**AccountProviderType:**

This property contains the type of external account provider this resource references.

| 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:**

This property contains 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 | Username and password combination. |

**LocalAccountAuth:**

Controls when this service will use the accounts defined withing this AccountService as part of authentication.

| string | Description |
|---|---|
| Disabled | Authentication via accounts defined in this AccountService is disabled. |
| Enabled | Authentication via accounts defined in this AccountService is enabled. |
| Fallback | Authentication via accounts defined in this AccountService is only used if there are external account providers that are currently unreachable. |

## Example Response


```
{
    "@odata.type": "#AccountService.v1_3_1.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,
    "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.context": "/redfish/v1/$metadata#AccountService.AccountService",
    "@odata.id": "/redfish/v1/AccountService"
}
```


## ActionInfo 1.1.0

The ActionInfo schema describes the parameters and other information necessary to perform a Redfish Action on a particular Action target. Parameter support can differ between vendors and even between instances of a resource. This data can be used to ensure Action requests from applications contain supported parameters.

| | | | |
|---|---|---|---|
| **Parameters** [ { | array | read-write | The parameters associated with the specified Redfish Action. |
| **AllowableValues** [ ] | array (string, null) | read-only | A list of values for this parameter supported by this Action target. |
| **DataType** | string (enum) | read-only (null) | The JSON property type used for this parameter.<br>*See DataType in Property Details, below, for the possible values of this property.* |
| **MaximumValue** *(v1.1+)* | number | read-only (null) | The maximum supported value of this parameter. |
| **MinimumValue** *(v1.1+)* | number | read-only (null) | The minimum supported value for this parameter. |
| **Name** | string | read-only | The name of the parameter for this Action. |
| **ObjectDataType** | string | read-only (null) | The OData Type of an object-based parameter. |
| **Required**<br>} ] | boolean | read-only | Indicates whether the parameter is required to perform this Action. |

### Property Details

**DataType:**

The JSON property type used for this parameter.

| string | Description |
|---|---|
| Boolean | A boolean (true or false). |
| 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_1.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.context": "/redfish/v1/$metadata#ActionInfo.ActionInfo",
    "@odata.id": "/redfish/v1/Systems/1/ResetActionInfo"
}
```

## Assembly 1.2.0

This is the schema definition for the Assembly properties.

**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}*/Thermal

/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/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

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **Assemblies** [ { | array | read-write | This is the definition for an assembly information record. |
| **@odata.id** *(v1.2+)* | string | read-only | The unique identifier for a resource. |

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **BinaryDataURI** | string | read-only (null) | URI that provides the ability to access an image of the assembly information. |
| **Description** | string | read-only (null) | Description of the Assembly. |
| **EngineeringChangeLevel** | string | read-only (null) | Engineering change level of the Assembly. |
| **MemberId** | string | read-only | This is the identifier for the member within the collection. |
| **Model** | string | read-only (null) | Model number of the Assembly. |
| **Name** | string | read-only (null) | Name of the Assembly. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **PartNumber** | string | read-only (null) | Part number of the Assembly. |
| **PhysicalContext** *(v1.2+)* | string (enum) | read-only | Describes the area or device to which this assembly data applies.<br>*See PhysicalContext in Property Details, below, for the possible values of this property.* |
| **Producer** | string | read-only (null) | Producer or manufacturer of the Assembly. |
| **ProductionDate** | string | read-only (null) | Production date of the Assembly. |
| **SerialNumber** *(v1.2+)* | string | read-only (null) | The serial number of this assembly. |
| **SKU** | string | read-only (null) | SKU of the Assembly. |
| **SparePartNumber** | string | read-only (null) | Spare part number of the Assembly. |
| **Status** *(v1.1+)* { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Vendor** | string | read-only (null) | Vendor of the Assembly. |
| **Version**<br>} ] | string | read-only (null) | Version of the Assembly. |

## Property Details

**PhysicalContext:**

Describes the area or device to which this assembly data applies.

| string | Description |
|---|---|
| ASIC | An ASIC device, such as an FPGA or a GPGPU. |
| Back | The back of the chassis. |
| Backplane | A backplane within the chassis. |
| Chassis | The entire chassis. |
| ComputeBay | Within a compute bay. |
| CPU | A Processor (CPU). |
| Exhaust | The air exhaust point of the chassis. |
| ExpansionBay | Within an expansion bay. |
| Fan | A fan. |
| Front | The front of the chassis. |
| GPU | A Graphics Processor (GPU). |
| Intake | The air intake point 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. |
| NetworkBay | Within a networking bay. |
| NetworkingDevice | A networking device. |
| PowerSupply | A power supply. |
| PowerSupplyBay | Within a power supply bay. |
| Room | The room. |
| StorageBay | Within a storage bay. |
| StorageDevice | A storage device. |
| SystemBoard | The system board (PCB). |
| Upper | The upper portion of the chassis. |
| VoltageRegulator | A voltage regulator device. |

### Example Response


```
{
    "@odata.type": "#Assembly.v1_2_0.Assembly",
    "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.context": "/redfish/v1/$metadata#Assembly.Assembly",
    "@odata.id": "/redfish/v1/Chassis/1/Assembly"
}
```


## AttributeRegistry 1.2.1

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Language** | string | read-only required | This is the RFC 5646 compliant language code for the registry. |
| **OwningEntity** | string | read-only required | This is the organization or company that publishes this registry. |
| **RegistryEntries** { | object | | List of all attributes and their metadata for this component. |
| **Attributes** [ { | array | read-write | The array containing the attributes and their possible values. |
| **AttributeName** | string | read-only | The unique name of the attribute. |
| **CurrentValue** | string, boolean, number | read-only (null) | Placeholder of the current value of the attribute. |
| **DefaultValue** | string, boolean, number | read-only (null) | The default current value of the attribute. |
| **DisplayName** | string | read-only (null) | The user-readable display string of the attribute in the defined 'Language'. |
| **DisplayOrder** | integer | read-only (null) | The numeric value describing the ascending order that the attribute is displayed relative to other attributes. |

| | | | |
|---|---|---|---|
| **GrayOut** | boolean | read-only (null) | The gray-out state of this attribute. |
| **HelpText** | string | read-only (null) | The help text for the attribute. |
| **Hidden** | boolean | read-only (null) | The hidden state of this attribute. |
| **Immutable** | boolean | read-only (null) | Defines whether this attribute is immutable or not. |
| **IsSystemUniqueProperty** | boolean | read-only (null) | Defines whether this attribute is unique for this system and should not be replicated. |
| **LowerBound** | integer | read-only (null) | The lower limit of the value of an attribute of type 'Integer'. |
| **MaxLength** | integer | read-only (null) | The maximum character length of the value of an attribute of type 'String'. |
| **MenuPath** | string | read-only (null) | A path that describes the menu hierarchy of this attribute. |
| **MinLength** | integer | read-only (null) | The minimum character length of the value of an attribute of type 'String'. |
| **ReadOnly** | boolean | read-only (null) | The read-only state of this attribute. |
| **ResetRequired** *(v1.2+)* | boolean | read-only (null) | True if changing the value of this attribute requires a system or device reset in order to take effect. |
| **ScalarIncrement** | integer | read-only (null) | The amount to increment or decrement the value of an attribute of type 'Integer' each time a user requests a value change. |
| **Type** | string (enum) | read-only | The type of the attribute.<br>*See Type in Property Details, below, for the possible values of this property.* |
| **UefiDevicePath** *(v1.2+)* | string | read-only (null) | The UEFI device path that qualifies this attribute. |
| **UefiKeywordName** *(v1.2+)* | string | read-only | The UEFI KeywordString of the attribute. |
| **UefiNamespaceId** *(v1.2+)* | string | read-only | The UEFI NamespaceId of the attribute. |
| **UpperBound** | integer | read-only (null) | The upper limit of the value of an attribute of type 'Integer'. |
| **Value** [ { | array | read-write | The array containing possible values for attributes of type 'Enumeration'. |
| **ValueDisplayName** | string | read-only (null) | A user-readable display string of the value of the attribute in the defined 'Language'. |
| **ValueName**<br>} ] | string | read-only (null) | The value name of the attribute. |
| **ValueExpression** | string | read-only (null) | A regular expression that is used to validate the value of the attribute. This is only applicable to attributes of type 'String' or 'Integer'. |
| **WarningText** | string | read-only (null) | The warning text for changing the attribute. |
| **WriteOnly**<br>} ] | boolean | read-only (null) | Defines whether this attribute is write-only. Such attributes revert back to their initial value after settings are applied. |
| **Dependencies** [ { | array | read-write | The array containing a list of dependencies of attributes on this component. |
| **Dependency** { | object | | The dependency expression for one or more Attributes in this Attribute Registry. |
| **MapFrom** [ { | array | read-write | Array of the map-from conditions for mapping dependency. |
| **MapFromAttribute** | string | read-only | The attribute that is used to evaluate this dependency expression. |
| **MapFromCondition** | string (enum) | read-only | The condition that is used to evaluate this dependency expression.<br>*See MapFromCondition in Property Details, below, for the possible values of this property.* |
| **MapFromProperty** | string (enum) | read-only | The meta-data property of the attribute specified in MapFromAttribute that is used to evaluate this dependency expression.<br>*See MapFromProperty in Property Details, below, for the possible values of this property.* |
| **MapFromValue** | string, boolean, number | read-only (null) | The value that the is used property specified in MapFromProperty that is used to evaluate this dependency expression. |
| **MapTerms**<br>} ] | string (enum) | read-only | The logical term used to combine two or more MapFrom conditions in this dependency expression.<br>*See MapTerms in Property Details, below, for the possible values of this property.* |

| | | | |
|---|---|---|---|
| **MapToAttribute** | string | read-only | The Name of the attribute that is affected by this dependency expression. |
| **MapToProperty** | string (enum) | read-only | The meta-data property of the attribute specified in MapFromAttribute that is used to evaluate this dependency expression.<br>*See MapToProperty in Property Details, below, for the possible values of this property.* |
| **MapToValue**<br>} | string, boolean, number | read-only (null) | The value that MapToProperty is changed 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**<br>} ] | string (enum) | read-only | The type of the dependency structure.<br>*See Type in Property Details, below, for the possible values of this property.* |
| **Menus** [ { | array | read-write | The array containing the attributes menus and their hierarchy. |
| **DisplayName** | string | read-only (null) | The user-readable display string of this menu in the defined 'Language'. |
| **DisplayOrder** | integer | read-only (null) | The numeric value describing the ascending order in which this menu is displayed relative to other menus. |
| **GrayOut** | boolean | read-only (null) | The gray-out state of this menu. A grayed-only menu is not accessible in user interfaces. |
| **MenuName** | string | read-only | The unique name string of this menu. |
| **MenuPath** | string | read-only (null) | A path that describes this menu hierarchy relative to other menus. |
| **ReadOnly**<br>} ]<br>} | boolean | read-only (null) | The read-only state of this menu. |
| **RegistryVersion** | string | read-only required | This is the attribute registry version which is used in the middle portion of a AttributeRegistry. |
| **SupportedSystems** [ { | array | read-write | Array of systems supported by this attribute registry. |
| **FirmwareVersion** *(v1.1+)* | string | read-only (null) | Firmware version. |
| **ProductName** | string | read-only (null) | The product name of the system. |
| **SystemId**<br>} ] | string | read-only (null) | The system ID of the system. |

## Property Details

**MapFromCondition:**

The condition that is used 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 meta-data property of the attribute specified in MapFromAttribute that is used 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. |
| WriteOnly | The dependency on an attribute's WriteOnly state. |

**MapTerms:**

The logical term used to combine two or more MapFrom conditions in this dependency expression.

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

**MapToProperty:**

The meta-data property of the attribute specified in MapFromAttribute that is used to evaluate 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. The attribute value or state is changed to the mapped value if the condition evaluates to true. |

## Bios 1.0.4

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 will find 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/Systems/*{ComputerSystemId}*/Bios

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Bios.ChangePassword** { } | object | | This action is used to change the BIOS passwords.<br>*For more information, see the Action Details section below.* |
| **#Bios.ResetBios** { }<br>} | object | | This action is used to reset the BIOS attributes to default.<br>*For more information, see the Action Details section below.* |
| **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. |

### Action Details

**ChangePassword**

This action is used to change the BIOS passwords.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **NewPassword** | string | read-write required | The value of the new BIOS password. |
| **OldPassword** | string | read-write required | The value of the existing password. |
| **PasswordName** | string | read-write required | The name of the BIOS password to change. |
| } | | | |

**ResetBios**

This action is used to reset the BIOS attributes to default.

(This action takes no parameters.)

### Example Response


```
{
    "@odata.type": "#Bios.v1_0_4.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_0_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.context": "/redfish/v1/$metadata#Bios.Bios",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/BIOS"
}
```


## BootOption 1.0.1

This is the schema definition for the BootOption resource. It represents the properties of a bootable device available in the System.

**URIs:**

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

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

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **Alias** | string (enum) | read-only (null) | The alias of this Boot Source.<br>*See Alias in Property Details, below, for the possible values of this property.* |
| **BootOptionEnabled** | boolean | read-write (null) | A flag that shows if the Boot Option is enabled. |
| **BootOptionReference** | string | read-only required (null) | The unique boot option string that is referenced in the BootOrder. |
| **DisplayName** | string | read-only (null) | The user-readable display string of the Boot Option. |
| **RelatedItem** [ { | array | read-only | The ID(s) of the resources associated with this Boot Option. |
| **@odata.id** | string | read-only | The unique identifier for a resource. |
| } ] | | | |
| **UefiDevicePath** | string | read-only (null) | The UEFI device path used to access this UEFI Boot Option. |

### Property Details

**Alias:**

The alias of this Boot Source.

| string | Description |
|---|---|
| BiosSetup | Boot to the BIOS Setup Utility. |
| Cd | Boot from the CD/DVD disc. |
| Diags | Boot 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 (e.g. iSCSI). |
| SDCard | Boot from an SD Card. |
| UefiBootNext | Boot to the UEFI Device specified in the BootNext property. |
| 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 USB device as specified by the system BIOS. |
| Utilities | Boot the manufacturer's Utilities program(s). |

## Chassis 1.8.0

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 (like sensors) that operate outside of a system's data plane (meaning the resources are not accessible to software running on the system) are linked either directly or indirectly through this resource.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Chassis.Reset** { } } | object | | This action is used to reset the chassis. This action resets the chassis, not Systems or other contained resources, although side effects may occur which affect those resources.<br>*For more information, see the Action Details section below.* |
| **Assembly** *(v1.6+)* { | object | | A reference to the Assembly resource 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.<br>*See ChassisType in Property Details, below, for the possible values of this property.* |
| **DepthMm** *(v1.4+)* | number (mm) | read-only (null) | The depth of the chassis. |
| **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, used to identify the chassis.<br>*See IndicatorLED in Property Details, below, for the possible values of this property.* |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **ComputerSystems** [ { | array | read-only | An array of references to the computer systems contained in this chassis. This will only reference ComputerSystems that are directly and wholly contained in this chassis. |
| **@odata.id** } ] | string | read-only | Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details. |
| **ContainedBy** { | object | | A reference to the chassis that this chassis is contained by. |
| **@odata.id** } | string | read-only | Link to another Chassis resource. |
| **Contains** [ { | array | read-only | An array of references to any other chassis that this chassis has in it. |

| | | | |
|---|---|---|---|
| **@odata.id**<br>} ] | string | read-only | Link to another Chassis resource. |
| **CooledBy** [ { | array | read-only | An array of ID[s] of resources that cool this chassis. Normally the ID will be a chassis or a specific set of fans. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **Drives** *(v1.2+)* [ { | array | read-only | An array of references to the disk drives located in this Chassis. |
| **@odata.id**<br>} ] | string | read-only | Link to a Drive resource. See the Links section and the Drive schema for details. |
| **ManagedBy** [ { | array | read-only | An array of references to the Managers responsible for managing this chassis. |
| **@odata.id**<br>} ] | string | read-only | Link to a Manager resource. See the Links section and the Manager schema for details. |
| **ManagersInChassis** *(v1.2+)* [ { | array | read-only | An array of references to the managers located in this Chassis. |
| **@odata.id**<br>} ] | 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+)* [ { | array | read-only | An array of references to the PCIe Devices located in this Chassis. |
| **@odata.id**<br>} ] | string | read-only | Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details. |
| **PoweredBy** [ { | array | read-only | An array of ID[s] of resources that power this chassis. Normally the ID will be a chassis or a specific set of Power Supplies. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **ResourceBlocks** *(v1.5+)* [ { | array | read-only | An array of references to the Resource Blocks located in this Chassis. |
| **@odata.id**<br>} ] | string | read-only | Link to a ResourceBlock resource. See the Links section and the ResourceBlock schema for details. |
| **Storage** *(v1.2+)* [ { | array | read-only | An array of references to the storage subsystems connected to or inside this Chassis. |
| **@odata.id**<br>} ] | string | read-only | Link to a Storage resource. See the Links section and the Storage schema for details. |
| **Switches** *(v1.7+)* [ { | array | read-only | An array of references to the Switches located in this Chassis. |
| **@odata.id**<br>} ]<br>} | 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. See the Location object for details on this property. |
| **LogServices** { | object | | A reference to the logs for this chassis. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of LogService. See the LogService schema for details. |
| **Manufacturer** | string | read-only (null) | The manufacturer of this chassis. |
| **Model** | string | read-only (null) | The model number of the chassis. |
| **NetworkAdapters** *(v1.4+)* { | object | | A reference to the collection of Network Adapters associated with this chassis. Contains a link to a resource. |
| **@odata.id**<br>} | 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. |
| **PCIeSlots** *(v1.8+)* { | object | | A reference to the PCIe Slot properties of this chassis. See the PCIeSlots schema for details on this property. |
| **@odata.id**<br>} | 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.<br>*See IntrusionSensor in Property Details, below, for the possible values of this property.* |
| **IntrusionSensorNumber** | integer | read-only | A numerical identifier to represent the physical security sensor. |

| | | | |
|---|---|---|---|
| | | (null) | |
| **IntrusionSensorReArm**<br>} | string (enum) | read-only (null) | This indicates how the Normal state to be restored.<br>*See IntrusionSensorReArm in Property Details, below, for the possible values of this property.* |
| **Power** { | object | | A reference to the power properties (power supplies, power policies, sensors) of this chassis. See the Power schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Power resource. See the Links section and the Power schema for details. |
| **PowerState** *(v1.1+)* | string (enum) | read-only (null) | The current power state of the chassis.<br>*See PowerState in Property Details, below, for the possible values of this property.* |
| **SerialNumber** | string | read-only (null) | The serial number of the chassis. |
| **SKU** | string | read-only (null) | The SKU of the chassis. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Thermal** { | object | | A reference to the thermal properties (fans, cooling, sensors) of this chassis. See the Thermal schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Thermal resource. See the Links section and the Thermal schema for details. |
| **UUID** | 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. |

## Action Details

**Reset**

This action is used to reset the chassis. This action resets the chassis, not Systems or other contained resources, although side effects may occur which affect those resources.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **ResetType**<br>} | string (enum) | read-write | The type of reset to be performed.<br>*See ResetType in Property Details, below, for the possible values of this property.* |

## 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 which 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 which contains devices for a particular subsystem or function. |
| Drawer | An enclosed or semi-enclosed, typically horizontally-oriented, system chassis which may be slid into a multi-system chassis. |
| Enclosure | A generic term for a chassis that does not fit any other description. |
| Expansion | A chassis which 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 which 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 which 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 which 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 which 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 which encloses storage. |
| Zone | A logical division or portion of a physical chassis that contains multiple devices or systems that cannot be physically separated. |

**IndicatorLED:**

The state of the indicator LED, used to identify the chassis.

| string | Description |
|---|---|
| Blinking | The Indicator LED is blinking. |
| Lit | The Indicator LED is lit. |
| Off | The Indicator LED is off. |
| Unknown *(deprecated v1.5)* | The state of the Indicator LED cannot be determined. *Deprecated v1.5+. 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 as being in an insecure state. |
| Normal | No abnormal physical security conditions are detected at this time. |
| TamperingDetected | Physical tampering of the monitored entity is detected. |

**IntrusionSensorReArm:**

This indicates how the Normal state to be restored.

| string | Description |
|---|---|
| Automatic | This sensor would be restored to the Normal state automatically as no abnormal physical security conditions are detected. |
| Manual | This sensor would be restored to the Normal state by a manual re-arm. |

**PowerState:**

The current power state of the chassis.

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

| string | Description |
|---|---|
| ForceOff | Turn the unit off immediately (non-graceful shutdown). |
| ForceOn | Turn the unit on immediately. |
| ForceRestart | Perform an immediate (non-graceful) shutdown, followed by a restart. |
| GracefulRestart | Perform a graceful shutdown followed by a restart of the system. |
| GracefulShutdown | Perform a graceful shutdown and power off. |
| Nmi | Generate a Diagnostic Interrupt (usually an NMI on x86 systems) to cease normal operations, perform diagnostic actions and typically halt the system. |

| | |
|---|---|
| On | Turn the unit on. |
| PowerCycle | Perform a power cycle of the unit. |
| PushPowerButton | Simulate the pressing of the physical power button on this unit. |

### Example Response


```
{
    "@odata.type": "#Chassis.v1_8_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.context": "/redfish/v1/$metadata#Chassis.Chassis",
    "@odata.id": "/redfish/v1/Chassis/1U"
}
```


## CompositionService 1.1.0

The CompositionService schema defines a Composition Service which represents the properties for the service and links to the resources available for composition.

**URIs:**

/redfish/v1/CompositionService

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **AllowOverprovisioning** *(v1.1+)* | boolean | read-write (null) | This indicates whether this service is allowed to overprovision a composition relative to the composition request. |
| **AllowZoneAffinity** *(v1.1+)* | boolean | read-only (null) | This indicates whether a client is allowed to request that given composition request is fulfilled by a specified Resource Zone. |
| **ResourceBlocks** { | object | | The resource blocks available on the service. Contains a link to a resource. |
| **@odata.id**<br>} | 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**<br>} | string | read-only | Link to Collection of Zone. See the Zone schema for details. |
| **ServiceEnabled** | boolean | read-write (null) | This indicates whether this service is enabled. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Example Response


```
{
    "@odata.type": "#CompositionService.v1_1_0.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.context": "/redfish/v1/$metadata#CompositionService.CompositionService",
    "@odata.id": "/redfish/v1/CompositionService"
}
```


## ComputerSystem 1.5.1

This schema defines a computer system and its respective properties. A computer system represents a machine (physical or virtual) and the local resources such as memory, cpu and other devices that can be accessed from that machine.

**URIs:**

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

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

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#ComputerSystem.Reset** { } | object | | This action is used to reset the system.<br>*For more information, see the Action Details section below.* |
| **#ComputerSystem.SetDefaultBootOrder** *(v1.5+)* { } } | object | | This action is used to set the Boot Order to the default settings.<br>*For more information, see the Action Details section below.* |
| **AssetTag** | string | read-write (null) | The user definable tag that can be used to track this computer system for inventory or other client purposes. |
| **Bios** *(v1.1+)* { | object | | A reference 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 | | Information about the boot settings for this system. |
| **BootNext** *(v1.5+)* | string | read-write (null) | This property is the BootOptionReference of the Boot Option to perform a one time boot from when BootSourceOverrideTarget is UefiBootNext. |
| **BootOptions** *(v1.5+)* { | object | | A reference 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 | Ordered array of BootOptionReference strings representing the persistent Boot Order associated with this computer system. |
| **BootSourceOverrideEnabled** | string (enum) | read-write (null) | Describes the state of the Boot Source Override feature.<br>*See BootSourceOverrideEnabled in Property Details, below, for the possible values of this property.* |
| **BootSourceOverrideMode** *(v1.1+)* | string (enum) | read-write (null) | The BIOS Boot Mode (either Legacy or UEFI) to be used when BootSourceOverrideTarget boot source is booted from.<br>*See BootSourceOverrideMode in Property Details, below, for the possible values of this property.* |
| **BootSourceOverrideTarget** | string (enum) | read-write (null) | The current boot source to be used at next boot instead of the normal boot device, if BootSourceOverrideEnabled is true.<br>*See BootSourceOverrideTarget in Property Details, below, for the possible values of this property.* |
| **UefiTargetBootSourceOverride** } | string | read-write (null) | This property is the UEFI Device Path of the device to boot from when BootSourceOverrideTarget is UefiTarget. |
| **EthernetInterfaces** { | object | | A reference 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. |
| **HostedServices** *(v1.2+)* { | object | | The services that this computer system supports. |

| | | | |
|---|---|---|---|
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **StorageServices**<br>} | | read-only | A reference to a collection of storage services supported by this computer system. |
| **HostingRoles** *(v1.2+)* [ ] | array (string (enum)) | read-only | The hosing roles that this computer system supports. The enumerations of HostingRoles specify different features that the hosting ComputerSystem supports.<br>*See HostingRoles in Property Details, below, for the possible values of this property.* |
| **HostName** | string | read-write (null) | The DNS Host Name, without any domain information. |
| **HostWatchdogTimer** *(v1.5+)* { | object | | This object describes the Host Watchdog Timer functionality for this system. |
| **FunctionEnabled** | boolean | read-write required (null) | This indicates if the Host Watchdog Timer functionality has been enabled. Additional host-based software is necessary to activate the timer function. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **TimeoutAction** | string (enum) | read-write required (null) | This property indicates the action to perform when the Watchdog Timer reaches its timeout value.<br>*See TimeoutAction in Property Details, below, for the possible values of this property.* |
| **WarningAction**<br>} | string (enum) | read-write (null) | This property indicates the action to perform when the Watchdog Timer is close (typically 3-10 seconds) to reaching its timeout value.<br>*See WarningAction in Property Details, below, for the possible values of this property.* |
| **IndicatorLED** | string (enum) | read-write (null) | The state of the indicator LED, used to identify the system.<br>*See IndicatorLED in Property Details, below, for the possible values of this property.* |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Chassis** [ { | array | read-only | An array of references to the chassis in which this system is contained. |
| **@odata.id**<br>} ] | string | read-only | Link to a Chassis resource. See the Links section and the Chassis schema for details. |
| **ConsumingComputerSystems** *(v1.5+)* [ { | array | read-only | An array of references to ComputerSystems that are realized, in whole or in part, from this ComputerSystem. |
| **@odata.id**<br>} ] | string | read-only | Link to another ComputerSystem resource. |
| **CooledBy** [ { | array | read-only | An array of ID[s] of resources that cool this computer system. Normally the ID will be a chassis or a specific set of fans. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **Endpoints** *(v1.2+)* [ { | array | read-only | An array of references to the endpoints that connect to this system. |
| **@odata.id**<br>} ] | string | read-only | Link to a Endpoint resource. See the Links section and the Endpoint schema for details. |
| **ManagedBy** [ { | array | read-only | An array of references to the Managers responsible for this system. |
| **@odata.id**<br>} ] | 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 | read-only | An array of ID[s] of resources that power this computer system. Normally the ID will be a chassis or a specific set of Power Supplies. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **ResourceBlocks** *(v1.4+)* [ { | array | read-write | An array of references to the Resource Blocks that are used in this Computer System. |
| **@odata.id**<br>} ] | string | read-only | Link to a ResourceBlock resource. See the Links section and the ResourceBlock schema for details. |
| **SupplyingComputerSystems** *(v1.5+)* [ { | array | read-only | An array of references to ComputerSystems that contribute, in whole or in part, to the implementation of this ComputerSystem. |
| **@odata.id**<br>} ] | string | read-only | Link to another ComputerSystem resource. |

| | | | |
|---|---|---|---|
| } | | | |
| **LogServices** { | object | | A reference to the collection of Log Services associated with this system. Contains a link to a resource. |
| **@odata.id**<br>} | 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 | | A reference to the collection of Memory associated with this system. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Memory. See the Memory schema for details. |
| **MemoryDomains** { | object | (null) | A reference to the collection of Memory Domains associated with this system. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of MemoryDomain. See the MemoryDomain schema for details. |
| **MemorySummary** { | object | | This object describes the central memory of the system in general detail. |
| **MemoryMirroring** *(v1.1+)* | string (enum) | read-only (null) | The ability and type of memory mirroring supported by this system.<br>*See MemoryMirroring in Property Details, below, for the possible values of this property.* |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **TotalSystemMemoryGiB** | number (GiBy) | read-only (null) | The total configured operating system-accessible memory (RAM), measured in GiB. |
| **TotalSystemPersistentMemoryGiB** *(v1.4+)*<br>} | 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 | | A reference to the collection of Network Interfaces associated with this system. Contains a link to a resource. |
| **@odata.id**<br>} | 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 | read-only | A reference to a collection of PCIe Devices used by this computer system. |
| **@odata.id**<br>} ] | string | read-only | Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details. |
| **PCIeFunctions** *(v1.2+)* [ { | array | read-only | A reference to a collection of PCIe Functions used by this computer system. |
| **@odata.id**<br>} ] | string | read-only | Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details. |
| **PowerState** | string (enum) | read-only (null) | This is the current power state of the system.<br>*See PowerState in Property Details, below, for the possible values of this property.* |
| **Processors** { | object | | A reference to the collection of Processors associated with this system. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Processor. See the Processor schema for details. |
| **ProcessorSummary** { | object | | This object describes 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. |
| **Model** | string | read-only (null) | The processor model for the primary or majority of processors in this system. |
| **Status** { }<br>} | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Redundancy** *(v1.5+)* [ { | array | read-only | A reference to a collection of Redundancy entities that each name a set of computer systems that provide redundancy for this ComputerSystem. |
| **@odata.id** | string | read-only | The unique identifier for a resource. |

| | | | |
|---|---|---|---|
| } ] | | | |
| **SecureBoot** *(v1.1+)* { | object | | A reference to the UEFI SecureBoot resource associated with this system. See the SecureBoot schema for details on this property. |
| **@odata.id**<br>} | 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 | | A reference to the collection of storage devices associated with this system. Contains a link to a resource. |
| **@odata.id**<br>} | 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 | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Storage** *(v1.1+)* { | object | | A reference to the collection of storage devices associated with this system. Contains a link to a resource. |
| **@odata.id**<br>} | 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 represented by this resource.<br>*See SystemType in Property Details, below, for the possible values of this property.* |
| **TrustedModules** *(v1.1+)* [ { | array | read-write | This object describes the 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 2nd firmware version of this Trusted Module, if applicable. |
| **InterfaceType** | string (enum) | read-only (null) | This property indicates the interface type of the Trusted Module.<br>*See InterfaceType in Property Details, below, for the possible values of this property.* |
| **InterfaceTypeSelection** *(v1.3+)* | string (enum) | read-only (null) | The Interface Type selection supported by this Trusted Module.<br>*See InterfaceTypeSelection in Property Details, below, for the possible values of this property.* |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **Status** { }<br>} ] | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **UUID** | string | read-only (null) | The universal unique identifier (UUID) for this system.<br>*See Property Details, below, for more information about this property.* |

## Action Details

**Reset**

This action is used to reset the system.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **ResetType**<br>} | string (enum) | read-write | The type of reset to be performed.<br>*See ResetType in Property Details, below, for the possible values of this property.* |

**SetDefaultBootOrder**

This action is used to set the Boot Order to the default settings.

(This action takes no parameters.)

## Property Details

**BootSourceOverrideEnabled:**

Describes the state of the Boot Source Override feature.

| string | Description |
|---|---|
| Continuous | The system will boot to the target specified in the BootSourceOverrideTarget until this property is set to Disabled. |

| | |
|---|---|
| Disabled | The system will boot normally. |
| Once | On its next boot cycle, the system will boot (one time) to the Boot Source Override Target. The value of BootSourceOverrideEnabled is then reset back to Disabled. |

**BootSourceOverrideMode:**

The BIOS Boot Mode (either Legacy or UEFI) to be used when BootSourceOverrideTarget boot source is booted from.

| string | Description |
|---|---|
| Legacy | The system will boot in non-UEFI boot mode to the Boot Source Override Target. |
| UEFI | The system will boot in UEFI boot mode to the Boot Source Override Target. |

**BootSourceOverrideTarget:**

The current boot source to be used at 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/DVD disc. |
| Diags | Boot 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 (e.g. iSCSI). |
| SDCard | Boot from an SD Card. |
| UefiBootNext *(v1.5+)* | Boot to the UEFI Device specified in the BootNext property. |
| 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 USB device as specified by the system BIOS. |
| Utilities | Boot the manufacturer's Utilities program(s). |

**HostingRoles:**

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

| string | Description |
|---|---|
| ApplicationServer | The system hosts functionality that supports general purpose applications. |
| 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. |

**IndicatorLED:**

The state of the indicator LED, used to identify the system.

| string | Description |
|---|---|
| Blinking | The Indicator LED is blinking. |
| Lit | The Indicator LED is lit. |
| Off | The Indicator LED is off. |
| Unknown *(deprecated v1.4)* | The state of the Indicator LED cannot be determined. *Deprecated v1.4+. This value has been Deprecated in favor of returning null if the state is unknown.* |

**InterfaceType:**

This property indicates 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 via platform software, such as a BIOS configuration Attribute. |
| FirmwareUpdate | The TrustedModule supports switching InterfaceType via a firmware update. |
| None | The TrustedModule does not support switching the InterfaceType. |
| OemMethod | The TrustedModule supports switching InterfaceType via an OEM proprietary mechanism. |

**MemoryMirroring:**

The ability and type of memory mirroring supported by this system.

| 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. |

**PowerState:**

This is 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 to be performed.

| string | Description |
|---|---|
| ForceOff | Turn the unit off immediately (non-graceful shutdown). |
| ForceOn | Turn the unit on immediately. |
| ForceRestart | Perform an immediate (non-graceful) shutdown, followed by a restart. |
| GracefulRestart | Perform a graceful shutdown followed by a restart of the system. |
| GracefulShutdown | Perform a graceful shutdown and power off. |
| Nmi | Generate a Diagnostic Interrupt (usually an NMI on x86 systems) to cease normal operations, perform diagnostic actions and typically halt the system. |
| On | Turn the unit on. |
| PowerCycle | Perform a power cycle of the unit. |
| PushPowerButton | Simulate the pressing of the physical power button on this unit. |

**SystemType:**

The type of computer system represented by this resource.

| string | Description |
|---|---|
| Composed *(v1.4+)* | A computer system that has been created 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:**

This property indicates 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 universal unique identifier (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 format of the string is the 35-character string format specified in RFC4122: "xxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx". Each x represents a hexadecimal digit (0-f).

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

**WarningAction:**

This property indicates the action to perform when the Watchdog Timer is close (typically 3-10 seconds) to reaching its timeout value.

| 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_5_1.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.Reset"
            }
        }
    },
    "@odata.context": "/redfish/v1/$metadata#ComputerSystem.ComputerSystem",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
}
```


## Drive 1.5.0

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

**URIs:**

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

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

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

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

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Drive.SecureErase** { }<br>} | object | | This action is used to securely erase the contents of the drive.<br>*For more information, see the Action Details section below.* |
| **Assembly** *(v1.3+)* { | object | | A reference to the Assembly resource associated with this drive. See the Assembly schema for details on this property. |
| **@odata.id**<br>} | 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 of the smallest addressible unit (Block) of this drive in bytes. |
| **CapableSpeedGbs** | number (Gbit/s) | read-only (null) | The speed which this drive can communicate to a storage controller in ideal conditions in Gigabits per second. |
| **CapacityBytes** | integer (bytes) | read-only (null) | The size in bytes of this Drive. |
| **EncryptionAbility** | string | read-only | The encryption abilities of this drive. |

| | | | |
|---|---|---|---|
| | (enum) | (null) | *See EncryptionAbility in Property Details, below, for the possible values of this property.* |
| **EncryptionStatus** | string (enum) | read-only (null) | The status of the encrytion of this drive.<br>*See EncryptionStatus in Property Details, below, for the possible values of this property.* |
| **FailurePredicted** | boolean | read-only (null) | Is this drive currently predicting a failure in the near future. |
| **HotspareReplacementMode** *(v1.5+)* | string (enum) | read-write (null) | The replacement mode for the hotspare drive.<br>*See HotspareReplacementMode in Property Details, below, for the possible values of this property.* |
| **HotspareType** | string (enum) | read-only (null) | The type of hotspare this drive is currently serving as.<br>*See HotspareType in Property Details, below, for the possible values of this property.* |
| **Identifiers** [ { } ] | array (object) | | The Durable names for the drive. This type describes any additional identifiers for a resource. See the Identifier object for details on this property. |
| **IndicatorLED** | string (enum) | read-write (null) | The state of the indicator LED, used to identify the drive.<br>*See IndicatorLED in Property Details, below, for the possible values of this property.* |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Chassis** *(v1.2+)* { | object | | A reference to the Chassis which contains this Drive. See the Chassis schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Chassis resource. See the Links section and the Chassis schema for details. |
| **Endpoints** *(v1.1+)* [ { | array | read-only | An array of references to the endpoints that connect to this drive. |
| **@odata.id**<br>} ] | 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. |
| **Volumes** [ { | array | read-only | An array of references to the volumes contained in this drive. This will reference Volumes that are either wholly or only partly contained by this drive. |
| **@odata.id**<br>} ]<br>} | string | read-only | Link to a Volume resource. See the Links section and the Volume schema for details. |
| **Location** [ { } ] | array (object) | | The Location of the drive. This type describes the location of a resource. See the Location object for details on this property. |
| **Manufacturer** | string | read-only (null) | This is the manufacturer of this drive. |
| **MediaType** | string (enum) | read-only (null) | The type of media contained in this drive.<br>*See MediaType in Property Details, below, for the possible values of this property.* |
| **Model** | string | read-only (null) | This is the model number for the drive. |
| **NegotiatedSpeedGbs** | number (Gbit/s) | read-only (null) | The speed which this drive is currently communicating to the storage controller in Gigabits per second. |
| **Operations** *(v1.1+)* [ { | array | read-write | The operations currently running on the Drive. |
| **AssociatedTask** *(v1.3+)* { | object | | A reference to the task associated with the operation if any. See the Task schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Task resource. See the Links section and the Task schema for details. |
| **OperationName** *(v1.3+)* | string | read-only (null) | The name of the operation. |
| **PercentageComplete** *(v1.3+)*<br>} ] | 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. See the Location object for details on this property. |
| **PredictedMediaLifeLeftPercent** | number (%) | read-only (null) | The percentage of reads and writes that are predicted to still be available for the media. |
| **Protocol** | string (enum) | read-only (null) | The protocol this drive is using to communicate to the storage controller.<br>*See Protocol in Property Details, below, for the possible values of this property.* |
| **Revision** | string | read-only (null) | The revision of this Drive. This is typically the firmware/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) | This is the SKU for this drive. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **StatusIndicator** | string (enum) | read-write (null) | The state of the status indicator, used to communicate status information about this drive. *See StatusIndicator in Property Details, below, for the possible values of this property.* |

## Action Details

**SecureErase**

This action is used to securely erase the contents of the drive.

(This action takes no parameters.)

## Property Details

**EncryptionAbility:**

The encryption abilities 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 encrytion 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 has the ability to unlock the drive automatically. |
| Unecrypted *(deprecated v1.2)* | The drive is not currently encrypted. *Deprecated v1.2+. 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 unencrypted. |

**HotspareReplacementMode:**

The replacement mode for the hotspare drive.

| string | Description |
|---|---|
| NonRevertible | A hotspare drive that is commissioned due to a drive failure will remain as a data drive and will not revert to a hotspare if the failed drive is replaced. |
| Revertible | A hotspare drive that is commissioned due to a drive failure will revert to being a hotspare once the failed drive is replaced and rebuilt. |

**HotspareType:**

The type of hotspare this drive is currently serving as.

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

**IndicatorLED:**

The state of the indicator LED, used to identify 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 this drive is using to communicate to the storage controller.

| string | Description |
|---|---|
| AHCI | Advanced Host Controller Interface. |
| FC | Fibre Channel. |
| FCoE | Fibre Channel over Ethernet. |
| FCP | Fibre Channel Protocol for SCSI. |
| FICON | FIbre CONnection (FICON). |
| FTP | File Transfer Protocol. |
| HTTP | Hypertext Transport Protocol. |
| HTTPS | Secure Hypertext Transport Protocol. |
| I2C | Inter-Integrated Circuit Bus. |
| iSCSI | Internet SCSI. |
| iWARP | Internet Wide Area Remote Direct Memory Access Protocol. |
| NFSv3 | Network File System version 3. |
| NFSv4 | Network File System version 4. |
| NVMe | Non-Volatile Memory Express. |
| 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 | Secure File Transfer Protocol. |
| SMB | Server Message Block (aka CIFS Common Internet File System). |
| UHCI | Universal Host Controller Interface. |
| USB | Universal Serial Bus. |

**StatusIndicator:**

The state of the status indicator, used to communicate status information about this drive.

| string | Description |
|---|---|
| Fail | The drive has failed. |
| Hotspare | The drive is marked to be automatically rebuilt and used as a replacement for a failed drive. |
| InACriticalArray | The array that this drive is a part of is degraded. |
| InAFailedArray | The array that this drive is a part of is failed. |
| OK | The drive is OK. |
| PredictiveFailureAnalysis | The drive is still working but predicted to fail soon. |
| Rebuild | The drive is being rebuilt. |

## Example Response

```
{
    "@odata.type": "#Drive.v1_5_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/Actions/Drive.SecureErase"
        }
    },
    "@odata.context": "/redfish/v1/$metadata#Drive.Drive",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/3D58ECBC375FD9F2"
}
```


## Endpoint 1.2.0

This is the schema definition for the Endpoint resource. It represents the properties of an entity that sends or receives protocol defined messages over a transport.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **ConnectedEntities** [ { | array | read-write | All the entities connected to this endpoint. |
| **EntityLink** | | read-only (null) | A link to the associated entity. |
| **EntityPciId** { | object | (null) | The PCI ID of the connected entity. |
| **ClassCode** *(v1.2+)* | string | read-only (null) | The Class Code, Subclass code, 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. |
| **EntityRole** | string (enum) | read-only (null) | The role of the connected entity. *See EntityRole in Property Details, below, for the possible values of this property.* |
| **EntityType** | string (enum) | read-only (null) | The type of the connected entity. *See EntityType in Property Details, below, for the possible values of this property.* |
| **Identifiers** [ { } ] | array (object) | (null) | Identifiers for the remote entity. This type describes any additional identifiers for a resource. See the Identifier object for details on this property. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **PciClassCode** *(deprecated v1.2)* | string | read-only (null) | The Class Code, Subclass code, and Programming Interface code of this PCIe function. *Deprecated v1.2+. 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 v1.2+. 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.<br>*See EndpointProtocol in Property Details, below, for the possible values of this property.* |
| **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) | (null) | Identifiers for this endpoint. This type describes any additional identifiers for a resource. See the Identifier object for details on this property. |
| **IPTransportDetails** *(v1.1+)* [ { | array | read-write | This array contains details for each IP transport supported by this endpoint. The array structure can be used to model multiple IP addresses for this endpoint. |
| **IPv4Address** { } | object | | The IPv4 addresses assigned to the Endpoint. See the IPv4Address object for details on this property. |
| **IPv6Address** { } | object | | The IPv6 addresses assigned to the Endpoint. See the IPv6Address object for details on this property. |
| **Port** | number | read-only | The UDP or TCP port number used by the Endpoint. |
| **TransportProtocol**<br>} ] | string (enum) | read-only | The protocol used by the connection entity.<br>*See TransportProtocol in Property Details, below, for the possible values of this property.* |
| **Links** { | object | | The links object contains the links to other resources that are related to this resource. |
| **MutuallyExclusiveEndpoints** [ { | array | read-only | An array of references to the endpoints that may not be used in zones if this endpoint is used in a zone. |
| **@odata.id**<br>} ] | string | read-only | Link to another Endpoint resource. |
| **NetworkDeviceFunction** *(v1.1+)* [ { | array | read-only | When NetworkDeviceFunction resources are present, this array contains references to the network device function that connect to this endpoint. |
| **@odata.id**<br>} ] | 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 | read-only | An array of references to the the physical ports associated with this endpoint. |
| **@odata.id**<br>} ]<br>} | string | read-only | Link to a Port resource. See the Links section and the Port schema for details. |
| **PciId** { | object | (null) | The PCI ID of the endpoint. |
| **ClassCode** *(v1.2+)* | string | read-only (null) | The Class Code, Subclass code, 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**<br>} | string | read-only (null) | The Vendor ID of this PCIe function. |
| **Redundancy** [ { | array | read-write | Redundancy information for the lower level endpoints supporting this endpoint. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

## Property Details

**EndpointProtocol:**

The protocol supported by this endpoint.

| string | Description |
|---|---|
| AHCI | Advanced Host Controller Interface. |
| FC | Fibre Channel. |
| FCoE | Fibre Channel over Ethernet. |
| FCP | Fibre Channel Protocol for SCSI. |

| | |
|---|---|
| FICON | FIbre CONnection (FICON). |
| FTP | File Transfer Protocol. |
| HTTP | Hypertext Transport Protocol. |
| HTTPS | Secure Hypertext Transport Protocol. |
| I2C | Inter-Integrated Circuit Bus. |
| iSCSI | Internet SCSI. |
| iWARP | Internet Wide Area Remote Direct Memory Access Protocol. |
| NFSv3 | Network File System version 3. |
| NFSv4 | Network File System version 4. |
| NVMe | Non-Volatile Memory Express. |
| 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 | Secure File Transfer Protocol. |
| SMB | Server Message Block (aka CIFS Common Internet File System). |
| UHCI | Universal Host Controller Interface. |
| USB | Universal Serial Bus. |

**EntityRole:**

The role of the connected entity.

| string | Description |
|---|---|
| Both | The entity is acting as both an initiator and a target. |
| Initiator | The entity is acting as an initiator. |
| Target | The entity is acting as a target. |

**EntityType:**

The type of the connected entity.

| string | Description |
|---|---|
| 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.Drive entity. |
| NetworkController | The entity is a network controller. The EntityLink property (if present) should be an EthernetInterface.EthernetInterface entity. |
| 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.ComputerSystem entity. |
| StorageExpander | The entity is a storage expander. The EntityLink property (if present) should be a Chassis.Chassis entity. |
| StorageInitiator | The entity is a storage initator. The EntityLink property (if present) should be a Storage.StorageController entity. |
| Volume *(v1.1+)* | The entity is a volume. The EntityLink property (if present) should be a Volume.Volume entity. |

**TransportProtocol:**

The protocol used by the connection entity.

| string | Description |
|---|---|
| AHCI | Advanced Host Controller Interface. |
| FC | Fibre Channel. |
| FCoE | Fibre Channel over Ethernet. |

| | |
|---|---|
| FCP | Fibre Channel Protocol for SCSI. |
| FICON | FIbre CONnection (FICON). |
| FTP | File Transfer Protocol. |
| HTTP | Hypertext Transport Protocol. |
| HTTPS | Secure Hypertext Transport Protocol. |
| I2C | Inter-Integrated Circuit Bus. |
| iSCSI | Internet SCSI. |
| iWARP | Internet Wide Area Remote Direct Memory Access Protocol. |
| NFSv3 | Network File System version 3. |
| NFSv4 | Network File System version 4. |
| NVMe | Non-Volatile Memory Express. |
| 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 | Secure File Transfer Protocol. |
| SMB | Server Message Block (aka CIFS Common Internet File System). |
| UHCI | Universal Host Controller Interface. |
| USB | Universal Serial Bus. |

### Example Response

```
{
    "@odata.type": "#Endpoint.v1_2_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.context": "/redfish/v1/$metadata#Endpoint.Endpoint",
    "@odata.id": "/redfish/v1/Fabrics/SAS/Endpoints/Drive1"
}
```

## EthernetInterface 1.4.1

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.3+)* { } | object | | The available actions for this resource. |

| | | | |
|---|---|---|---|
| **AutoNeg** | boolean | read-write (null) | This indicates if the speed and duplex are automatically negotiated and configured on this interface. |
| **DHCPv4** *(v1.4+)* { | object | (null) | DHCPv4 configuration for this interface. |
| **DHCPEnabled** | boolean | read-write (null) | Determines whether DHCPv4 is enabled on this interface. |
| **UseDNSServers** | boolean | read-write (null) | Determines whether to use DHCPv4-supplied DNS servers. |
| **UseDomainName** | boolean | read-write (null) | Determines whether to use a DHCPv4-supplied domain name. |
| **UseGateway** | boolean | read-write (null) | Determines whether to use a DHCPv4-supplied gateway. |
| **UseNTPServers** | boolean | read-write (null) | Determines whether to use DHCPv4-supplied NTP servers. |
| **UseStaticRoutes** } | boolean | read-write (null) | Determines whether to use DHCPv4-supplied static routes. |
| **DHCPv6** *(v1.4+)* { | object | (null) | DHCPv6 configuration for this interface. |
| **OperatingMode** | string (enum) | read-write (null) | Determines the DHCPv6 operating mode for this interface.<br>*See OperatingMode in Property Details, below, for the possible values of this property.* |
| **UseDNSServers** | boolean | read-write (null) | When enabled, DNS server addresses supplied through DHCPv6 stateless mode will be used. |
| **UseDomainName** | boolean | read-write (null) | When enabled, the domain name supplied through DHCPv6 stateless mode will be used. |
| **UseNTPServers** | boolean | read-write (null) | When enabled, NTP server addresses supplied through DHCPv6 stateless mode will be used. |
| **UseRapidCommit** } | boolean | read-write (null) | Determines whether to use DHCPv6 rapid commit mode for stateful mode address assignments. Do not enable in networks where more than one DHCPv6 server is configured to provide address assignments. |
| **FQDN** | string | read-write (null) | This is the complete, fully qualified domain name obtained by DNS for this interface. |
| **FullDuplex** | boolean | read-write (null) | This indicates if the interface is in Full Duplex mode or not. |
| **HostName** | string | read-write (null) | The DNS Host Name, without any domain information. |
| **InterfaceEnabled** | boolean | read-write (null) | This indicates whether this interface is enabled. |
| **IPv4Addresses** [ { } ] | array (object) | | The IPv4 addresses currently assigned to this interface. This type describes an IPv4 Address. See the IPv4Address object for details on this property. |
| **IPv4StaticAddresses** [ { } ] | array (object) | | The IPv4 static addresses assigned to this interface. This type describes an IPv4 Address. See the IPv4Address object for details on this property. |
| **IPv6Addresses** [ { } ] | array (object) | | Enumerates in an array all of the currently assigned IPv6 addresses on this interface. This type describes an IPv6 Address. See the IPv6Address object for details on this property. |
| **IPv6AddressPolicyTable** [ { | array | read-write | An array representing the RFC 6724 Address Selection Policy Table. |
| **Label** | integer | read-write (null) | The IPv6 Label (as defined in RFC 6724 section 2.1). |
| **Precedence** | integer | read-write (null) | The IPv6 Precedence (as defined in RFC 6724 section 2.1. |
| **Prefix** } ] | string | read-write (null) | The IPv6 Address Prefix (as defined in RFC 6724 section 2.1). |
| **IPv6DefaultGateway** | string | read-only (null) | This is the IPv6 default gateway address that is currently in use on this interface. |
| **IPv6StaticAddresses** [ { } ] | array (object) | | Represents in an array all of the IPv6 static addresses to be assigned on this interface. This object represents a single IPv6 static address to be assigned on a network interface. See the IPv6StaticAddress object for details on this property. |
| **IPv6StaticDefaultGateways** [ ] | array () | read-write | The IPv6 static default gateways for this interface. This object represents a single IPv6 static address to be assigned on a network interface. See the IPv6GatewayStaticAddress object (v1.1.0) for details on this property. |
| **Links** *(v1.1+)* { | object | | Contains references to other resources that are related to this resource. |
| **Chassis** *(v1.3+)* { | object | | A reference to the Chassis which contains this Ethernet Interface. See the Chassis schema for details on this property. |

| | | | |
|---|---|---|---|
| **@odata.id**<br>} | string | read-only | Link to a Chassis resource. See the Links section and the Chassis schema for details. |
| **Endpoints** [ { | array | read-only | An array of references to the endpoints that connect to this ethernet interface. |
| **@odata.id**<br>} ] | string | read-only | Link to a Endpoint resource. See the Links section and the Endpoint schema for details. |
| **HostInterface** *(v1.2+)* { | object | | This is a reference to a Host Interface that is associated with this Ethernet Interface. See the HostInterface schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a HostInterface resource. See the Links section and the HostInterface schema for details. |
| **Oem** { }<br>} | 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 (port).<br>*See LinkStatus in Property Details, below, for the possible values of this property.* |
| **MACAddress** | string | read-write (null) | This is the currently configured MAC address of the (logical port) interface. |
| **MaxIPv6StaticAddresses** | integer | read-only (null) | This indicates the maximum number of Static IPv6 addresses that can be configured on this interface. |
| **MTUSize** | integer | read-write (null) | This is the currently configured Maximum Transmission Unit (MTU) in bytes on this interface. |
| **NameServers** [ ] | array (string) | read-only | This represents DNS name servers that are currently in use on this interface. |
| **PermanentMACAddress** | string | read-only (null) | This is the permanent MAC address assigned to this interface (port). |
| **SpeedMbps** | integer (Mbit/s) | read-write (null) | This is the current speed in Mbps of this interface. |
| **StatelessAddressAutoConfig** *(v1.4+)* { | object | (null) | Stateless Address Automatic Configuration (SLAAC) parameters for this interface. |
| **IPv4AutoConfigEnabled** | boolean | read-write (null) | Indicates whether IPv4 SLAAC is enabled for this interface. |
| **IPv6AutoConfigEnabled**<br>} | boolean | read-write (null) | Indicates whether IPv6 SLAAC is enabled for this interface. |
| **StaticNameServers** *(v1.4+)* [ ] | array (string) | read-write | A statically defined set of DNS server IP addresses (both IPv4 and IPv6). |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **UefiDevicePath** | string | read-only (null) | The UEFI device path for this interface. |
| **VLAN** { | object | (null) | 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**<br>} | string | read-only | Link to a VLAN resource. See the Links section and the VLanNetworkInterface schema for details. |
| **VLANs** { | object | | This is a reference to a collection of VLANs and is only used if the interface supports more than one VLANs. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of VLanNetworkInterface. See the VLanNetworkInterface schema for details. |

## Property Details

**LinkStatus:**

The link status of this interface (port).

| string | Description |
|---|---|
| LinkDown | There is no link on this interface, but the interface is connected. |
| LinkUp | The link is available for communication on this interface. |
| NoLink | There is no link or connection 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_4_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.context": "/redfish/v1/$metadata#EthernetInterface.EthernetInterface",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/EthernetInterfaces/12446A3B0411"
}
```

## Event 1.3.0

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **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 | read-write required | Each event in this array has a set of properties that describe the event. Since this is an array, more than one event can be sent simultaneously. |
| **@odata.id** *(v1.3+)* | string | read-only | The unique identifier for a resource. |
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **Context** *(deprecated v1.2)* | string | read-only | A context can be supplied at subscription time. This property is the context value supplied by the subscriber. *Deprecated v1.2+. Events are triggered independently from subscriptions to those events. This property has been Deprecated in favor of Event.v1_0_2.Event.Context* |
| **EventGroupId** *(v1.3+)* | integer | read-only | This value is the identifier used to correlate events that came from the same cause. |
| **EventId** | string | read-only | This is a unique instance identifier of an event. |
| **EventTimestamp** | string | read-only | This is time the event occurred. |
| **EventType** *(deprecated v1.3)* | string (enum) | read-only | This indicates the type of event sent, according to the definitions in the EventService. *See EventType in Property Details, below, for the possible values of this property. Deprecated v1.3+. This property has been deprecated. Starting Redfish Spec 1.6 (Event 1.3), subscriptions are based on RegistryId and ResourceType and not EventType.* |
| **MemberId** | string | read-only | This is the identifier for the member within the collection. |
| **Message** | string | read-only | This is 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 | This is the key for this message which can be used to look up the message in a message registry. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **OriginOfCondition** { | object | | This indicates 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 | This is the severity of the event. |

### Property Details

**EventType:**

This indicates the type of event sent, according to the definitions in the EventService.

| string | Description |
|---|---|
| Alert | A condition exists which requires attention. |
| ResourceAdded | A resource has been added. |
| ResourceRemoved | A resource has been removed. |
| ResourceUpdated | The value of this resource has been updated. |
| StatusChange | The status of this resource has changed. |

## EventDestination 1.4.0

An Event Destination desribes the target of an event subscription, including the types of events subscribed and context to provide to the target in the Event payload.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **Context** | string | read-write required (null) | A client-supplied string that is stored with the event destination subscription. |
| **Destination** | string | read-only required on create | The URI of the destination Event Service. |

| | | | |
|---|---|---|---|
| **EventFormatType** *(v1.4+)* | string (enum) | read-only (null) | Indicates the content types of the message that will be sent to the EventDestination.<br>*See EventFormatType in Property Details, below, for the possible values of this property.* |
| **EventTypes** [ ] | array (string (enum)) | read-only | This property contains the types of events that will be sent to the desination.<br>*See EventTypes in Property Details, below, for the possible values of this property.* |
| **HttpHeaders** [ { } ] | array | read-write | This is for setting HTTP headers, such as authorization information. This object will be null on a GET. |
| **MessageIds** *(v1.1+)* [ ] | array (string, null) | read-only | A list of MessageIds that the service will only send. If this property is absent or the array is empty, then Events with any MessageId will be sent to the subscriber. |
| **OriginResources** *(v1.1+)* [ { | array | read-only | A list of resources for which the service will only send related events. If this property is absent or the array is empty, then Events originating from any resource will be sent to the subscriber. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **Protocol** | string (enum) | read-only required on create | The protocol type of the event connection.<br>*See Protocol in Property Details, below, for the possible values of this property.* |
| **RegistryPrefixes** *(v1.4+)* [ ] | array (string, null) | read-only | A list of the Prefixes for the Message Registries that contain the MessageIds that will be sent to this event destination. |
| **ResourceTypes** *(v1.4+)* [ ] | array (string, null) | read-only | A list of Resource Type values (Schema names) that correspond to the OriginOfCondition. The version and full namespace should not be specified. |
| **SubordinateResources** *(v1.4+)* | boolean | read-only (null) | By setting this to true and specifying OriginResources, this indicates the subscription will be for events from the OriginsResources specified and also all subordinate resources. Note that resources associated via the Links section are not considered subordinate. |
| **SubscriptionType** *(v1.3+)* | string (enum) | read-only required (null) | Indicates the subscription type for events.<br>*See SubscriptionType in Property Details, below, for the possible values of this property.* |

## Property Details

**EventFormatType:**

Indicates the content types of the message that will be sent to the EventDestination.

| string | Description |
|---|---|
| Event | The subscription destination will receive JSON Bodies of the Resource Type Event. |
| MetricReport | The subscription destination will receive JSON Bodies of the Resource Type MetricReport. |

**EventTypes:**

This property contains the types of events that will be sent to the desination.

| string | Description |
|---|---|
| Alert | A condition exists which requires attention. |
| ResourceAdded | A resource has been added. |
| ResourceRemoved | A resource has been removed. |
| ResourceUpdated | The value of this resource has been updated. |
| StatusChange | The status of this resource has changed. |

**Protocol:**

The protocol type of the event connection.

| string | Description |
|---|---|
| Redfish | The destination follows the Redfish specification for event notifications. |

**SubscriptionType:**

Indicates the subscription type for events.

| string | Description |
|---|---|
| RedfishEvent | The subscription follows the Redfish specification for event notifications, which is done by a service sending an HTTP POST to the subscriber's destination URI. |
| SSE | The subscription follows the HTML5 Server-Sent Event definition for event notifications. |

## Example Response

```
{
```

```
    "@odata.type": "#EventDestination.v1_4_0.EventDestination",
    "Id": "1",
    "Name": "EventSubscription 1",
    "Destination": "http://www.dnsname.com/Destination1",
    "SubscriptionType": "RedfishEvent",
    "EventTypes": [
        "Alert"
    ],
    "Context": "WebUser3",
    "Protocol": "Redfish",
    "@odata.context": "/redfish/v1/$metadata#EventDestination.EventDestination",
    "@odata.id": "/redfish/v1/EventService/Subscriptions/1"
}
```

## EventService 1.2.0

The Event Service resource contains properties for managing event subcriptions and generates the events sent to subscribers. The resource has links to the actual collection of subscriptions (called Event Destinations).

**URIs:**

/redfish/v1/EventService

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#EventService.SubmitTestEvent** { } } | object | | This action is used to generate a test event.<br>*For more information, see the Action Details section below.* |
| **DeliveryRetryAttempts** | integer | read-write | This is the number of attempts an event posting is retried before the subscription is terminated. This retry is at the service level, meaning the HTTP POST to the Event Destination was returned by the HTTP operation as unsuccessful (4xx or 5xx return code) or an HTTP timeout occurred this many times before the Event Destination subscription is terminated. |
| **DeliveryRetryIntervalSeconds** | integer (seconds) | read-write | This represents the number of seconds between retry attempts for sending any given Event. |
| **EventFormatTypes** [ ] | array (string (enum)) | read-only (null) | Indicates the content types of the message that this service can send to the event destination.<br>*See EventFormatTypes in Property Details, below, for the possible values of this property.* |
| **EventTypesForSubscription** [ ] | array (string (enum)) | read-only | This is the types of Events that can be subscribed to.<br>*See EventTypesForSubscription in Property Details, below, for the possible values of this property.* |
| **RegistryPrefixes** *(v1.2+)* [ ] | array (string, null) | read-only | A list of the Prefixes of the Message Registries that can be used for the RegistryPrefix property on a subscription. |
| **ResourceTypes** *(v1.2+)* [ ] | array (string, null) | read-only | A list of @odata.type values (Schema names) that can be specified in a ResourceType on a subscription. |
| **ServerSentEventUri** *(v1.1+)* | string | read-only | Link to a URI for receiving Sever Sent Event representations of the events generated by this service. |
| **ServiceEnabled** | boolean | read-write (null) | This indicates whether this service is enabled. |
| **SSEFilterPropertiesSupported** *(v1.2+)* { | object | | Contains a set of properties that indicate which properties are supported in the $filter query parameter for the ServerSentEventUri. |
| **EventFormatType** | boolean | read-only | This indicates if the EventFormatType property is supported. |
| **EventType** | boolean | read-only | This indicates if the EventType property is supported. |
| **MessageId** | boolean | read-only | This indicates if the MessageId property is supported. |
| **MetricReportDefinition** | boolean | read-only | This indicates if the MetricReportDefinition property is supported. |
| **OriginResource** | boolean | read-only | This indicates if the OriginResource property is supported. |
| **RegistryPrefix** | boolean | read-only | This indicates if the RegistryPrefix property is supported. |
| **ResourceType** } | boolean | read-only | This indicates if the ResourceType property is supported. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **SubordinateResourcesSupported** *(v1.2+)* | boolean | read-only (null) | This indicates if the service supports the SubordinateResource property on Event Subscriptions. |
| **Subscriptions** { | object | | This is a reference 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. |

### Action Details

**SubmitTestEvent**

This action is used to generate a test event.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **EventId** | string | read-write required | This is the ID of event to be added. |
| **EventTimestamp** | string | read-write required | This is the time stamp of event to be added. |
| **EventType** | string (enum) | read-write | This is the type of event to be added.<br>*See EventType in Property Details, below, for the possible values of this property.* |
| **Message** | string | read-write required | This is the human readable message of event to be added. |
| **MessageArgs** [ ] | array (string) | read-write required | This is the array of message arguments of the event to be added. |
| **MessageId** | string | read-write required | This is the message ID of event to be added. |
| **OriginOfCondition** | string | read-write required | This is the string of the URL within the OriginOfCondition property of the event to be added. It is not a reference object. |
| **Severity**<br>} | string | read-write required | This is the Severity of event to be added. |

## Property Details

**EventFormatTypes:**

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

| string | Description |
|---|---|
| Event | The subscription destination will receive JSON Bodies of the Resource Type Event. |
| MetricReport | The subscription destination will receive JSON Bodies of the Resource Type MetricReport. |

**EventType:**

This is the type of event to be added.

| string | Description |
|---|---|
| Alert | A condition exists which requires attention. |
| ResourceAdded | A resource has been added. |
| ResourceRemoved | A resource has been removed. |
| ResourceUpdated | The value of this resource has been updated. |
| StatusChange | The status of this resource has changed. |

**EventTypesForSubscription:**

This is the types of Events that can be subscribed to.

| string | Description |
|---|---|
| Alert | A condition exists which requires attention. |
| ResourceAdded | A resource has been added. |
| ResourceRemoved | A resource has been removed. |
| ResourceUpdated | The value of this resource has been updated. |
| StatusChange | The status of this resource has changed. |

## Example Response


```
{
    "@odata.type": "#EventService.v1_2_0.EventService",
    "Id": "EventService",
    "Name": "Event Service",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "ServiceEnabled": true,
    "DeliveryRetryAttempts": 3,
    "DeliveryRetryIntervalSeconds": 60,
    "ServerSentEventUri": "/redfish/v1/EventService/SSE",
    "EventTypesForSubscription": [
        "StatusChange",
        "ResourceUpdated",
        "ResourceAdded",
```

```
        "ResourceRemoved",
        "Alert"
    ],
    "Subscriptions": {
        "@odata.id": "/redfish/v1/EventService/Subscriptions"
    },
    "Actions": {
        "#EventService.SubmitTestEvent": {
            "target": "/redfish/v1/EventService/Actions/EventService.SubmitTestEvent",
            "EventType@Redfish.AllowableValues": [
                "StatusChange",
                "ResourceUpdated",
                "ResourceAdded",
                "ResourceRemoved",
                "Alert"
            ]
        },
        "Oem": {}
    },
    "Oem": {},
    "@odata.context": "/redfish/v1/$metadata#EventService.EventService",
    "@odata.id": "/redfish/v1/EventService"
}
```

## ExternalAccountProvider 1.0.1

A remote service that can provide accounts for this manager to utilize for authentication.

**URIs:**

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

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

| | | | |
|---|---|---|---|
| **AccountProviderType** | string (enum) | read-only required on create (null) | This property contains the type of external account provider this resource references. *See AccountProviderType in Property Details, below, for the possible values of this property.* |
| **Actions** { } | object | | The available actions for this resource. |
| **Authentication** { | object | (null) | This property contains the authentication information for the external account provider. |
| **AuthenticationType** | string (enum) | read-write (null) | This property contains the type of authentication used to connect to the external account provider. *See AuthenticationType in Property Details, below, for the possible values of this property.* |
| **KerberosKeytab** | string | read-write (null) | This property is used with a PATCH or PUT to write a base64 encoded version of the kerberos keytab for the account. This property is null on a GET. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **Password** | string | read-write (null) | This property is used with a PATCH or PUT to write the password for the account service. This property is null on a GET. |
| **Token** | string | read-write (null) | This property is used with a PATCH or PUT to write the token for the account. This property is null on a GET. |
| **Username** } | string | read-write | This property contains the user name for the account service. |
| **LDAPService** { | object | (null) | This property contains additional mapping information needed to parse a generic LDAP service. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **SearchSettings** { | object | (null) | This property contains the settings needed to search an external LDAP service. |
| **BaseDistinguishedNames** [ ] | array (string, null) | read-write | The base distinguished names to use when searching the LDAP service. |
| **GroupNameAttribute** | string | read-write (null) | The attribute name that contains the name of the Group. |
| **GroupsAttribute** | string | read-write (null) | The attribute name that contains the Groups for a user. |
| **UsernameAttribute** } } | string | read-write (null) | The attribute name that contains the Username. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Oem** { } } | object | | See the OEM object definition in the Common properties section. |
| **RemoteRoleMapping** [ { | array | read-write | This property contains a collection of 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 role in 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) | This property is the name of the remote group (or in the case of a Redfish Service, remote role) that will be mapped to the local role referenced by this entity. |
| **RemoteUser** | string | read-write (null) | This property is the name of the remote user that will be mapped to the local role |

| | | | |
|---|---|---|---|
| } ] | | | referenced by this entity. |
| **ServiceAddresses** [ ] | array (string, null) | read-write | This property contains the addresses of the user account providers this resource references. The format of this field depends on the Type. |
| **ServiceEnabled** | boolean | read-write (null) | This indicates whether this service is enabled. |

### Property Details

**AccountProviderType:**

This property contains the type of external account provider this resource references.

| 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:**

This property contains 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 | Username and password combination. |

### Example Response


```
{
    "@odata.type": "#ExternalAccountProvider.v1_0_1.ExternalAccountProvider",
    "Id": "ExternalRedfishService",
    "Name": "Remote Redfish Service",
    "Description": "Remote Redfish Service providing additional Accounts to this Redfish Service",
    "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.context": "/redfish/v1/$metadata#ExternalAccountProvider.ExternalAccountProvider",
    "@odata.id": "/redfish/v1/AccountService/ExternalAccountProviders/ExternalRedfishService"
}
```


## Fabric 1.0.4

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}*

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **Endpoints** { | object | | A collection of references to the endpoints contained in this fabric. Contains a link to a resource. |
| **@odata.id** } | string | read-only | Link to Collection of Endpoint. See the Endpoint schema for details. |
| **FabricType** | string (enum) | read-only (null) | The protocol being sent over this fabric.<br>*See FabricType in Property Details, below, for the possible values of this property.* |
| **Links** { | object | | Contains references 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 value of this property shall contain the maximum number of zones the switch can currently configure. |

| | | | |
|---|---|---|---|
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Switches** { | object | | A collection of references to the switches contained in this fabric. Contains a link to a resource. |
| **@odata.id** } | string | read-only | Link to Collection of Switch. See the Switch schema for details. |
| **Zones** { | object | | A collection of references to the zones contained in this fabric. 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. |
| FC | Fibre Channel. |
| FCoE | Fibre Channel over Ethernet. |
| FCP | Fibre Channel Protocol for SCSI. |
| FICON | FIbre CONnection (FICON). |
| FTP | File Transfer Protocol. |
| HTTP | Hypertext Transport Protocol. |
| HTTPS | Secure Hypertext Transport Protocol. |
| I2C | Inter-Integrated Circuit Bus. |
| iSCSI | Internet SCSI. |
| iWARP | Internet Wide Area Remote Direct Memory Access Protocol. |
| NFSv3 | Network File System version 3. |
| NFSv4 | Network File System version 4. |
| NVMe | Non-Volatile Memory Express. |
| 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 | Secure File Transfer Protocol. |
| SMB | Server Message Block (aka CIFS Common Internet File System). |
| UHCI | Universal Host Controller Interface. |
| USB | Universal Serial Bus. |

## Example Response


```
{
    "@odata.type": "#Fabric.v1_0_4.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.context": "/redfish/v1/$metadata#Fabric.Fabric",
    "@odata.id": "/redfish/v1/Fabrics/SAS"
}
```

## HostInterface 1.2.0

This schema defines a single Host Interface resource.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **AuthenticationModes** [ ] | array (string (enum)) | read-write | Indicates the authentication modes available on this interface.<br>*See AuthenticationModes in Property Details, below, for the possible values of this property.* |
| **AuthNoneRoleId** *(v1.2+)* | string | read-write | The Role used when no authentication on this interface is used. |
| **ExternallyAccessible** | boolean | read-only (null) | Indicates whether this interface is accessible by external entities. |
| **FirmwareAuthEnabled** | boolean | read-write (null) | Indicates whether this firmware authentication is enabled for this interface. |
| **FirmwareAuthRoleId** | string | read-write | The Role used for firmware authentication on this interface. |
| **HostEthernetInterfaces** { | object | | The Redfish 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**<br>} | string | read-only | Link to Collection of EthernetInterface. See the EthernetInterface schema for details. |
| **HostInterfaceType** | string (enum) | read-only (null) | Indicates the Host Interface type for this interface.<br>*See HostInterfaceType in Property Details, below, for the possible values of this property.* |
| **InterfaceEnabled** | boolean | read-write (null) | Indicates whether this interface is enabled. |
| **KernelAuthEnabled** | boolean | read-write (null) | Indicates whether this kernel authentication is enabled for this interface. |
| **KernelAuthRoleId** | string | read-write | The Role used for kernel authentication on this interface. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **AuthNoneRole** *(v1.2+)* { | object | | A reference to the 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**<br>} | string | read-only | Link to a Role resource. See the Links section and the Role schema for details. |
| **ComputerSystems** [ { | array | read-only | An array of references to the Computer Systems connected to this Host Interface. |
| **@odata.id**<br>} ] | string | read-only | Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details. |
| **FirmwareAuthRole** { | object | | A reference to the Role that has firmware authentication privileges on this Host Interface. See the Role schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Role resource. See the Links section and the Role schema for details. |
| **KernelAuthRole** { | object | | A reference to the Role object defining Privileges for this Host Interface when using kernel authentication. See the Role schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Role resource. See the Links section and the Role schema for details. |
| **Oem** { }<br>} | object | | See the OEM object definition in the Common properties section. |
| **ManagerEthernetInterface** { | object | | The Redfish 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**<br>} | string | read-only | Link to a EthernetInterface resource. See the Links section and the EthernetInterface schema for details. |
| **NetworkProtocol** { | object | | The Redfish link to the network services and their settings that the Manager controls. It is here that clients will find network configuration options as well as network services. See the ManagerNetworkProtocol schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a ManagerNetworkProtocol resource. See the Links section and the ManagerNetworkProtocol schema for details. |

| | | | |
|---|---|---|---|
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Property Details

**AuthenticationModes:**

Indicates 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:**

Indicates the Host Interface type for this interface.

| string | Description |
|---|---|
| NetworkHostInterface | This interface is a Network Host Interface. |

## Job 1.0.0

This resource contains information about a specific Job scheduled or being executed by a Redfish service's Job Service.

**URIs:**

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

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

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **CreatedBy** | string | read-only | The person or program that created this job entry. |
| **EndTime** | string | read-only (null) | The date-time stamp that the job was completed. |
| **HidePayload** | boolean | read-only | Indicates that the contents of the Payload should be hidden from view after the Job has been created. When set to True, the Payload object will not be returned on GET. |
| **JobState** | string (enum) | read-write | The state of the job.<br>*See JobState in Property Details, below, for the possible values of this property.* |
| **JobStatus** | string (enum) | read-only | The status of the job.<br>*See JobStatus in Property Details, below, for the possible values of this property.* |
| **MaxExecutionTime** | string | read-write (null) | The maximum amount of time the job is allowed to execute. |
| **Messages** [ { } ] | array (object) | | This is an array of messages associated with the job. This type describes a Message returned by the Redfish service. See the Message object for details on this property. |
| **Payload** { | object | | The HTTP and JSON payload details for this job. |
| **HttpHeaders** [ ] | array (string) | read-only | This represents the HTTP headers used in the operation of this job. |
| **HttpOperation** | string | read-only | The HTTP operation to perform to execute this job. |
| **JsonBody** | string | read-only | This property contains the JSON payload to use in the execution of this Job. |
| **TargetUri**<br>} | string | read-only | The URI of the target for this job. |
| **PercentComplete** | integer | read-only (null) | The completion percentage of this job. |
| **Schedule** { } | object | | The Schedule Settings for this Job. See the Schedule object for details on this property. |
| **StartTime** | string | read-only | The date-time stamp that the job was started or is scheduled to start. |
| **StepOrder** [ ] | array (string) | read-only | This represents the serialized execution order of the Job Steps. |
| **Steps** { | object | | A link to a collection of Steps for this Job. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Job. See the Job schema for details. |

**JobState:**

The state of the job.

| string | Description |
|---|---|
| Cancelled | Job was cancelled.. |
| Completed | Job has 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. |
| UserIntervention | Job is waiting for user intervention. |

**JobStatus:**

The status of the job.

| string | Description |
|---|---|
| Critical | A critical condition exists that requires immediate attention. |
| OK | Normal. |
| Warning | A condition exists that requires attention. |

### Example Response

```
{
    "@odata.type": "#Job.v1_0_0.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.context": "/redfish/v1/$metadata#Job.Job",
    "@odata.id": "/redfish/v1/JobService/Jobs/RebootRack"
}
```

## JobService 1.0.0

This is the schema definition for the Job Service. It represents the properties for the service itself and has links to the actual list of tasks.

**URIs:**

/redfish/v1/JobService

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **DateTime** | string | read-only (null) | The current DateTime (with offset) setting that the job service is using. |
| **Jobs** { | object | | References to the Jobs collection. Contains a link to a resource. |

| | | | |
|---|---|---|---|
| **@odata.id**<br>} | string | read-only | Link to Collection of Job. See the Job schema for details. |
| **Log** { | object | | This is a reference to a Log Service used by the Job Service. See the LogService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a LogService resource. See the Links section and the LogService schema for details. |
| **ServiceCapabilities** { | object | | This object describes the supported capabilities of this Job Service implementation. |
| **MaxJobs** | integer | read-only (null) | Maximum number of Jobs supported. |
| **MaxSteps** | integer | read-only (null) | Maximum number of Job Steps supported. |
| **Scheduling**<br>} | boolean | read-only (null) | Indicates whether scheduling of Jobs is supported. |
| **ServiceEnabled** | boolean | read-write (null) | This indicates whether this service is enabled. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Example Response

```
{
    "@odata.type": "#JobService.v1_0_0.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 1.1.1

This is the schema definition for the Schema File locator resource.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Languages** [ ] | array (string) | read-only required | Language codes for the schemas available. |
| **Location** [ { | array | read-write required | Location information for this schema file. |
| **ArchiveFile** | string | read-only | If the schema is hosted on the service in an archive file, this is the name of the file within the archive. |
| **ArchiveUri** | string | read-only | If the schema is hosted on the service in an archive file, this is the link to the archive file. |
| **Language** | string | read-only | The language code for the file the schema is in. |
| **PublicationUri** | string | read-only | Link to publicly available (canonical) URI for schema. |
| **Uri**<br>} ] | string | read-only | Link to locally available URI for schema. |
| **Schema** | string | read-only required | The @odata.type name this schema describes. |

## LogEntry 1.4.0

This resource defines the record format for a log. It is designed to be used for SEL logs (from IPMI) as well as Event Logs and OEM-specific log formats. The EntryType field indicates the type of log and the resource includes several additional properties dependent on the EntryType.

**URIs:**

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

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

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **Created** | string | read-only | The time the log entry was created. |
| **EntryCode** | string (enum) | read-only (null) | If the EntryType is SEL, this will have the entry code for the log entry.<br>*See EntryCode in Property Details, below, for the possible values of this property.* |
| **EntryType** | string (enum) | read-only<br>required on create | This is the type of log entry.<br>*See EntryType in Property Details, below, for the possible values of this property.* |
| **EventGroupId** *(v1.4+)* | integer | read-only (null) | This value is the identifier used to correlate events that came from the same cause. |
| **EventId** *(v1.1+)* | string | read-only | This is a unique instance identifier of an event. |
| **EventTimestamp** *(v1.1+)* | string | read-only | This is time the event occurred. |
| **EventType** *(v1.1+, deprecated v1.4)* | string (enum) | read-only | This indicates the type of an event recorded in this log.<br>*See EventType in Property Details, below, for the possible values of this property.*<br>*Deprecated v1.4+. This property has been deprecated. Starting Redfish Spec 1.6 (Event 1.3), subscriptions are based on RegistryId and ResourceType and not EventType.* |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **OriginOfCondition** { | object | | This is the URI of the resource that caused the log entry. |
| **@odata.id**<br>}<br>} | string | read-only | The unique identifier for a resource. |
| **Message** | string | read-only (null) | This property decodes from EntryType. If the EntryType is Event, then it is a message string. Otherwise, it is SEL or OEM specific. In most cases, this will be the actual Log Entry. |
| **MessageArgs** [ ] | array (string) | read-only | The values of this property shall be any arguments for the message. |
| **MessageId** | string | read-only | This property decodes from EntryType. If the EntryType is Event, then it is a message id. If the EntryType is SEL, then it contains the Event Data. Otherwise, it is OEM specific. This value is only used for registries - for more information, see the specification. |
| **OemLogEntryCode** *(v1.3+)* | string | read-only (null) | If the LogEntryCode type is OEM, this will contain the OEM-specific entry code. |
| **OemRecordFormat** | string | read-only (null) | If the EntryType is Oem, this will contain more information about the record format from the Oem. |
| **OemSensorType** *(v1.3+)* | string | read-only (null) | If the Sensor Type is OEM, this will contain the OEM-specific sensor type. |
| **SensorNumber** | integer | read-only (null) | This property decodes from EntryType. If the EntryType is SEL, it is the sensor number. If the EntryType is Event, then the count of events. Otherwise, it is OEM specific. |
| **SensorType** | string (enum) | read-only (null) | If the EntryType is SEL, this will have the sensor type that the log entry pertains to.<br>*See SensorType in Property Details, below, for the possible values of this property.* |
| **Severity** | string (enum) | read-only (null) | This is the severity of the log entry.<br>*See Severity in Property Details, below, for the possible values of this property.* |

## Property Details

**EntryCode:**

If the EntryType is SEL, this will have the entry code for the log entry.

| 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 now present. |

| | |
|---|---|
| Device Removed / Device Absent | A device has been removed or is now 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 resource to maintain normal operation. |
| Non-redundant:Sufficient Resources from Insufficient Resources | Unit has regianed 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. |
| 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:**

This is the type of log entry.

| string | Description |
|---|---|
| Event | Contains a Redfish-defined message (event). |
| Oem | Contains an entry in an OEM-defined format. |
| SEL | Contains a legacy IPMI System Event Log (SEL) entry. |

**EventType:**

This indicates the type of an event recorded in this log.

| string | Description |
|---|---|
| Alert | A condition exists which requires attention. |
| ResourceAdded | A resource has been added. |
| ResourceRemoved | A resource has been removed. |
| ResourceUpdated | The value of this resource has been updated. |
| StatusChange | The status of this resource has changed. |

**SensorType:**

If the EntryType is SEL, this will have the sensor type that the log entry pertains to.

| 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 type of device. |
| 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. |
| OEM *(v1.3+)* | An OEM defined sensor. |
| OS Stop/Shutdown | A sensor for an OS stop or shutdown event |
| Other FRU | A sensor for an other 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:**

This is the severity of the log entry.

| string | Description |
|---|---|
| Critical | A critical condition requiring immediate attention. |
| OK | Informational or operating normally. |
| Warning | A condition requiring attention. |

### Example Response

```
{
    "@odata.type": "#LogEntry.v1_4_0.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.context": "/redfish/v1/$metadata#LogEntry.LogEntry",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/LogServices/Log1/Entries/1"
}
```

## LogService 1.1.1

This resource represents the log service for the resource or service to which it is associated.

**URIs:**

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

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

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

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |

| | | | |
|---|---|---|---|
| **#LogService.ClearLog** { } | object | | This action is used to clear the log for this Log Service.<br>*For more information, see the Action Details section below.* |
| } | | | |
| **DateTime** | string | read-write (null) | The current DateTime (with offset) for the log service, used to set or read time. |
| **DateTimeLocalOffset** | string | read-write (null) | The time offset from UTC that the DateTime property is set to in format: +06:00 . |
| **Entries** { | object | | References 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 Entries of this log.<br>*See LogEntryType in Property Details, below, for the possible values of this property.* |
| **MaxNumberOfRecords** | integer | read-only | The maximum number of log entries this service can have. |
| **OverWritePolicy** | string (enum) | read-only | The overwrite policy for this service that takes place when the log is full.<br>*See OverWritePolicy in Property Details, below, for the possible values of this property.* |
| **ServiceEnabled** | boolean | read-write (null) | This indicates whether this service is enabled. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

## Action Details

**ClearLog**

This action is used to clear the log for this Log Service.

(This action takes no parameters.)

## Property Details

**LogEntryType:**

The format of the Entries of this log.

| string | Description |
|---|---|
| Event | The log contains Redfish-defined messages (events). |
| Multiple | The log contains multiple Log Entry types or a single entry type cannot be guaranteed by the Log Service. |
| 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 will be discarded. |
| Unknown | The overwrite policy is not known or is undefined. |
| WrapsWhenFull | When full, new entries to the Log will overwrite previous entries. |

## Example Response


```
{
    "@odata.type": "#LogService.v1_1_1.LogService",
    "Id": "Log1",
    "Name": "System Log Service",
    "Description": "This log contains entries related to the operation of the host Computer System.",
    "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.context": "/redfish/v1/$metadata#LogService.LogService",
    "@odata.id": "/redfish/v1/Managers/1/LogServices/Log1"
}
```

# Manager 1.5.0

This is the schema definition for a Manager. Examples of managers are BMCs, Enclosure Managers, Management Controllers and other subsystems assigned managability functions.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Manager.ForceFailover** { } | object | | The ForceFailover action forces a failover of this manager to the manager used in the parameter.<br>*For more information, see the Action Details section below.* |
| **#Manager.ModifyRedundancySet** { } | object | | The ModifyRedundancySet operation is used to add or remove members to a redundant group of manager.<br>*For more information, see the Action Details section below.* |
| **#Manager.Reset** { }<br>} | object | | The reset action resets/reboots the manager.<br>*For more information, see the Action Details section below.* |
| **AutoDSTEnabled** *(v1.4+)* | boolean | read-write | Indicates whether the manager is configured for automatic DST adjustment. |
| **CommandShell** { | object | | Information about the Command Shell service provided by this manager. |
| **ConnectTypesSupported** [ ] | array (string (enum)) | read-only | This object is used to enumerate the Command Shell connection types allowed by the implementation.<br>*See ConnectTypesSupported in Property Details, below, for the possible values of this property.* |
| **MaxConcurrentSessions** | integer | read-only | Indicates the maximum number of service sessions, regardless of protocol, this manager is able to support. |
| **ServiceEnabled**<br>} | boolean | read-write | Indicates if the service is enabled for this manager. |
| **DateTime** | string | read-write (null) | The current DateTime (with offset) for the manager, used to set or read time. |
| **DateTimeLocalOffset** | string | read-write (null) | The time offset from UTC that the DateTime property is set to in format: +06:00 . |
| **EthernetInterfaces** { | object | | This is a reference to a collection of NICs that this manager uses for network communication. It is here that clients will find NIC configuration options and settings. Contains a link to a resource. |
| **@odata.id**<br>} | 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 value of this property shall contain the information about the Graphical Console (KVM-IP) service of this manager. |
| **ConnectTypesSupported** [ ] | array (string (enum)) | read-only | This object is used to enumerate the Graphical Console connection types allowed by the implementation.<br>*See ConnectTypesSupported in Property Details, below, for the possible values of this property.* |
| **MaxConcurrentSessions** | integer | read-only | Indicates the maximum number of service sessions, regardless of protocol, this manager is able to support. |
| **ServiceEnabled**<br>} | boolean | read-write | Indicates if the service is enabled for this manager. |
| **HostInterfaces** *(v1.3+)* { | object | | This is a reference to a collection of Host Interfaces that this manager uses for local host communication. It is here that clients will find Host Interface configuration options and settings. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of HostInterface. See the HostInterface schema for details. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **ManagerForChassis** [ { | array | read-only | This property is an array of references to the chassis that this manager has control over. |
| **@odata.id**<br>} ] | string | read-only | Link to a Chassis resource. See the Links section and the Chassis schema for details. |
| **ManagerForServers** [ { | array | read-only | This property is an array of references to the systems that this manager has control over. |
| **@odata.id**<br>} ] | string | read-only | Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details. |
| **ManagerForSwitches** *(v1.4+)* [ { | array | read-only | This property is an array of references to the switches that this manager has control over. |
| **@odata.id** | string | read-only | Link to a Switch resource. See the Links section and the Switch schema for details. |

| | | | |
|---|---|---|---|
| } ] | | | |
| **ManagerInChassis** *(v1.1+)* { | object | | This property is a reference to the chassis that this manager is located in. See the Chassis schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Chassis resource. See the Links section and the Chassis schema for details. |
| **Oem** { }<br>} | object | | See the OEM object definition in the Common properties section. |
| **LogServices** { | object | | This is a reference to a collection of Logs used by the manager. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of LogService. See the LogService schema for details. |
| **ManagerType** | string (enum) | read-only | This property represents the type of manager that this resource represents.<br>*See ManagerType in Property Details, below, for the possible values of this property.* |
| **Model** | string | read-only (null) | The model information of this Manager as defined by the manufacturer. |
| **NetworkProtocol** { | object | | This is a reference to the network services and their settings that the manager controls. It is here that clients will find network configuration options as well as network services. See the ManagerNetworkProtocol schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a ManagerNetworkProtocol resource. See the Links section and the ManagerNetworkProtocol schema for details. |
| **PowerState** | string (enum) | read-only (null) | This is the current power state of the Manager.<br>*See PowerState in Property Details, below, for the possible values of this property.* |
| **Redundancy** [ { | array | read-write | Redundancy information for the managers of this system. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **RemoteAccountService** *(v1.5+)* { | object | | This property contains a reference to the AccountService resource for the remote Manager represented by this resource. See the AccountService schema for details on this property. |
| **@odata.id**<br>} | 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) | This property contains the URI of the Redfish Service Root for the remote Manager represented by this resource. |
| **SerialConsole** { | object | | Information about the Serial Console service provided by this manager. |
| **ConnectTypesSupported** [ ] | array (string (enum)) | read-only | This object is used to enumerate the Serial Console connection types allowed by the implementation.<br>*See ConnectTypesSupported in Property Details, below, for the possible values of this property.* |
| **MaxConcurrentSessions** | integer | read-only | Indicates the maximum number of service sessions, regardless of protocol, this manager is able to support. |
| **ServiceEnabled**<br>} | boolean | read-write | Indicates if the service is enabled for this manager. |
| **SerialInterfaces** { | object | | This is a reference to a collection of serial interfaces that this manager uses for serial and console communication. It is here that clients will find serial configuration options and settings. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of SerialInterface. See the SerialInterface schema for details. |
| **ServiceEntryPointUUID** | string | read-only (null) | The UUID of the Redfish Service provided by this manager. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **UUID** | string | read-only (null) | The Universal Unique Identifier (UUID) for this Manager. |
| **VirtualMedia** { | object | | This is a reference to the Virtual Media services for this particular manager. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of VirtualMedia. See the VirtualMedia schema for details. |

## Action Details

**ForceFailover**

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

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **NewManager** { | object | | This parameter specifies the Manager in which to fail over. In this case, a valid reference is supported. |
| **@odata.id**<br>}<br>} | string | read-only | Link to another Manager resource. |

**ModifyRedundancySet**

The ModifyRedundancySet operation is used to add or remove members to a redundant group of manager.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **Add** [ { | array | read-write | This array defines the Managers to add to the redundancy set. In this case, a valid reference is supported. |
| **@odata.id**<br>} ] | string | read-only | Link to another Manager resource. |
| **Remove** [ { | array | read-write | This array defines the Managers to remove from the redundancy set. In this case, a valid reference is supported. |
| **@odata.id**<br>} ]<br>} | string | read-only | Link to another Manager resource. |

**Reset**

The reset action resets/reboots the manager.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **ResetType**<br>} | string (enum) | read-write | This is the type of reset to be performed.<br>*See ResetType in Property Details, below, for the possible values of this property.* |

## Property Details

**ConnectTypesSupported:**

This object is used to enumerate the Serial Console connection types allowed by the implementation.

| string | Description |
|---|---|
| IPMI | The controller supports a Serial Console connection using the IPMI Serial-over-LAN (SOL) protocol. |
| Oem | The controller supports a Serial Console connection using an OEM-specific protocol. |
| SSH | The controller supports a Serial Console connection using the SSH protocol. |
| Telnet | The controller supports a Serial Console connection using the Telnet protocol. |

**ManagerType:**

This property represents the type of manager that this resource represents.

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

**PowerState:**

This is 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:**

This is the type of reset to be performed.

| string | Description |
|---|---|
| ForceOff | Turn the unit off immediately (non-graceful shutdown). |
| ForceOn | Turn the unit on immediately. |
| ForceRestart | Perform an immediate (non-graceful) shutdown, followed by a restart. |
| GracefulRestart | Perform a graceful shutdown followed by a restart of the system. |
| GracefulShutdown | Perform a graceful shutdown and power off. |
| Nmi | Generate a Diagnostic Interrupt (usually an NMI on x86 systems) to cease normal operations, perform diagnostic actions and typically halt the system. |
| On | Turn the unit on. |
| PowerCycle | Perform a power cycle of the unit. |
| PushPowerButton | Simulate the pressing of the physical power button on this unit. |

### Example Response


```
{
    "@odata.type": "#Manager.v1_5_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.context": "/redfish/v1/$metadata#Manager.Manager",
    "@odata.id": "/redfish/v1/Managers/BMC"
}
```

## ManagerAccount 1.1.3

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}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Enabled** | boolean | read-write | This property is used by a User Administrator to disable an account w/o having to delet the user information. When set to true, the user can login. When set to false, the account is administratively disabled and the user cannot login. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **Role** { | object | | A reference to the Role object defining Privileges for this account--returned when the resource is read. The ID of the role is the same as property RoleId. 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 | This property indicates that the account has been auto-locked by the account service because the lockout threshold has been exceeded. When set to true, the account is locked. A user admin can write the property to false to manually unlock, or the account service will unlock it once the lockout duration period has passed. |
| **Password** | string | read-write required on create (null) | This property is used with a PATCH or PUT to write the password for the account. This property is null on a GET. |
| **RoleId** | string | read-write required on create | This property contains the Role for this account. |
| **UserName** | string | read-write required on create | This property contains the user name for the account. |

### Example Response

```
{
    "@odata.type": "#ManagerAccount.v1_1_3.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.context": "/redfish/v1/$metadata#ManagerAccount.ManagerAccount",
    "@odata.id": "/redfish/v1/AccountService/Accounts/1"
}
```

## ManagerNetworkProtocol 1.3.0

This resource is used to obtain or modify the network services managed by a given manager.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **DHCP** { | object | | Settings for this Manager's DHCPv4 protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **DHCPv6** { | object | | Settings for this Manager's DHCPv6 protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **FQDN** | string | read-only (null) | This is the fully qualified domain name for the manager obtained by DNS including the host name and top-level domain name. |
| **HostName** | string | read-only | The DNS Host Name of this manager, without any domain information. |

| | | | |
|---|---|---|---|
| | | (null) | |
| **HTTP** { | object | | Settings for this Manager's HTTP protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **HTTPS** { | object | | Settings for this Manager's HTTPS protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **IPMI** { | object | | Settings for this Manager's IPMI-over-LAN protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **KVMIP** { | object | | Settings for this Manager's KVM-IP protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **NTP** *(v1.2+)* { | object | | 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) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **RDP** { | object | | Settings for this Manager's Remote Desktop Protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **RFB** { | object | | Settings for this Manager's Remote Frame Buffer protocol support, which can be used to support VNC. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **SNMP** { | object | | Settings for this Manager's SNMP support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| **SSDP** { | object | | Settings for this Manager's SSDP support. |
| **NotifyIPv6Scope** | string (enum) | read-write (null) | Indicates the scope for the IPv6 Notify messages for SSDP.<br>*See NotifyIPv6Scope in Property Details, below, for the possible values of this property.* |
| **NotifyMulticastIntervalSeconds** | integer (seconds) | read-write (null) | Indicates how often the Multicast is done from this service for SSDP. |
| **NotifyTTL** | integer | read-write (null) | Indicates the time to live hop count for SSDPs Notify messages. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** } | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |

| | | | |
|---|---|---|---|
| **SSH** { | object | | Settings for this Manager's SSH (Secure Shell) protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| } | | | |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Telnet** { | object | | Settings for this Manager's Telnet protocol support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| } | | | |
| **VirtualMedia** { | object | | Settings for this Manager's Virtual Media support. |
| **Port** | integer | read-write (null) | Indicates the protocol port. |
| **ProtocolEnabled** | boolean | read-write (null) | Indicates if the protocol is enabled or disabled. |
| } | | | |

### Property Details

**NotifyIPv6Scope:**

Indicates the scope for the IPv6 Notify messages for SSDP.

| string | Description |
|---|---|
| Link | SSDP Notify messages are sent to addresses in the IPv6 Local Link scope. |
| 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_3_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.context": "/redfish/v1/$metadata#ManagerNetworkProtocol.ManagerNetworkProtocol",
    "@odata.id": "/redfish/v1/Managers/BMC/NetworkProtocol"
}
```


## Memory 1.6.0

This is the schema definition for definition of a Memory and its configuration.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Memory.DisablePassphrase** { } | object | | Disable passphrase for given regions.<br>*For more information, see the Action Details section below.* |
| **#Memory.OverwriteUnit** *(v1.6+)* { } | object | | This defines the action for securely erasing given regions using the NIST SP800-88 Purge: Overwrite.<br>*For more information, see the Action Details section below.* |
| **#Memory.SecureEraseUnit** { } | object | | This defines the action for securely erasing given regions using the NIST SP800-88 Purge: Cryptograhic Erase.<br>*For more information, see the Action Details section below.* |
| **#Memory.SetPassphrase** { } | object | | Set passphrase for the given regions.<br>*For more information, see the Action Details section below.* |
| **#Memory.UnlockUnit** { }<br>} | object | | This defines the action for unlocking given regions.<br>*For more information, see the Action Details section below.* |
| **AllocationAlignmentMiB** *(v1.2+)* | integer (mebibytes) | read-only (null) | The boundary which memory regions are allocated on, measured in mebibytes (MiB). |
| **AllocationIncrementMiB** *(v1.2+)* | integer (mebibytes) | read-only (null) | The size of the smallest unit of allocation for a memory region in mebibytes (MiB). |
| **AllowedSpeedsMHz** [ ] | array (MHz) (integer) | read-only | Speed bins supported by this Memory. |
| **Assembly** *(v1.4+)* { | object | | A reference to the Assembly resource associated with this memory. See the Assembly schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Assembly resource. See the Links section and the Assembly schema for details. |
| **BaseModuleType** | string (enum) | read-only (null) | The base module type of Memory.<br>*See BaseModuleType in Property Details, below, for the possible values of this property.* |
| **BusWidthBits** | integer | read-only (null) | Bus Width in bits. |
| **CacheSizeMiB** *(v1.4+)* | integer (mebibytes) | read-only (null) | Total size of the cache portion memory in MiB. |
| **CapacityMiB** | integer (mebibytes) | read-only (null) | Memory Capacity in mebibytes (MiB). |
| **DataWidthBits** | integer | read-only (null) | Data Width in bits. |
| **DeviceID** *(deprecated v1.3)* | string | read-only (null) | Device ID. *Deprecated v1.3+. This property has been Deprecated in favor of Memory.v1_3_0.ModuleProductID* |
| **DeviceLocator** | string | read-only (null) | Location of the Memory in the platform. |
| **ErrorCorrection** | string (enum) | read-only (null) | Error correction scheme supported for this memory.<br>*See ErrorCorrection in Property Details, below, for the possible values of this property.* |
| **FirmwareApiVersion** | string | read-only (null) | Version of API supported by the firmware. |
| **FirmwareRevision** | string | read-only (null) | Revision of firmware on the Memory controller. |
| **FunctionClasses** *(deprecated v1.4)* [ ] | array (string) | read-only | Function Classes by the Memory. *Deprecated v1.4+. This property has been Deprecated in favor of Memory.v1_0_0.Memory.OperatingMemoryModes or Memory.v1_0_0.Memory.RegionSet.MemoryClassification.* |
| **IsRankSpareEnabled** | boolean | read-only (null) | Rank spare enabled status. |
| **IsSpareDeviceEnabled** | boolean | read-only (null) | Spare device enabled status. |
| **Links** *(v1.2+)* { | object | | Contains references to other resources that are related to this resource. |
| **Chassis** { | object | | A reference to the Chassis which contains this Memory. See the Chassis schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Chassis resource. See the Links section and the Chassis schema for details. |

| | | | |
|---|---|---|---|
| **Oem** { }<br>} | object | | See the OEM object definition in the Common properties section. |
| **Location** *(v1.4+)* { } | object | | The Location of the memory. See the Location object for details on this property. |
| **LogicalSizeMiB** *(v1.4+)* | integer (mebibytes) | read-only (null) | Total size of the logical memory in MiB. |
| **Manufacturer** | string | read-only (null) | The Memory manufacturer. |
| **MaxTDPMilliWatts** [ ] | array (milliWatts) (integer) | read-only | Maximum TDPs in milli Watts. |
| **MemoryDeviceType** | string (enum) | read-only (null) | Type details of the Memory.<br>*See MemoryDeviceType in Property Details, below, for the possible values of this property.* |
| **MemoryLocation** { | object | | Memory connection information to sockets and memory controllers. |
| **Channel** | integer | read-only (null) | Channel number in which Memory is connected. |
| **MemoryController** | integer | read-only (null) | Memory controller number in which Memory is connected. |
| **Slot** | integer | read-only (null) | Slot number in which Memory is connected. |
| **Socket**<br>} | integer | read-only (null) | Socket number in which Memory is connected. |
| **MemoryMedia** [ ] | array (string (enum)) | read-only | Media of this Memory.<br>*See MemoryMedia in Property Details, below, for the possible values of this property.* |
| **MemorySubsystemControllerManufacturerID** *(v1.3+)* | string | read-only (null) | The manufacturer ID of the memory subsystem controller of this memory module. |
| **MemorySubsystemControllerProductID** *(v1.3+)* | string | read-only (null) | The product ID of the memory subsystem controller of this memory module. |
| **MemoryType** | string (enum) | read-only (null) | The type of Memory.<br>*See MemoryType in Property Details, below, for the possible values of this property.* |
| **Metrics** { | object | | A reference to the Metrics associated with this Memory. See the MemoryMetrics schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a MemoryMetrics resource. See the Links section and the MemoryMetrics schema for details. |
| **ModuleManufacturerID** *(v1.3+)* | string | read-only (null) | The manufacturer ID of this memory module. |
| **ModuleProductID** *(v1.3+)* | string | read-only (null) | The product ID of this memory module. |
| **NonVolatileSizeMiB** *(v1.4+)* | integer (mebibytes) | read-only (null) | Total size of the non-volatile portion memory in MiB. |
| **OperatingMemoryModes** [ ] | array (string (enum)) | read-only | Memory modes supported by the Memory.<br>*See OperatingMemoryModes in Property Details, below, for the possible values of this property.* |
| **OperatingSpeedMhz** | integer (MHz) | read-only (null) | Operating speed of Memory in MHz or MT/s as appropriate. |
| **PartNumber** | string | read-only (null) | The product part number of this device. |
| **PersistentRegionNumberLimit** *(v1.2+)* | integer | read-only (null) | Total number of persistent regions this Memory can support. |
| **PersistentRegionSizeLimitMiB** | integer (mebibytes) | read-only (null) | Total size of persistent regions in mebibytes (MiB). |
| **PersistentRegionSizeMaxMiB** *(v1.2+)* | integer (mebibytes) | read-only (null) | Maximum size of a single persistent region in mebibytes (MiB). |
| **PowerManagementPolicy** { | object | | Power management policy information. |
| **AveragePowerBudgetMilliWatts** | integer (milliWatts) | read-only (null) | Average power budget in milli watts. |

| | | | |
|---|---|---|---|
| **MaxTDPMilliWatts** | integer (milliWatts) | read-only (null) | Maximum TDP in milli watts. |
| **PeakPowerBudgetMilliWatts** | integer (milliWatts) | read-only (null) | Peak power budget in milli watts. |
| **PolicyEnabled** } | boolean | read-only (null) | Power management policy enabled status. |
| **RankCount** | integer | read-only (null) | Number of ranks available in the Memory. |
| **Regions** [ { | array | read-write | Memory regions information within the Memory. |
| **MemoryClassification** | string (enum) | read-only (null) | Classification of memory occupied by the given memory region. *See MemoryClassification in Property Details, below, for the possible values of this property.* |
| **OffsetMiB** | integer (mebibytes) | read-only (null) | Offset with in the Memory that corresponds to the starting of this memory region in mebibytes (MiB). |
| **PassphraseEnabled** *(v1.5+)* | boolean | read-only (null) | Indicates if the passphrase is enabled for this region. |
| **PassphraseState** *(deprecated v1.5)* | boolean | read-only (null) | State of the passphrase for this region. *Deprecated v1.5+. This property has been Deprecated in favor of Memory.v1_5_0.Memory.RegionSet.PassphraseEnabled.* |
| **RegionId** | string | read-only (null) | Unique region ID representing a specific region within the Memory. |
| **SizeMiB** } ] | integer (mebibytes) | read-only (null) | Size of this memory region in mebibytes (MiB). |
| **SecurityCapabilities** { | object | | This object contains security capabilities of the Memory. |
| **MaxPassphraseCount** | integer | read-only (null) | Maximum number of passphrases supported for this Memory. |
| **PassphraseCapable** | boolean | read-only (null) | Memory passphrase set capability. |
| **SecurityStates** [ ] } | array (string (enum)) | read-only | Security states supported by the Memory. *See SecurityStates in Property Details, below, for the possible values of this property.* |
| **SerialNumber** | string | read-only (null) | The product serial number of this device. |
| **SpareDeviceCount** | integer | read-only (null) | Number of unused spare devices available in the Memory. |
| **Status** *(v1.1+)* { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **SubsystemDeviceID** *(deprecated v1.3)* | string | read-only (null) | Subsystem Device ID. *Deprecated v1.3+. This property has been Deprecated in favor of Memory.v1_3_0.MemorySubsystemControllerProductID* |
| **SubsystemVendorID** *(deprecated v1.3)* | string | read-only (null) | SubSystem Vendor ID. *Deprecated v1.3+. This property has been Deprecated in favor of Memory.v1_3_0.MemorySubsystemControllerManufacturerID* |
| **VendorID** *(deprecated v1.3)* | string | read-only (null) | Vendor ID. *Deprecated v1.3+. This property has been Deprecated in favor of Memory.v1_3_0.ModuleManufacturerID* |
| **VolatileRegionNumberLimit** *(v1.2+)* | integer | read-only (null) | Total number of volatile regions this Memory can support. |
| **VolatileRegionSizeLimitMiB** | integer (mebibytes) | read-only (null) | Total size of volatile regions in mebibytes (MiB). |
| **VolatileRegionSizeMaxMiB** *(v1.2+)* | integer (mebibytes) | read-only (null) | Maximum size of a single volatile region in mebibytes (MiB). |
| **VolatileSizeMiB** *(v1.4+)* | integer (mebibytes) | read-only (null) | Total size of the volitile portion memory in MiB. |

## Action Details

**DisablePassphrase**

Disable passphrase for given regions.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **Passphrase** | string | read-write required | Passphrase for doing the operation. |

| | | | |
|---|---|---|---|
| **RegionId**<br>} | string | read-write required | Memory region ID for which this action to be applied. |

**OverwriteUnit**

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

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **Passphrase** | string | read-write required | Passphrase for doing the operation. |
| **RegionId**<br>} | string | read-write required | Memory region ID for which this action to be applied. |

**SecureEraseUnit**

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

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **Passphrase** | string | read-write required | Passphrase for doing the operation. |
| **RegionId**<br>} | string | read-write required | Memory region ID for which this action to be applied. |

**SetPassphrase**

Set passphrase for the given regions.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **Passphrase** | string | read-write required | Passphrase for doing the operation. |
| **RegionId**<br>} | string | read-write required | Memory region ID for which this action to be applied. |

**UnlockUnit**

This defines the action for unlocking given regions.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **Passphrase** | string | read-write required | Passphrase for doing the operation. |
| **RegionId**<br>} | string | read-write required | Memory region ID for which this action to be applied. |

## Property Details

**BaseModuleType:**

The base module type of Memory.

| string | Description |
|---|---|
| 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 | Multi-bit Data errors can be corrected by ECC. |
| NoECC | No ECC available. |
| SingleBitECC | Single bit Data error can be corrected by ECC. |

**MemoryClassification:**

Classification of memory occupied by the given memory region.

| 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. |
| 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. |
| 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. |
| NAND | NAND media. |
| Proprietary | Proprietary media. |

**MemoryType:**

The type of Memory.

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

| | |
|---|---|
| NVDIMM_P | The memory module is composed 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. |

**SecurityStates:**

Security states supported by the Memory.

| string | Description |
|---|---|
| Disabled | Secure mode is disabled. |
| Enabled | Secure mode is enabled. |
| Frozen | Secure state is frozen and can not 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_6_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.context": "/redfish/v1/$metadata#Memory.Memory",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Memory/DIMM1"
}
```


## MemoryChunks 1.2.2

This is the schema definition of a Memory Chunk and its configuration.

**URIs:**

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

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **AddressRangeType** | string (enum) | read-only (null) | Memory type of this memory chunk.<br>*See AddressRangeType in Property Details, below, for the possible values of this property.* |
| **InterleaveSets** [ { | array | read-write | This is 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 (null) | DIMM region identifier. |
| **SizeMiB** | integer | read-only | Size of this memory region measured in mebibytes (MiB). |

| | | | |
|---|---|---|---|
| } ] | (mebibytes) | (null) | |
| **IsMirrorEnabled** | boolean | read-only (null) | Mirror Enabled status. |
| **IsSpare** | boolean | read-only (null) | Spare enabled status. |
| **MemoryChunkSizeMiB** | integer (mebibytes) | read-only (null) | Size of the memory chunk measured in mebibytes (MiB). |
| **Status** *(v1.2+)* { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### 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_0_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_0_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.context": "/redfish/v1/$metadata#MemoryChunks.MemoryChunks",
    "@odata.id": "/redfish/v1/Systems/2/MemoryDomains/1/MemoryChunks/1"
}
```

## MemoryDomain 1.2.1

This is the schema definition of a Memory Domain and its configuration. Memory Domains are used to indicate to the client which Memory (DIMMs) can be grouped together in Memory Chunks to form interleave sets or otherwise grouped together.

**URIs:**

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

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **AllowsBlockProvisioning** | boolean | read-only (null) | Indicates if this Memory Domain supports the provisioning of blocks of memory. |
| **AllowsMemoryChunkCreation** | boolean | read-only (null) | Indicates if this Memory Domain supports the creation of Memory Chunks. |
| **AllowsMirroring** *(v1.1+)* | boolean | read-only (null) | Indicates if this Memory Domain supports the creation of Memory Chunks with mirroring enabled. |
| **AllowsSparing** *(v1.1+)* | boolean | read-only (null) | Indicates if this Memory Domain supports the creation of Memory Chunks with sparing enabled. |

| | | | |
|---|---|---|---|
| **InterleavableMemorySets** [ { | array | read-write | This is the interleave sets for the memory chunk. |
| **MemorySet** [ { | array | read-only | This is the collection of memory for a particular interleave set. |
| **@odata.id**<br>} ]<br>} ] | string | read-only | Link to a Memory resource. See the Links section and the Memory schema for details. |
| **MemoryChunks** { | object | (null) | A reference to the collection of Memory Chunks associated with this Memory Domain. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of MemoryChunks. See the MemoryChunks schema for details. |

### Example Response

```
{
    "@odata.type": "#MemoryDomain.v1_2_1.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.context": "/redfish/v1/$metadata#MemoryDomain.MemoryDomain",
    "@odata.id": "/redfish/v1/Systems/2/MemoryDomains/1"
}
```

## MemoryMetrics 1.1.4

MemoryMetrics contains usage and health statistics for a single Memory module or device instance.

**URIs:**

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

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

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

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#MemoryMetrics.ClearCurrentPeriod** { }<br>} | object | | This sets the CurrentPeriod object values to zero.<br>*For more information, see the Action Details section below.* |
| **BlockSizeBytes** | integer (bytes) | read-only (null) | Block size in bytes. |
| **CurrentPeriod** { | object | | This object contains the Memory metrics since last reset or ClearCurrentPeriod action. |
| **BlocksRead** | integer | read-only (null) | Number of blocks read since reset. |
| **BlocksWritten**<br>} | integer | read-only (null) | Number of blocks written since reset. |
| **HealthData** { | object | | This object describes the health information of the memory. |
| **AlarmTrips** { | object | | Alarm trip information about the memory. |
| **AddressParityError** | boolean | read-only (null) | Address parity error detected status. |
| **CorrectableECCError** | boolean | read-only (null) | Correctable data error threshold crossing alarm trip detected status. |
| **SpareBlock** | boolean | read-only (null) | Spare block capacity crossing alarm trip detected status. |
| **Temperature** | boolean | read-only (null) | Temperature threshold crossing alarm trip detected status. |
| **UncorrectableECCError**<br>} | boolean | read-only (null) | Uncorrectable data error threshold crossing alarm trip detected status. |
| **DataLossDetected** | boolean | read-only (null) | Data loss detection status. |

| | | | |
|---|---|---|---|
| **LastShutdownSuccess** | boolean | read-only (null) | Status of last shutdown. |
| **PerformanceDegraded** | boolean | read-only (null) | Performance degraded mode status. |
| **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) | Remaining spare blocks in percentage. |
| **LifeTime** { | object | | This object contains the Memory metrics for the lifetime of the Memory. |
| **BlocksRead** | integer | read-only (null) | Number of blocks read for the lifetime of the Memory. |
| **BlocksWritten** } | integer | read-only (null) | Number of blocks written for the lifetime of the Memory. |

### Action Details

**ClearCurrentPeriod**

This sets the CurrentPeriod object values to zero.

(This action takes no parameters.)

### Example Response


```
{
    "@odata.type": "#MemoryMetrics.v1_1_4.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.ClearCurrentPeriod"
        },
        "Oem": {}
    },
    "Oem": {},
    "@odata.context": "/redfish/v1/$metadata#MemoryMetrics.MemoryMetrics",
    "@odata.id": "/redfish/v1/Systems/1/Memory/1/MemoryMetrics"
}
```


## MessageRegistry 1.2.0

This is the schema definition for all Message Registries. It represents the properties for the registries themselves. The MessageId is formed per the Redfish specification. It consists of the RegistryPrefix concatenated with the version concatenated with the unique identifier for the message registry entry.

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Language** | string | read-only required | This is the RFC 5646 compliant language code for the registry. |
| **Messages** { } | object | required | The pattern property indicates that a free-form string is the unique identifier for the message within the registry. |
| **OwningEntity** | string | read-only required | This is the organization or company that publishes this registry. |
| **RegistryPrefix** | string | read-only required | This is the single word prefix used to form a messageID structure. |
| **RegistryVersion** | string | read-only required | This is the message registry version which is used in the middle portion of a messageID. |

## MessageRegistryFile 1.1.1

This is the schema definition for the Schema File locator resource.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Languages** [ ] | array (string) | read-only required | Language codes for the schemas available. |
| **Location** [ { | array | read-write | Location information for this registry file. |

| | | | |
|---|---|---|---|
| | | required | |
| **ArchiveFile** | string | read-only | If the schema is hosted on the service in an archive file, this is the name of the file within the archive. |
| **ArchiveUri** | string | read-only | If the schema is hosted on the service in an archive file, this is the link to the archive file. |
| **Language** | string | read-only | The language code for the file the schema is in. |
| **PublicationUri** | string | read-only | Link to publicly available (canonical) URI for schema. |
| **Uri** } ] | string | read-only | Link to locally available URI for schema. |
| **Registry** | string | read-only required | The Registry Name, Major, and Minor version. This Registry can reference any type of Registry, such as a Message Registry, Privilege Registry, or Attribute Registry. |

## MetricDefinition 1.0.0

The metadata information about a metric.

**URIs:**

/redfish/v1/TelemetryService/MetricDefinitions/*{MetricDefinitionId}*

| | | | |
|---|---|---|---|
| **Accuracy** | number | read-only (null) | Estimated percent error of measured vs. actual values. |
| **Actions** { } | object | | The available actions for this resource. |
| **Calculable** | string (enum) | read-write (null) | Indicates whether the metric can be used in a calculation.<br>*See Calculable in Property Details, below, for the possible values of this property.* |
| **CalculationAlgorithm** | string (enum) | read-only (null) | The calculation which is performed on a source metric to obtain the metric being defined.<br>*See CalculationAlgorithm in Property Details, below, for the possible values of this property.* |
| **CalculationParameters** [ { | array | read-write | Specifies the metric properties which are part of the synthesis calculation. This property is present when the MetricType property has the value 'Synthesized'. |
| **ResultMetric** | string | read-only (null) | The metric property used to store the results 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) | Specifies 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.<br>*See Implementation in Property Details, below, for the possible values of this property.* |
| **IsLinear** | boolean | read-write (null) | Indicates whether the metric values are linear (vs non-linear). |
| **MaxReadingRange** | number | read-only (null) | Maximum value for metric reading. |
| **MetricDataType** | string (enum) | read-write (null) | The data type of the metric.<br>*See MetricDataType in Property Details, below, for the possible values of this property.* |
| **MetricProperties** [ ] | array (string, null) | read-write | A collection of URI for the properties on which this metric definition is defined. |
| **MetricType** | string (enum) | read-write (null) | The type of metric.<br>*See MetricType in Property Details, below, for the possible values of this property.* |
| **MinReadingRange** | number | read-only (null) | Minimum value for metric reading. |
| **PhysicalContext** | string (enum) | read-only (null) | Specifies the physical context of the metric.<br>*See PhysicalContext in Property Details, below, for the possible values of this property.* |
| **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 | Accuracy of the timestamp. |

| | | | |
|---|---|---|---|
| | | (null) | |
| **Units** | string | read-write (null) | The units of measure for this metric. |
| **Wildcards** [ { | array | read-write | Wildcards used to replace values in AppliesTo and Calculates metric property arrays. |
| **Name** | string | read-only (null) | The name of Wildcard. |
| **Values** [ ] } ] | array (string, null) | read-only | An array of values to substitute for the wildcard. |

## Property Details

**Calculable:**

Indicates 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 which is performed on a source metric to obtain the metric being defined.

| string | Description |
|---|---|
| Average | The metric is calculated as the average of a metric reading over a sliding time interval. |
| Maximum | The metric is calculated as the maximum value of a metric reading over during a time interval. |
| Minimum | The metric is calculated as the minimum value of a 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 specified. For expressing generalized formula, see MathSON). |

**MetricDataType:**

The data type of the metric.

| string | Description |
|---|---|
| Boolean | The data type follows the JSON Boolean definition. |
| DateTime | The data type follows the JSON String definition with the Date-Time format applied. |
| Decimal | The data type follows the JSON Decimal definition. |
| Enumeration | The data type follows the JSON String definition with a set of enumerations defined. |
| Integer | The data type follows the JSON Integer definition. |
| String | The data type follows 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 which 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 which 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:**

Specifies the physical context of the metric.

| string | Description |
|---|---|
| ASIC | An ASIC device, such as an FPGA or a GPGPU. |
| Back | The back of the chassis. |
| Backplane | A backplane within the chassis. |
| Chassis | The entire chassis. |
| ComputeBay | Within a compute bay. |
| CPU | A Processor (CPU). |
| Exhaust | The air exhaust point of the chassis. |
| ExpansionBay | Within an expansion bay. |
| Fan | A fan. |
| Front | The front of the chassis. |
| GPU | A Graphics Processor (GPU). |
| Intake | The air intake point 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. |
| NetworkBay | Within a networking bay. |
| NetworkingDevice | A networking device. |
| PowerSupply | A power supply. |
| PowerSupplyBay | Within a power supply bay. |
| Room | The room. |
| StorageBay | Within a storage bay. |
| StorageDevice | A storage device. |
| SystemBoard | The system board (PCB). |
| Upper | The upper portion of the chassis. |
| VoltageRegulator | A voltage regulator device. |

### Example Response


```
{
    "@odata.type": "#MetricDefinition.v1_0_0.MetricDefinition",
    "Id": "PowerConsumedWatts",
    "Name": "Power Consumed Watts Metric Definition",
    "MetricType": "Numeric",
    "Implementation": "PhysicalSensor",
    "PhysicalContext": "PowerSupply",
    "MetricDataType": "Decimal",
    "Units": "W",
    "Precision": 4,
    "Accuracy": 1.0,
    "Calibration": 2,
    "MinReadingRange": 0.0,
    "MaxReadingRange": 50.0,
    "SensingInterval": "PT1S",
    "TimestampAccuracy": "PT1S",
    "Wildcards": [
        {
            "Name": "ChassisID",
            "Values": [
                "1"
            ]
        }
    ],
    "MetricProperties": [
        "/redfish/v1/Chassis/{ChassisID}/Power#/PowerControl/0/PowerConsumedWatts"
    ],
    "@odata.context": "/redfish/v1/$metadata#MetricDefinition.MetricDefinition",
    "@odata.id": "/redfish/v1/TelemetryService/MetricDefinitions/PowerConsumedWatts"
}
```


## MetricReport 1.0.0

The metric definitions used to create a metric report.

**URIs:**

/redfish/v1/TelemetryService/MetricReports/*{MetricReportId}*

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **MetricReportDefinition** { | object | | The metric definitions used to create a metric report. See the MetricReportDefinition schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a MetricReportDefinition resource. See the Links section and the MetricReportDefinition schema for details. |
| **MetricValues** [ { | array | read-write | An array of metric values for the metered items of this Metric. |
| **MetricDefinition** { | object | | A link to the Metric Definition. See the MetricDefinition schema for details on this property. |
| **@odata.id**<br>} | 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 value identifies this resource. |
| **Timestamp**<br>} ] | string | read-only (null) | The time when the value of the metric is obtained. |
| **ReportSequence** | string | read-only required | The current sequence identifier for this metric report. |

### Example Response

```
{
    "@odata.type": "#MetricReport.v1_0_0.MetricReport",
    "Id": "AvgPlatformPowerUsage",
    "Name": "Average Platform Power Usage metric report",
    "ReportSequence": "127",
    "MetricReportDefinition": {
        "@odata.id": "/redfish/v1/TelemetryService/MetricReportDefinitions/AvgPlatformPowerUsage"
    },
    "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.context": "/redfish/v1/$metadata#MetricReport.MetricReport",
    "@odata.id": "/redfish/v1/TelemetryService/MetricReports/AvgPlatformPowerUsage"
}
```

## MetricReportDefinition 1.0.0

A set of metrics that are collected into a metric report.

**URIs:**

/redfish/v1/TelemetryService/MetricReportDefinitions/*{MetricReportDefinitionId}*

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **AppendLimit** | integer | read-only | Indicates 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. |
| **MetricProperties** [ ] | array (string, null) | read-write | Specifies a list of metric properties to include in the metric report. |
| **MetricReport** { | object | | Specifies the location where the resultant metric report is placed. See the MetricReport schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a MetricReport resource. See the Links section and the MetricReport schema for details. |
| **MetricReportDefinitionType** | string (enum) | read-write (null) | Specifies when the metric report is generated.<br>*See MetricReportDefinitionType in Property Details, below, for the possible values of this property.* |
| **Metrics** [ { | array | read-write | Specifies a 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 | Specifies the duration over which the function is computed. |

| | | | |
|---|---|---|---|
| | | (null) | |
| **CollectionFunction** | string (enum) | read-write (null) | Specified the function to perform on each of the metric properties listed in the MetricProperties property. *See CollectionFunction in Property Details, below, for the possible values of this property.* |
| **CollectionTimeScope** | string (enum) | read-write (null) | Specifies the scope of time scope over which the function is applied. *See CollectionTimeScope in Property Details, below, for the possible values of this property.* |
| **MetricId** | string | read-only (null) | Specifies the label for the metric definition which is derived by applying the CollectionFunction to the metric property. |
| **MetricProperties** [ ] } ] | array (string, null) | read-write | A collection of URI for the properties on which this metric is collected. |
| **ReportActions** [ ] | array (string (enum)) | read-only | Specifies the actions to perform when a metric report is generated. Actions to perform when a metric report is generated. *See ReportActions in Property Details, below, for the possible values of this property.* |
| **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 new report resource. *See ReportUpdates in Property Details, below, for the possible values of this property.* |
| **Schedule** { } | object | | Specifies the schedule for generating the metric report. See the Schedule object for details on this property. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Wildcards** [ { | array | read-write | Specifies the strings used to replace wildcards in the paths in MetricProperties array property. |
| **Keys** [ ] | array (string, null) | read-only | An array of Key values to substitute for the wildcard. |
| **Name** } ] | string | read-only (null) | The name of 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 of a metric reading over a sliding time interval. |
| Maximum | The metric is calculated as the maximum value of a metric reading over during a time interval. |
| Minimum | The metric is calculated as the minimum value of a metric reading over a sliding time interval. |
| Summation | The metric is calculated as the sum of the values over a sliding time interval. |

**CollectionTimeScope:**

Specifies 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 value of Timestamp 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 value of Timestamp 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 (i.e. the Resources associated by Links.MetricDefinitionForResources). On the corresponding metric value instances, the value of Timestamp shall specify the end of the time interval. The value of Duration shall specifies the duration between startup of the 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:**

Specifies the 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 type MetricReport. |

**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 new 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 adding entries when the metric report has reached its maximum capacity. |
| AppendWrapsWhenFull | When a metric report is updated, append to the specified metric report resource. This also indicates that 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 specified metric report resource. |

### Example Response


```
{
    "@odata.type": "#MetricReportDefinition.v1_0_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.context": "/redfish/v1/$metadata#MetricReportDefinition.MetricReportDefinition",
    "@odata.id": "/redfish/v1/TelemetryService/MetricReportDefinitions/PlatformPowerUsage"
}
```


## NetworkAdapter 1.2.0

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}*

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#NetworkAdapter.ResetSettingsToDefault** { } } | object | | This action is to clear the settings back to factory defaults.<br>*For more information, see the Action Details section below.* |
| **Assembly** *(v1.1+)* { | object | | A reference 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 | read-write | The set of network controllers ASICs that make up this NetworkAdapter. |
| **ControllerCapabilities** { | object | (null) | The capabilities of this controller. |
| **DataCenterBridging** { | object | (null) | Data Center Bridging (DCB) for this controller. |
| **Capable** } | boolean | read-only (null) | 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 | (null) | NIC Partitioning (NPAR) capabilities for this controller. |
| **NparCapable** | boolean | read-only (null) | Indicates whether or not NIC function partitioning is supported by a controller. |
| **NparEnabled**<br>} | boolean | read-write (null) | When true, NIC function partitioning is active on this controller. |
| **NPIV** { | object | (null) | 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**<br>} | integer | read-only (null) | The maximum number of N_Port ID Virtualization (NPIV) logins allowed per physical port on this controller. |
| **VirtualizationOffload** { | object | (null) | Virtualization offload for this controller. |
| **SRIOV** { | object | (null) | Single-Root Input/Output Virtualization (SR-IOV) capabilities. |
| **SRIOVVEPACapable**<br>} | boolean | read-only (null) | Whether this controller supports Single Root Input/Output Virtualization (SR-IOV) in Virtual Ethernet Port Aggregator (VEPA) mode. |
| **VirtualFunction** { | object | (null) | The virtual function of the controller. |
| **DeviceMaxCount** | integer | read-only (null) | The maximum number of Virtual Functions (VFs) supported by this controller. |
| **MinAssignmentGroupSize** | integer | read-only (null) | The minimum number of Virtual Functions (VFs) that can be allocated or moved between physical functions for this controller. |
| **NetworkPortMaxCount**<br>}<br>}<br>} | integer | read-only (null) | The maximum number of Virtual Functions (VFs) supported per network port for this controller. |
| **FirmwarePackageVersion** | string | read-only (null) | The version of the user-facing firmware package. |
| **Links** { | object | | Links. |
| **NetworkDeviceFunctions** [ { | array | read-only | An array of references to the NetworkDeviceFunctions associated with this Network Controller. |
| **@odata.id**<br>} ] | string | read-only | Link to a NetworkDeviceFunction resource. See the Links section and the NetworkDeviceFunction schema for details. |
| **NetworkPorts** [ { | array | read-only | An array of references to the NetworkPorts associated with this Network Controller. |
| **@odata.id**<br>} ] | 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 | read-only | An array of references to the PCIeDevices associated with this Network Controller. |
| **@odata.id**<br>} ]<br>} | 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. See the Location object for details on this property. |
| **PCIeInterface** *(v1.2+)* { | object | (null) | The PCIe interface details for this controller. See the PCIeDevice schema for details on this property. |
| **@odata.id**<br>}<br>} ] | string | read-only | Link to a PCIeInterface resource. See the Links section and the PCIeDevice schema for details. |
| **Manufacturer** | string | read-only (null) | The manufacturer or OEM of this network adapter. |
| **Model** | string | read-only (null) | The model string for this network adapter. |
| **NetworkDeviceFunctions** { | object | | A reference to the collection of NetworkDeviceFunctions associated with this NetworkAdapter. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of NetworkDeviceFunction. See the NetworkDeviceFunction schema for details. |
| **NetworkPorts** { | object | | A reference to the collection of NetworkPorts associated with this NetworkAdapter. Contains a link to a resource. |
| **@odata.id**<br>} | 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 | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Action Details

**ResetSettingsToDefault**

This action is to clear the settings back to factory defaults.

(This action takes no parameters.)

## NetworkDeviceFunction 1.3.0

A Network Device Function represents a logical interface exposed by the network adapter.

**URIs:**

/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkDeviceFunctions/*{NetworkDeviceFunctionId}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **AssignablePhysicalPorts** [ { | array | read-only | The array of physical port references that this network device function may be assigned to. |
| **@odata.id**<br>} ] | 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.<br>*See BootMode in Property Details, below, for the possible values of this property.* |
| **DeviceEnabled** | boolean | read-write (null) | Whether the network device function is enabled. |
| **Ethernet** { | object | (null) | Ethernet. |
| **MACAddress** | string | read-write (null) | This is the currently configured MAC address of the (logical port) network device function. |
| **MTUSize** | integer | read-write (null) | The Maximum Transmission Unit (MTU) configured for this network device function. |
| **PermanentMACAddress** | string | read-only (null) | This is the permanent MAC address assigned to this network device function (physical function). |
| **VLAN** *(v1.3+)* { | object | (null) | 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**<br>} | string | read-only | Link to a VLAN resource. See the Links section and the VLanNetworkInterface schema for details. |
| **VLANs** *(v1.3+)* { | object | | This is a reference to a collection of VLANs and is only used if the interface supports more than one VLANs. Contains a link to a resource. |
| **@odata.id**<br>}<br>} | string | read-only | Link to Collection of VLanNetworkInterface. See the VLanNetworkInterface schema for details. |
| **FibreChannel** { | object | (null) | Fibre Channel. |
| **AllowFIPVLANDiscovery** | boolean | read-write (null) | Whether the FCoE Initialization Protocol (FIP) is used for populating the FCoE VLAN Id. |
| **BootTargets** [ { | array | read-write | 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 to boot from on the device referred to by the corresponding WWPN. |
| **WWPN**<br>} ] | string | read-write (null) | The World-Wide Port Name to boot from. |
| **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 assigned by the switch for this interface. |
| **PermanentWWNN** | string | read-only (null) | This is the permanent WWNN address assigned to this network device function (physical function). |
| **PermanentWWPN** | string | read-only (null) | This is the permanent WWPN address assigned to this network device function (physical function). |
| **WWNN** | string | read-write (null) | This is the currently configured WWNN address of the network device function (physical function). |
| **WWNSource** | string (enum) | read-write (null) | The configuration source of the WWNs for this connection (WWPN and WWNN). *See WWNSource in Property Details, below, for the possible values of this property.* |
| **WWPN** | string | read-write (null) | This is the currently configured WWPN address of the network device function (physical function). |
| } | | | |
| **iSCSIBoot** { | object | (null) | iSCSI Boot. |
| **AuthenticationMethod** | string (enum) | read-write (null) | The iSCSI boot authentication method for this network device function. *See AuthenticationMethod in Property Details, below, for the possible values of this property.* |
| **CHAPSecret** | string | read-write (null) | The shared secret for CHAP authentication. |
| **CHAPUsername** | string | read-write (null) | The username 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 (IPv6 or IPv4) being populated in the iSCSIBoot IP address fields. *See IPAddressType in Property Details, below, for the possible values of this property.* |
| **IPMaskDNSViaDHCP** | boolean | read-write (null) | Whether the iSCSI boot initiator uses DHCP to obtain the iniator name, IP address, and netmask. |
| **MutualCHAPSecret** | string | read-write (null) | The CHAP Secret for 2-way CHAP authentication. |
| **MutualCHAPUsername** | string | read-write (null) | The CHAP Username for 2-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 IP address (IPv6 or IPv4) 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) | This indicates if 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) | 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 IP address (IPv6 or IPv4) 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) | This indicates if 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**<br>} | boolean | read-write (null) | Whether the iSCSI boot target name, LUN, IP address, and netmask should be obtained from DHCP. |
| **Links** { | object | | Links. |
| **Endpoints** *(v1.2+)* [ { | array | read-only | An array of references to endpoints associated with this network device function. |
| **@odata.id**<br>} ] | string | read-only | Link to a Endpoint resource. See the Links section and the Endpoint schema for details. |
| **PCIeFunction** { | object | | A reference to the PCIeFunction associated with this Network Device Function. See the PCIeFunction schema for details on this property. |
| **@odata.id**<br>} | 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 that this network device function is currently assigned to. See the NetworkPort schema for details on this property. |
| **@odata.id**<br>}<br>} | 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 (VFs) that are available for this Network Device Function. |
| **NetDevFuncCapabilities** *(v1.2+)* [ ] | array (string (enum)) | read-only (null) | Capabilities of this network device function.<br>*See NetDevFuncCapabilities in Property Details, below, for the possible values of this property.* |
| **NetDevFuncType** *(v1.2+)* | string (enum) | read-write (null) | The configured capability of this network device function.<br>*See NetDevFuncType in Property Details, below, for the possible values of this property.* |
| **PhysicalPortAssignment** *(deprecated v1.3)* { | object | | The physical port that this network device function is currently assigned to. See the NetworkPort schema for details on this property. *Deprecated v1.3+. This property has been deprecated and moved to the Links section to avoid loops on expand.* |
| **@odata.id**<br>} | string | read-only | Link to a NetworkPort resource. See the Links section and the NetworkPort schema for details. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **VirtualFunctionsEnabled** | boolean | read-only (null) | Whether Single Root I/O Virtualization (SR-IOV) Virual Functions (VFs) 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. |
| FibreChannel | Boot this device using the embedded Fibre Channel support and configuration. Only applicable if the NetworkDeviceFunctionType is set to FibreChannel. |
| FibreChannelOverEthernet | Boot this device using the embedded Fibre Channel over Ethernet (FCoE) boot support and configuration. Only applicable if the NetworkDeviceFunctionType is set to FibreChannelOverEthernet. |
| iSCSI | Boot this device using the embedded iSCSI boot support and configuration. Only applicable if the NetworkDeviceFunctionType is set to iSCSI. |

| | |
|---|---|
| PXE | Boot this device using the embedded PXE support. Only applicable if the NetworkDeviceFunctionType is set to Ethernet. |

**IPAddressType:**

The type of IP address (IPv6 or IPv4) 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:**

Capabilities 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. |
| 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. |
| iSCSI | Appears to the operating system as an iSCSI device. |

**WWNSource:**

The configuration source of the WWNs for this connection (WWPN and WWNN).

| 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. |

## NetworkInterface 1.1.1

A NetworkInterface contains references linking 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/Systems/*{ComputerSystemId}*/NetworkInterfaces/*{NetworkInterfaceId}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Links** { | object | | Links. |
| **NetworkAdapter** { | object | | A reference to the NetworkAdapter which contains this NetworkInterface. See the NetworkAdapter schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a NetworkAdapter resource. See the Links section and the NetworkAdapter schema for details. |
| **Oem** { }<br>} | object | | See the OEM object definition in the Common properties section. |
| **NetworkDeviceFunctions** { | object | | A reference to the collection of NetworkDeviceFunctions associated with this NetworkInterface. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of NetworkDeviceFunction. See the NetworkDeviceFunction schema for details. |
| **NetworkPorts** { | object | | A reference to the collection of NetworkPorts associated with this NetworkInterface. Contains a link to a |

| | | | |
|---|---|---|---|
| | | | resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of NetworkPort. See the NetworkPort schema for details. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

## NetworkPort 1.2.0

A Network Port represents a discrete physical port capable of connecting to a network.

**URIs:**

/redfish/v1/Chassis/*{ChassisId}*/NetworkAdapters/*{NetworkAdapterId}*/NetworkPorts/*{NetworkPortId}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **ActiveLinkTechnology** | string (enum) | read-write (null) | Network Port Active Link Technology.<br>*See ActiveLinkTechnology in Property Details, below, for the possible values of this property.* |
| **AssociatedNetworkAddresses** [ ] | array (string, null) | read-only | The array of configured network addresses (MAC or WWN) 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) | 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) | This is the connection type of this port.<br>*See FCPortConnectionType in Property Details, below, for the possible values of this property.* |
| **FlowControlConfiguration** | string (enum) | read-write (null) | The locally configured 802.3x flow control setting for this network port.<br>*See FlowControlConfiguration in Property Details, below, for the possible values of this property.* |
| **FlowControlStatus** | string (enum) | read-only (null) | The 802.3x flow control behavior negotiated with the link partner for this network port (Ethernet-only).<br>*See FlowControlStatus in Property Details, below, for the possible values of this property.* |
| **LinkStatus** | string (enum) | read-only (null) | The status of the link between this port and its link partner.<br>*See LinkStatus in Property Details, below, for the possible values of this property.* |
| **MaxFrameSize** *(v1.2+)* | integer (bytes) | read-only (null) | The maximum frame size supported by the port. |
| **NetDevFuncMaxBWAlloc** [ { | array | read-write | The 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 | | A reference to the NetworkDeviceFunction associated with this bandwidth setting of this Network Port. See the NetworkDeviceFunction schema for details on this property. |
| **@odata.id**<br>}<br>} ] | string | read-only | Link to a NetworkDeviceFunction resource. See the Links section and the NetworkDeviceFunction schema for details. |
| **NetDevFuncMinBWAlloc** [ { | array | read-write | The 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 | | A reference to the NetworkDeviceFunction associated with this bandwidth setting of this Network Port. See the NetworkDeviceFunction schema for details on this property. |
| **@odata.id**<br>}<br>} ] | 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) | Whether or not the port has detected enough signal on enough lanes to establish link. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **SupportedEthernetCapabilities** [ ] | array (string (enum)) | read-only (null) | The set of Ethernet capabilities that this port supports.<br>*See SupportedEthernetCapabilities in Property Details, below, for the possible values of this property.* |
| **SupportedLinkCapabilities** [ { | array | read-write | The self-described link capabilities of this port. |
| **AutoSpeedNegotiation** *(v1.2+)* | boolean | read-only (null) | Indicates whether the port has the capability to auto negotiate speed. |
| **CapableLinkSpeedMbps** *(v1.2+)* [ ] | array (integer, null) | read-only | The self-described link network speed capabilities of this port. Note: Should this be a new enumerated type of link speeds?. |
| **LinkNetworkTechnology** | string (enum) | read-only (null) | The self-described link network technology capabilities of this port.<br>*See LinkNetworkTechnology in Property Details, below, for the possible values of this property.* |
| **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 v1.2+. This property has been Deprecated in favor of the CapableLinkSpeedMbps collection found in NetworkPort.v1_2_0.* |
| **VendorId** *(v1.2+)* | string | read-only (null) | The Vendor Identification for this port. |
| **WakeOnLANEnabled** | boolean | read-write (null) | 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:**

This is 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 via 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 self-described 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. |

## PCIeDevice 1.3.0

This is the schema definition for the PCIeDevice resource. It represents the properties of a PCIeDevice attached to a System.

**URIs:**

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

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Assembly** *(v1.2+)* { | object | | A reference to the Assembly resource associated with this PCIe device. See the Assembly schema for details on this property. |
| **@odata.id**<br>} | 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.<br>*See DeviceType in Property Details, below, for the possible values of this property.* |
| **FirmwareVersion** | string | read-only (null) | The version of firmware for this PCIe device. |
| **Links** { | object | | The links object contains the links to other resources that are related to this resource. |
| **Chassis** [ { | array | read-only | An array of references to the chassis in which the PCIe device is contained. |
| **@odata.id**<br>} ] | 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** [ { | array | read-only | An array of references to PCIeFunctions exposed by this device. |
| **@odata.id**<br>} ]<br>} | string | read-only | Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details. |
| **Manufacturer** | string | read-only (null) | This is the manufacturer of this PCIe device. |
| **Model** | string | read-only (null) | This is the model number for the PCIe device. |
| **PartNumber** | string | read-only | The part number for this PCIe device. |

| | | | |
|---|---|---|---|
| | | (null) | |
| **PCIeInterface** *(v1.3+)* { | object | (null) | The PCIe interface details for this PCIe device. |
| **LanesInUse** | integer | read-only (null) | This is the number of PCIe lanes in use by this device. |
| **MaxLanes** | integer | read-only (null) | This is 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.<br>*See MaxPCIeType in Property Details, below, for the possible values of this property.* |
| **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.<br>*See PCIeType in Property Details, below, for the possible values of this property.* |
| **SerialNumber** | string | read-only (null) | The serial number for this PCIe device. |
| **SKU** | string | read-only (null) | This is the SKU for this PCIe device. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Property Details

**DeviceType:**

The device type for this PCIe device.

| string | Description |
|---|---|
| MultiFunction | A multi-function PCIe device. |
| Simulated | A PCIe device which 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. |
| Gen5 | A PCIe v5.0 slot. |

## PCIeFunction 1.2.1

This is 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}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **ClassCode** | string | read-only (null) | The Class Code of this PCIe function. |

| | | | |
|---|---|---|---|
| **DeviceClass** | string (enum) | read-only | The class for this PCIe Function.<br>*See DeviceClass in Property Details, below, for the possible values of this property.* |
| **DeviceId** | string | read-only (null) | The Device ID of this PCIe function. |
| **FunctionId** | integer | read-only (null) | The the PCIe Function identifier. |
| **FunctionType** | string (enum) | read-only | The type of the PCIe Function.<br>*See FunctionType in Property Details, below, for the possible values of this property.* |
| **Links** { | object | | The links object contains the links to other resources that are related to this resource. |
| **Drives** [ { | array | read-only | An array of references to the drives which the PCIe device produces. |
| **@odata.id**<br>} ] | string | read-only | Link to a Drive resource. See the Links section and the Drive schema for details. |
| **EthernetInterfaces** [ { | array | read-only | An array of references to the ethernet interfaces which the PCIe device produces. |
| **@odata.id**<br>} ] | string | read-only | Link to a EthernetInterface resource. See the Links section and the EthernetInterface schema for details. |
| **NetworkDeviceFunctions** *(v1.2+)* [ { | array | read-only | An array of references to the Network Device Functions which the PCIe device produces. |
| **@odata.id**<br>} ] | 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 | (null) | A reference to the PCIeDevice on which this function resides. See the PCIeDevice schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details. |
| **StorageControllers** [ { | array | read-only | An array of references to the storage controllers which the PCIe device produces. |
| **@odata.id**<br>} ]<br>} | 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 | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **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. |
| 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. |

## PCIeSlots 1.0.0

This is the schema definition for the PCIe Slot properties.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **Slots** [ { | array | read-write | An array of PCI Slot information. |
| **Lanes** | integer | read-only (null) | This is the number of PCIe lanes supported by this slot. |
| **Links** { | object | (null) | Contains references to other resources that are related to this resource. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **PCIeDevice** [ { | array | read-only | An array of references 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. See the Location object for details on this property. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **PCIeType** | string (enum) | read-only (null) | This is the PCIe specification supported by this slot.<br>*See PCIeType in Property Details, below, for the possible values of this property.* |
| **SlotType** | string (enum) | read-only (null) | This is the PCIe slot type for this slot.<br>*See SlotType in Property Details, below, for the possible values of this property.* |
| **Status** { } } ] | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Property Details

**PCIeType:**

This is 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:**

This is 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. |
| OEM | And OEM-specific slot. |

### Example Response


```
{
    "@odata.type": "#PCIeSlots.v1_0_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.context": "/redfish/v1/$metadata#PCIeSlots.PCIeSlots",
    "@odata.id": "/redfish/v1/Chassis/1/PCIeSlots"
}
```


## Port 1.1.1

Port contains properties describing a port of a switch.

**URIs:**

/redfish/v1/Fabrics/*{FabricId}*/Switches/*{SwitchId}*/Ports/*{PortId}*

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Port.Reset** { }<br>} | object | | This action is used to reset this port.<br>*For more information, see the Action Details section below.* |
| **CurrentSpeedGbps** | number (Gbit/s) | read-only (null) | The current speed of this port. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |

| | | | |
|---|---|---|---|
| **AssociatedEndpoints** [ { | array | read-only | An array of references to the endpoints that connect to the switch through this port. |
| **@odata.id**<br>} ] | string | read-only | Link to a Endpoint resource. See the Links section and the Endpoint schema for details. |
| **ConnectedSwitches** [ { | array | read-only | An array of references to the switches that connect to the switch through this port. |
| **@odata.id**<br>} ] | string | read-only | Link to a Switch resource. See the Links section and the Switch schema for details. |
| **ConnectedSwitchPorts** [ { | array | read-only | An array of references to the ports that connect to the switch through this port. |
| **@odata.id**<br>} ] | string | read-only | Link to another Port resource. |
| **Oem** { }<br>} | object | | See the OEM object definition in the Common properties section. |
| **Location** *(v1.1+)* { } | object | | The Location of the port. See the Location object for details on this property. |
| **MaxSpeedGbps** | number (Gbit/s) | read-only (null) | The maximum speed of this port as currently configured. |
| **PortId** | string | read-only (null) | This is the label of this port on the physical switch package. |
| **PortProtocol** | string (enum) | read-only (null) | The protocol being sent over this port.<br>*See PortProtocol in Property Details, below, for the possible values of this property.* |
| **PortType** | string (enum) | read-only (null) | This is the type of this port.<br>*See PortType in Property Details, below, for the possible values of this property.* |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Width** | integer | read-only (null) | The number of lanes, phys, or other physical transport links that this port contains. |

## Action Details

**Reset**

This action is used to reset this port.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **ResetType**<br>} | string (enum) | read-write | The type of reset to be performed.<br>*See ResetType in Property Details, below, for the possible values of this property.* |

## Property Details

**PortProtocol:**

The protocol being sent over this port.

| string | Description |
|---|---|
| AHCI | Advanced Host Controller Interface. |
| FC | Fibre Channel. |
| FCoE | Fibre Channel over Ethernet. |
| FCP | Fibre Channel Protocol for SCSI. |
| FICON | FIbre CONnection (FICON). |
| FTP | File Transfer Protocol. |
| HTTP | Hypertext Transport Protocol. |
| HTTPS | Secure Hypertext Transport Protocol. |
| I2C | Inter-Integrated Circuit Bus. |
| iSCSI | Internet SCSI. |
| iWARP | Internet Wide Area Remote Direct Memory Access Protocol. |
| NFSv3 | Network File System version 3. |
| NFSv4 | Network File System version 4. |
| NVMe | Non-Volatile Memory Express. |
| 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 | Secure File Transfer Protocol. |
| SMB | Server Message Block (aka CIFS Common Internet File System). |
| UHCI | Universal Host Controller Interface. |
| USB | Universal Serial Bus. |

**PortType:**

This is 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 to be performed.

| string | Description |
|---|---|
| ForceOff | Turn the unit off immediately (non-graceful shutdown). |
| ForceOn | Turn the unit on immediately. |
| ForceRestart | Perform an immediate (non-graceful) shutdown, followed by a restart. |
| GracefulRestart | Perform a graceful shutdown followed by a restart of the system. |
| GracefulShutdown | Perform a graceful shutdown and power off. |
| Nmi | Generate a Diagnostic Interrupt (usually an NMI on x86 systems) to cease normal operations, perform diagnostic actions and typically halt the system. |
| On | Turn the unit on. |
| PowerCycle | Perform a power cycle of the unit. |
| PushPowerButton | Simulate the pressing of the physical power button on this unit. |

### Example Response


```
{
    "@odata.type": "#Port.v1_1_1.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.context": "/redfish/v1/$metadata#Port.Port",
    "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch1/Ports/1"
}
```


## Power 1.5.1

This is the schema definition for the Power Metrics. It represents the properties for Power Consumption and Power Limiting.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.3+)* { } | object | | The available actions for this resource. |
| **PowerControl** [ { | array | read-write | This is the definition for power control function (power reading/limiting). |
| **@odata.id** | string | read-only | The unique identifier for a resource. |
| **Actions** *(v1.3+)* { } | object | | The available actions for this resource. |
| **MemberId** | string | read-only | This is the identifier for the member within the collection. |
| **Name** | string | read-only (null) | Power Control Function name. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **PhysicalContext** *(v1.4+)* | string (enum) | read-only | Describes the area, device, or set of devices to which this power control applies. *See PhysicalContext in Property Details, below, for the possible values of this property.* |
| **PowerAllocatedWatts** | number (Watts) | read-only (null) | The total amount of power that has been allocated (or budegeted)to chassis resources. |
| **PowerAvailableWatts** | number (Watts) | read-only (null) | The amount of power not already budgeted and therefore available for additional allocation. (powerCapacity - powerAllocated). This indicates how much reserve power capacity is left. |
| **PowerCapacityWatts** | number (Watts) | read-only (null) | The total amount of power available to the chassis for allocation. This may the power supply capacity, or power budget assigned to the chassis from an up-stream chassis. |
| **PowerConsumedWatts** | number (Watts) | read-only (null) | The actual power being consumed by the chassis. |
| **PowerLimit** { | object | | 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. *See LimitException in Property Details, below, for the possible values of this property.* |
| **LimitInWatts** } | number (Watts) | read-write (null) | The Power limit in watts. Set to null to disable power capping. |
| **PowerMetrics** { | object | | Power readings for this chassis. |
| **AverageConsumedWatts** | number (Watts) | read-only (null) | The average power level over the measurement window (the last IntervalInMin minutes). |
| **IntervalInMin** | integer (min) | read-only (null) | The time interval (or window) in which the PowerMetrics are measured over. |
| **MaxConsumedWatts** | number (Watts) | read-only (null) | The highest power consumption level that has occured over the measurement window (the last IntervalInMin minutes). |
| **MinConsumedWatts** } | number (Watts) | read-only (null) | The lowest power consumption level over the measurement window (the last IntervalInMin minutes). |
| **PowerRequestedWatts** | number (Watts) | read-only (null) | The potential power that the chassis resources are requesting which may be higher than the current level being consumed since requested power includes budget that the chassis resource wants for future use. |
| **RelatedItem** [ { | array | read-only | The ID(s) of the resources associated with this Power Limit. |
| **@odata.id** } ] | string | read-only | The unique identifier for a resource. |
| **Status** { } } ] | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **PowerSupplies** [ { | array | read-write | Details of the power supplies associated with this system or device. |
| **@odata.id** | string | read-only | The unique identifier for a resource. |
| **Actions** *(v1.3+)* { } | object | | The available actions for this resource. |
| **Assembly** *(v1.5+)* { | object | | A reference 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 | The firmware version for this Power Supply. |

| | | | |
|---|---|---|---|
| | | (null) | |
| **HotPluggable** *(v1.5+)* | boolean | read-only (null) | Indicates if 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, used to identify the power supply.<br>*See IndicatorLED in Property Details, below, for the possible values of this property.* |
| **InputRanges** *(v1.1+)* [ { | array | read-write | This is the input ranges that the power supply can use. |
| **InputType** | string (enum) | read-only (null) | The Input type (AC or DC).<br>*See InputType in Property Details, below, for the possible values of this property.* |
| **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.<br>*See LineInputVoltageType in Property Details, below, for the possible values of this property.* |
| **Location** *(v1.5+)* { } | object | | The Location of the power supply. See the Location object for details on this property. |
| **Manufacturer** *(v1.1+)* | string | read-only (null) | This is the manufacturer of this power supply. |
| **MemberId** | string | read-only | This is 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 (enum) | read-only (null) | The Power Supply type (AC or DC).<br>*See PowerSupplyType in Property Details, below, for the possible values of this property.* |
| **Redundancy** [ { | array | read-write | 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 | The unique identifier for a resource. |
| **RelatedItem** [ { | array | read-write | 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 | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

| | | | |
|---|---|---|---|
| **Redundancy** [ { | array | read-write | Redundancy information for the power subsystem of this system or device. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **Voltages** [ { | array | read-write | This is the definition for voltage sensors. |
| **@odata.id** | string | read-only | The unique identifier for a resource. |
| **Actions** *(v1.3+)* { } | object | | The available actions for this resource. |
| **LowerThresholdCritical** | number (Volts) | read-only (null) | Below normal range but not yet fatal. |
| **LowerThresholdFatal** | number (Volts) | read-only (null) | Below normal range and is fatal. |
| **LowerThresholdNonCritical** | number (Volts) | read-only (null) | Below normal range. |
| **MaxReadingRange** | number (Volts) | read-only (null) | Maximum value for this Voltage sensor. |
| **MemberId** | string | read-only | This is the identifier for the member within the collection. |
| **MinReadingRange** | number (Volts) | read-only (null) | Minimum value for this Voltage 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 | Describes the area or device to which this voltage measurement applies.<br>*See PhysicalContext in Property Details, below, for the possible values of this property.* |
| **ReadingVolts** | number (Volts) | read-only (null) | The present reading of the voltage sensor. |
| **RelatedItem** [ { | array | read-only | Describes the areas or devices to which this voltage measurement applies. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **SensorNumber** | integer | read-only (null) | A numerical identifier to represent the voltage sensor. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **UpperThresholdCritical** | number (Volts) | read-only (null) | Above normal range but not yet fatal. |
| **UpperThresholdFatal** | number (Volts) | read-only (null) | Above normal range and is fatal. |
| **UpperThresholdNonCritical**<br>} ] | number (Volts) | read-only (null) | Above normal range. |

## Property Details

**IndicatorLED:**

The state of the indicator LED, used to identify 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 | AC 120V nominal input. |
| AC240V | AC 240V nominal input. |
| AC277V | AC 277V nominal input. |
| ACandDCWideRange | Wide range AC or DC input. |
| ACHighLine *(deprecated v1.3)* | 277V AC input. *Deprecated v1.3+. This value has been Deprecated in favor of AC277V.* |
| ACLowLine *(deprecated v1.3)* | 100-127V AC input. *Deprecated v1.3+. This value has been Deprecated in favor of AC120V.* |
| ACMidLine *(deprecated v1.3)* | 200-240V AC input. *Deprecated v1.3+. This value has been Deprecated in favor of AC240V.* |
| ACWideRange | Wide range AC input. |
| DC240V | 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:**

Describes the area or device to which this voltage measurement applies.

| string | Description |
|---|---|
| ASIC | An ASIC device, such as an FPGA or a GPGPU. |
| Back | The back of the chassis. |
| Backplane | A backplane within the chassis. |
| Chassis | The entire chassis. |
| ComputeBay | Within a compute bay. |
| CPU | A Processor (CPU). |
| Exhaust | The air exhaust point of the chassis. |
| ExpansionBay | Within an expansion bay. |
| Fan | A fan. |
| Front | The front of the chassis. |
| GPU | A Graphics Processor (GPU). |
| Intake | The air intake point 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. |
| NetworkBay | Within a networking bay. |
| NetworkingDevice | A networking device. |
| PowerSupply | A power supply. |
| PowerSupplyBay | Within a power supply bay. |
| Room | The room. |
| StorageBay | Within a storage bay. |
| StorageDevice | A storage device. |

| | |
|---|---|
| SystemBoard | The system board (PCB). |
| 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 | Power Supply supports both DC or AC. |
| DC | Direct Current (DC) power supply. |
| Unknown | The power supply type cannot be determined. |

## Example Response


```
{
    "@odata.type": "#Power.v1_5_1.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"
                }
            ]
        }
    ],
    "Oem": {},
    "@odata.context": "/redfish/v1/$metadata#Power.Power",
    "@odata.id": "/redfish/v1/Chassis/1U/Power"
}
```


## PrivilegeRegistry 1.1.2

This is the schema definition for Operation to Privilege mapping.

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Mappings** [ { | array | read-write | This property describes the mappings between entities and the relevant privileges used to access them. |
| **Entity** | string | read-only | Indicates entity name. e.g., Manager. |
| **OperationMap** { | object | | List mapping between HTTP method and privilege required for entity. |
| **DELETE** [ { | array | read-write | Indicates privilege required for HTTP DELETE operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **GET** [ { | array | read-write | Indicates privilege required for HTTP GET operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **HEAD** [ { | array | read-write | Indicates privilege required for HTTP HEAD operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **PATCH** [ { | array | read-write | Indicates privilege required for HTTP PATCH operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **POST** [ { | array | read-write | Indicates privilege required for HTTP POST operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **PUT** [ { | array | read-write | Indicates privilege required for HTTP PUT operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| } | | | |
| **PropertyOverrides** [ { | array | read-write | Indicates privilege overrides of property or element within a entity. |
| **OperationMap** { | object | (null) | List mapping between HTTP operation and privilege needed to perform operation. |
| **DELETE** [ { | array | read-write | Indicates privilege required for HTTP DELETE operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **GET** [ { | array | read-write | Indicates privilege required for HTTP GET operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |

| | | | |
|---|---|---|---|
| **HEAD** [ { | array | read-write | Indicates privilege required for HTTP HEAD operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **PATCH** [ { | array | read-write | Indicates privilege required for HTTP PATCH operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **POST** [ { | array | read-write | Indicates privilege required for HTTP POST operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **PUT** [ { | array | read-write | Indicates privilege required for HTTP PUT operation. |
| **Privilege** [ ] } ] } | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **Targets** [ ] } ] | array (string, null) | read-only | Indicates the URI or Entity. |
| **ResourceURIOverrides** [ { | array | read-write | Indicates privilege overrides of Resource URI. |
| **OperationMap** { | object | (null) | List mapping between HTTP operation and privilege needed to perform operation. |
| **DELETE** [ { | array | read-write | Indicates privilege required for HTTP DELETE operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **GET** [ { | array | read-write | Indicates privilege required for HTTP GET operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **HEAD** [ { | array | read-write | Indicates privilege required for HTTP HEAD operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **PATCH** [ { | array | read-write | Indicates privilege required for HTTP PATCH operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **POST** [ { | array | read-write | Indicates privilege required for HTTP POST operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **PUT** [ { | array | read-write | Indicates privilege required for HTTP PUT operation. |
| **Privilege** [ ] } ] } | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **Targets** [ ] } ] | array (string, null) | read-only | Indicates the URI or Entity. |
| **SubordinateOverrides** [ { | array | read-write | Indicates privilege overrides of subordinate resource. |
| **OperationMap** { | object | (null) | List mapping between HTTP operation and privilege needed to perform operation. |
| **DELETE** [ { | array | read-write | Indicates privilege required for HTTP DELETE operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **GET** [ { | array | read-write | Indicates privilege required for HTTP GET operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **HEAD** [ { | array | read-write | Indicates privilege required for HTTP HEAD operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **PATCH** [ { | array | read-write | Indicates privilege required for HTTP PATCH operation. |
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **POST** [ { | array | read-write | Indicates privilege required for HTTP POST operation. |

| | | | |
|---|---|---|---|
| **Privilege** [ ] } ] | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **PUT** [ { | array | read-write | Indicates privilege required for HTTP PUT operation. |
| **Privilege** [ ] } ] } | array (string) | read-only | Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type. |
| **Targets** [ ] } ] } ] | array (string, null) | read-only | Indicates the URI or Entity. |
| **OEMPrivilegesUsed** [ ] | array (string) | read-only | Lists the set of OEM Priviliges used in building this mapping. |
| **PrivilegesUsed** [ ] | array (string (enum)) | read-only | Lists the set of Redfish standard priviliges used in building this mapping.<br>*See PrivilegesUsed in Property Details, below, for the possible values of this property.* |

### Property Details

**PrivilegesUsed:**

Lists the set of Redfish standard priviliges used in building this mapping.

| string | Description |
|---|---|
| ConfigureComponents | Able to configure components managed by this service. |
| ConfigureManager | Able to configure Manager resources. |
| ConfigureSelf | Able to change the password for the current user Account. |
| ConfigureUsers | Able to configure Users and their Accounts. |
| Login | Able to log into the service and read resources. |

## Processor 1.3.1

This is the schema definition for the Processor resource. It represents the properties of a processor attached to a System.

**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/Systems/*{ComputerSystemId}*/Processors/*{ProcessorId}*

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Assembly** *(v1.2+)* { | object | | A reference to the Assembly resource 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. |
| **InstructionSet** | string (enum) | read-only (null) | The instruction set of the processor.<br>*See InstructionSet in Property Details, below, for the possible values of this property.* |
| **Links** *(v1.1+)* { | object | | Contains references to other resources that are related to this resource. |
| **Chassis** { | object | | A reference to the Chassis which 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. |
| **Oem** { } } | object | | See the OEM object definition in the Common properties section. |
| **Location** *(v1.2+)* { } | object | | The Location of the processor. See the Location object for details on this property. |
| **Manufacturer** | string | read-only (null) | The processor manufacturer. |
| **MaxSpeedMHz** | integer (MHz) | read-only (null) | The maximum clock speed of the processor. |
| **Model** | string | read-only (null) | The product model number of this device. |
| **ProcessorArchitecture** | string | read-only | The architecture of the processor. |

| | | | |
|---|---|---|---|
| | (enum) | (null) | *See ProcessorArchitecture in Property Details, below, for the possible values of this property.* |
| **ProcessorId** { | object | | 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 contents of the Identification Registers (CPUID) 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. |
| **ProcessorType** | string (enum) | read-only (null) | The type of processor.<br>*See ProcessorType in Property Details, below, for the possible values of this property.* |
| **Socket** | string | read-only (null) | The socket or location of the processor. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **SubProcessors** *(v1.3+)* { | object | | A reference to the collection of Sub-Processors 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. |
| **TotalCores** | integer | read-only (null) | The total number of cores contained in this processor. |
| **TotalThreads** | integer | read-only (null) | The total number of execution threads supported by this processor. |

## Property Details

**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. |
| x86 | x86 32-bit. |
| x86-64 | x86 64-bit. |

**ProcessorArchitecture:**

The architecture of the processor.

| string | Description |
|---|---|
| ARM | ARM. |
| IA-64 | Intel Itanium. |
| MIPS | MIPS. |
| OEM | OEM-defined. |
| 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 Central Processing Unit. |
| DSP | A Digital Signal Processor. |
| FPGA | A Field Programmable Gate Array. |
| GPU | A Graphics Processing Unit. |
| OEM | An OEM-defined Processing Unit. |
| Thread *(v1.3+)* | A Thread in a Processor. |

### Example Response


```
{
    "@odata.type": "#Processor.v1_3_1.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.context": "/redfish/v1/$metadata#Processor.Processor",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Processors/CPU1",
}
```


## ResourceBlock 1.2.0

This schema defines a Resource Block resource.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **CompositionStatus** { | object | required | This property describes the composition status details for this Resource Block. |
| **CompositionState** | string (enum) | read-only required (null) | This property represents the current state of the Resource Block from a composition perspective.<br>*See CompositionState in Property Details, below, for the possible values of this property.* |
| **MaxCompositions** *(v1.1+)* | integer | read-only (null) | The maximum number of compositions in which this Resource Block is capable of participating 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) | This represents if the Resource Block is reserved by any client. |
| **SharingCapable** *(v1.1+)* | boolean | read-only (null) | Indicates if this Resource Block is capable of participating in multiple compositions simultaneously. |
| **SharingEnabled** *(v1.1+)*<br>} | boolean | read-write (null) | Indicates if this Resource Block is allowed to participate in multiple compositions simultaneously. |
| **ComputerSystems** [ { | array | read-only | An array of references to the Computer Systems available in this Resource Block. |
| **@odata.id**<br>} ] | string | read-only | Link to a ComputerSystem resource. See the Links section and the ComputerSystem schema for details. |
| **EthernetInterfaces** [ { | array | read-only | An array of references to the Ethernet Interfaces available in this Resource Block. |
| **@odata.id**<br>} ] | string | read-only | Link to a EthernetInterface resource. See the Links section and the EthernetInterface schema for details. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Chassis** [ { | array | read-only | An array of references to the Chassis in which this Resource Block is contained. |
| **@odata.id**<br>} ] | string | read-only | Link to a Chassis resource. See the Links section and the Chassis schema for details. |
| **ComputerSystems** [ { | array | read-only | An array of references to the Computer Systems that are composed from this Resource Block. |

| | | | |
|---|---|---|---|
| **@odata.id**<br>} ] | 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 | read-only | An array of references to the Zones in which this Resource Block is bound. |
| **@odata.id**<br>} ]<br>} | string | read-only | Link to a Zone resource. See the Links section and the Zone schema for details. |
| **Memory** [ { | array | read-only | An array of references to the Memory available in this Resource Block. |
| **@odata.id**<br>} ] | string | read-only | Link to a Memory resource. See the Links section and the Memory schema for details. |
| **NetworkInterfaces** [ { | array | read-only | An array of references to the Network Interfaces available in this Resource Block. |
| **@odata.id**<br>} ] | string | read-only | Link to a NetworkInterface resource. See the Links section and the NetworkInterface schema for details. |
| **Processors** [ { | array | read-only | An array of references to the Processors available in this Resource Block. |
| **@odata.id**<br>} ] | string | read-only | Link to a Processor resource. See the Links section and the Processor schema for details. |
| **ResourceBlockType** [ ] | array (string (enum)) | read-only | This property represents the types of resources available on this Resource Block.<br>*See ResourceBlockType in Property Details, below, for the possible values of this property.* |
| **SimpleStorage** [ { | array | read-only | An array of references to the Simple Storage available in this Resource Block. |
| **@odata.id**<br>} ] | string | read-only | Link to a SimpleStorage resource. See the Links section and the SimpleStorage schema for details. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Storage** [ { | array | read-only | An array of references to the Storage available in this Resource Block. |
| **@odata.id**<br>} ] | string | read-only | Link to a Storage resource. See the Links section and the Storage schema for details. |

## Property Details

**CompositionState:**

This property represents the current state of the Resource Block from a composition perspective.

| string | Description |
|---|---|
| Composed | Final successful state of a Resource Block which has participated in composition. |
| ComposedAndAvailable *(v1.1+)* | Indicates the Resource Block is currently participating in one or more compositions, and is available to be used 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+)* | Indicates the Resource Block has been made unavailable by the service, such as due to maintenance being performed on the Resource Block. |
| Unused | Indicates the Resource Block is free and can participate in composition. |

**ResourceBlockType:**

This property represents the types of resources available on this Resource Block.

| string | Description |
|---|---|
| Compute | This Resource Block contains both Processor and Memory resources in a manner that creates a compute complex. |
| ComputerSystem | This Resource Block contains ComputerSystem resources. |
| Expansion *(v1.2+)* | 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 Memory resources. |
| Network | This Resource Block contains Network resources, such as Ethernet Interfaces. |
| Processor | This Resource Block contains Processor resources. |
| Storage | This Resource Block contains Storage resources, such as Storage and Simple Storage. |

## Example Response

```
{
    "@odata.type": "#ResourceBlock.v1_2_0.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/Processors/Block1CPU0"
        },
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Processors/Block1CPU1"
        }
    ],
    "Memory": [
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Memory/Block1DIMM0"
        },
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Memory/Block1DIMM1"
        },
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Memory/Block1DIMM2"
        },
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/Memory/Block1DIMM3"
        }
    ],
    "Storage": [],
    "SimpleStorage": [],
    "EthernetInterfaces": [
        {
            "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1/EthernetInterfaces/Block1OnboardNIC"
        }
    ],
    "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.context": "/redfish/v1/$metadata#ResourceBlock.ResourceBlock",
    "@odata.id": "/redfish/v1/CompositionService/ResourceBlocks/ComputeBlock1"
}
```


## Role 1.2.2

This resource defines a user role to be used in conjunction with a Manager Account.

**URIs:**

/redfish/v1/AccountService/Roles/*{RoleId}*

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **AssignedPrivileges** [ ] | array (string (enum)) | read-write | The redfish privileges that this role includes.<br>*See AssignedPrivileges in Property Details, below, for the possible values of this property.* |
| **IsPredefined** | boolean | read-only | This property is used to indicate if the Role is one of the Redfish Predefined Roles vs a Custom role. |
| **OemPrivileges** [ ] | array (string) | read-write | The OEM privileges that this role includes. |
| **RoleId** *(v1.2+)* | string | read-only<br>required on create | This property contains the name of the Role. |

### Property Details

**AssignedPrivileges:**

The redfish privileges that this role includes.

| string | Description |
|---|---|
| ConfigureComponents | Able to configure components managed by this service. |
| ConfigureManager | Able to configure Manager resources. |
| ConfigureSelf | Able to change the password for the current user Account. |
| ConfigureUsers | Able to configure Users and their Accounts. |

| | |
|---|---|
| Login | Able to log into the service and read resources. |

### Example Response

```
{
    "@odata.type": "#Role.v1_2_2.Role",
    "Id": "Administrator",
    "Name": "User Role",
    "Description": "Admin User Role",
    "IsPredefined": true,
    "AssignedPrivileges": [
        "Login",
        "ConfigureManager",
        "ConfigureUsers",
        "ConfigureSelf",
        "ConfigureComponents"
    ],
    "OemPrivileges": [
        "OemClearLog",
        "OemPowerControl"
    ],
    "@odata.context": "/redfish/v1/$metadata#Role.Role",
    "@odata.id": "/redfish/v1/AccountService/Roles/Administrator"
}
```

## SecureBoot 1.0.4

This resource contains UEFI Secure Boot information. It represents properties for managing the UEFI Secure Boot functionality of a system.

**URIs:**

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

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

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#SecureBoot.ResetKeys** { } } | object | | This action is used to reset the Secure Boot keys.<br>*For more information, see the Action Details section below.* |
| **SecureBootCurrentBoot** | string (enum) | read-only (null) | Secure Boot state during the current boot cycle.<br>*See SecureBootCurrentBoot in Property Details, below, for the possible values of this property.* |
| **SecureBootEnable** | boolean | read-write (null) | Enable or disable UEFI Secure Boot (takes effect on next boot). |
| **SecureBootMode** | string (enum) | read-only (null) | Current Secure Boot Mode.<br>*See SecureBootMode in Property Details, below, for the possible values of this property.* |

### Action Details

**ResetKeys**

This action is used to reset the Secure Boot keys.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **ResetKeysType** } | string (enum) | read-write | The type of keys to reset or delete.<br>*See ResetKeysType in Property Details, below, for the possible values of this property.* |

### 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. |
| 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. |

## SerialInterface 1.1.3

This schema defines an asynchronous serial interface resource.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **BitRate** | string (enum) | read-write | The receive and transmit rate of data flow, typically in bits-per-second (bps), over the serial connection.<br>*See BitRate in Property Details, below, for the possible values of this property.* |
| **ConnectorType** | string (enum) | read-only | The type of connector used for this interface.<br>*See ConnectorType in Property Details, below, for the possible values of this property.* |
| **DataBits** | string (enum) | read-write | The number of data bits that will follow the start bit over the serial connection.<br>*See DataBits in Property Details, below, for the possible values of this property.* |
| **FlowControl** | string (enum) | read-write | The type of flow control, if any, that will be imposed on the serial connection.<br>*See FlowControl in Property Details, below, for the possible values of this property.* |
| **InterfaceEnabled** | boolean | read-write (null) | This indicates whether this interface is enabled. |
| **Parity** | string (enum) | read-write | The type of parity used by the sender and receiver in order to detect errors over the serial connection.<br>*See Parity in Property Details, below, for the possible values of this property.* |
| **PinOut** | string (enum) | read-only (null) | The physical pin configuration needed for a serial connector.<br>*See PinOut in Property Details, below, for the possible values of this property.* |
| **SignalType** | string (enum) | read-only | The type of signal used for the communication connection - RS232 or RS485.<br>*See SignalType in Property Details, below, for the possible values of this property.* |
| **StopBits** | string (enum) | read-write | The period of time before the next start bit is transmitted.<br>*See StopBits in Property Details, below, for the possible values of this property.* |

### 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 will follow the start bit over the serial connection.

| string | Description |
|---|---|
| 5 | 5 bits of data following the start bit. |
| 6 | 6 bits of data following the start bit. |
| 7 | 7 bits of data following the start bit. |
| 8 | 8 bits of data following the start bit. |

**FlowControl:**

The type of flow control, if any, that will be 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 in order 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 pin configuration needed for a serial connector.

| string | Description |
|---|---|
| Cisco | The Cisco pin configuration. |
| Cyclades | The Cyclades pin configuration. |
| Digi | The Digi pin configuration. |

**SignalType:**

The type of signal used for the communication connection - RS232 or RS485.

| 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 | 1 stop bit following the data bits. |
| 2 | 2 stop bits following the data bits. |

## Example Response


```
{
    "@odata.type": "#SerialInterface.v1_1_3.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.context": "/redfish/v1/$metadata#SerialInterface.SerialInterface",
    "@odata.id": "/redfish/v1/Managers/BMC/SerialInterfaces/TTY0"
}
```

## ServiceRoot 1.4.0

This object represents the root Redfish service.

**URIs:**

/redfish/v1/

| | | | |
|---|---|---|---|
| **AccountService** { | object | | This is a link to the Account Service. See the AccountService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a AccountService resource. See the Links section and the AccountService schema for details. |
| **Chassis** { | object | | This is a link to a collection of Chassis. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Chassis. See the Chassis schema for details. |
| **CompositionService** *(v1.2+)* { | object | | This is a link to the CompositionService. See the CompositionService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a CompositionService resource. See the Links section and the CompositionService schema for details. |
| **EventService** { | object | | This is a link to the EventService. See the EventService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a EventService resource. See the Links section and the EventService schema for details. |
| **Fabrics** *(v1.1+)* { | object | | A link to a collection of all fabric entities. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Fabric. See the Fabric schema for details. |
| **JobService** *(v1.4+)* { | object | | This is a link to the JobService. See the JobService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a JobService resource. See the Links section and the JobService schema for details. |
| **JsonSchemas** { | object | | This is a link to a collection of Json-Schema files. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of JsonSchemaFile. See the JsonSchemaFile schema for details. |
| **Links** { | object | required | Contains references to other resources that are related to this resource. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **Sessions** { | object | required | Link to a collection of Sessions. Contains a link to a resource. |
| **@odata.id**<br>}<br>} | string | read-only | Link to Collection of Session. See the Session schema for details. |
| **Managers** { | object | | This is a link to a collection of Managers. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Manager. See the Manager schema for details. |
| **Product** *(v1.3+)* | string | read-only | The product associated with this Redfish service. |
| **ProtocolFeaturesSupported** *(v1.3+)* { | object | | Contains information about protocol features supported by the service. |
| **ExcerptQuery** *(v1.4+)* | boolean | read-only | This indicates whether the 'excerpt' query parameter is supported. |
| **ExpandQuery** { | object | | Contains information about the use of $expand in the service. |
| **ExpandAll** | boolean | read-only | This indicates whether the $expand support of asterisk (expand all entries) is supported. |
| **Levels** | boolean | read-only | This indicates whether the expand support of the $levels qualifier is supported by the service. |
| **Links** | boolean | read-only | This indicates whether the $expand support of tilde (expand only entries in the Links section) is supported. |
| **MaxLevels** | integer | read-only | This indicates the maximum number value of the $levels qualifier in $expand operations. |
| **NoLinks**<br>} | boolean | read-only | This indicates whether the $expand support of period (expand only entries not in the Links section) is supported. |
| **FilterQuery** | boolean | read-only | This indicates whether the $filter query parameter is supported. |
| **OnlyMemberQuery** *(v1.4+)* | boolean | read-only | This indicates whether the 'only' query parameter is supported. |
| **SelectQuery** | boolean | read-only | This indicates whether the $select query parameter is supported. |

| | | | |
|---|---|---|---|
| } | | | |
| **RedfishVersion** | string | read-only | The version of the Redfish service. |
| **Registries** { | object | | This is a link to a collection of Registries. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of MessageRegistryFile. See the MessageRegistryFile schema for details. |
| **SessionService** { | object | | This is a link to the Sessions Service. See the SessionService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a SessionService resource. See the Links section and the SessionService schema for details. |
| **StorageServices** *(v1.1+)* | | read-only | A link to a collection of all storage service entities. |
| **StorageSystems** *(v1.1+)* | | read-only | This is a link to a collection of storage systems. |
| **Systems** { | object | | This is a link to a collection of Systems. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of ComputerSystem. See the ComputerSystem schema for details. |
| **Tasks** { | object | | This is a link to the Task Service. See the TaskService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a TaskService resource. See the Links section and the TaskService schema for details. |
| **TelemetryService** *(v1.4+)* { | object | | This is a link to the TelemetryService. See the TelemetryService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a TelemetryService resource. See the Links section and the TelemetryService schema for details. |
| **UpdateService** *(v1.1+)* { | object | | This is a link to the UpdateService. See the UpdateService schema for details on this property. |
| **@odata.id**<br>} | 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 200OK from an SSDP M-SEARCH request during discovery. |

### Example Response


```
{
    "@odata.type": "#ServiceRoot.v1_4_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.context": "/redfish/v1/$metadata#ServiceRoot.ServiceRoot",
    "@odata.id": "/redfish/v1/"
}
```


## Session 1.1.1

The Session resource describes a single connection (session) between a client and a Redfish service instance.

**URIs:**

/redfish/v1/SessionService/Sessions/*{SessionId}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Password** | string | read-only required on create (null) | This property is used in a POST to specify a password when creating a new session. This property is null on a GET. |
| **UserName** | string | read-only required on create (null) | The UserName for the account for this session. |

### Example Response

```
{
    "@odata.type": "#Session.v1_1_1.Session",
    "Id": "1234567890ABCDEF",
    "Name": "User Session",
    "Description": "Manager User Session",
    "UserName": "Administrator",
    "Oem": {},
    "@odata.context": "/redfish/v1/$metadata#Session.Session",
    "@odata.id": "/redfish/v1/SessionService/Sessions/1234567890ABCDEF"
}
```

## SessionService 1.1.4

This is the schema definition for the Session Service. It represents the properties for the service itself and has links to the actual list of sessions.

**URIs:**

/redfish/v1/SessionService

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **ServiceEnabled** | boolean | read-write (null) | This indicates whether this service is enabled. If set to false, the Session Service is disabled, and new sessions cannot be created, old sessions cannot be deleted, and established sessions may continue operating. |
| **Sessions** { | object | | Link to a collection of Sessions. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Session. See the Session schema for details. |
| **SessionTimeout** | integer (seconds) | read-write | This is the number of seconds of inactivity that a session may have before the session service closes the session due to inactivity. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Example Response

```
{
    "@odata.type": "#SessionService.v1_1_4.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.context": "/redfish/v1/$metadata#SessionService.SessionService",
    "@odata.id": "/redfish/v1/SessionService"
}
```

## SimpleStorage 1.2.1

This is the schema definition for the Simple Storage resource. It 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/Systems/*{ComputerSystemId}*/SimpleStorage/*{SimpleStorageId}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **Devices** [ { | array | read-write | The storage devices associated with this resource. |
| **CapacityBytes** *(v1.1+)* | integer (bytes) | read-only (null) | The size 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 | The name of the resource or array element. |

| | | | |
|---|---|---|---|
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **Status** { } } ] | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Links** *(v1.2+)* { | object | | Contains references to other resources that are related to this resource. |
| **Chassis** { | object | | A reference to the Chassis which 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 | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **UefiDevicePath** | string | read-only (null) | The UEFI device path used to access this storage controller. |

### Example Response

```
{
    "@odata.type": "#SimpleStorage.v1_2_1.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": "Degraded"
            }
        },
        {
            "Name": "SATA Bay 3",
            "Status": {
                "State": "Absent"
            }
        },
        {
            "Name": "SATA Bay 4",
            "Status": {
                "State": "Absent"
            }
        }
    ],
    "@odata.context": "/redfish/v1/$metadata#SimpleStorage.SimpleStorage",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/SimpleStorage/1"
}
```

## SoftwareInventory 1.2.1

This schema defines an inventory of software components.

**URIs:**

/redfish/v1/UpdateService/FirmwareInventory/*{SoftwareInventoryId}*

/redfish/v1/UpdateService/SoftwareInventory/*{SoftwareInventoryId}*

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |
| **LowestSupportedVersion** *(v1.1+)* | string | read-only (null) | A string representing the lowest supported version of this software. |
| **Manufacturer** *(v1.2+)* | string | read-only (null) | A string representing the manufacturer/producer of this software. |
| **RelatedItem** *(v1.1+)* [ { | array | read-only | The ID(s) 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) | Release date of this software. |
| **SoftwareId** *(v1.1+)* | string | read-only | A string representing the implementation-specific ID for identifying this software. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

| | | | |
|---|---|---|---|
| **UefiDevicePaths** *(v1.1+)* [ ] | array (string, null) | read-only | A list of strings representing the UEFI Device Path(s) of the component(s) associated with this software inventory item. |
| **Updateable** | boolean | read-only (null) | Indicates whether this software can be updated by the update service. |
| **Version** | string | read-only (null) | A string representing the version of this software. |

### Example Response

```
{
    "@odata.type": "#SoftwareInventory.v1_2_1.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.context": "/redfish/v1/$metadata#SoftwareInventory.SoftwareInventory",
    "@odata.id": "/redfish/v1/UpdateService/FirmwareInventory/BMC"
}
```

## Storage 1.5.0

This schema defines a storage subsystem and its respective properties. A storage subsystem represents a set of storage controllers (physical or virtual) 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/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Storage.SetEncryptionKey** { } } | object | | This action is used to set the encryption key for the storage subsystem.<br>*For more information, see the Action Details section below.* |
| **Drives** [ { | array | read-only | The set of drives attached to the storage controllers represented by this resource. |
| **@odata.id** } ] | string | read-only | Link to a Drive resource. See the Links section and the Drive schema for details. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Enclosures** [ { | array | read-only | An array of references 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 | read-write | Redundancy information for the storage subsystem. |
| **@odata.id** } ] | string | read-only | The unique identifier for a resource. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **StorageControllers** [ { | array | read-only | The set of storage controllers represented by this resource. |
| **@odata.id** *(v1.5+)* | string | read-only | The unique identifier for a resource. |
| **Actions** *(v1.2+)* { } | object | | The available actions for this resource. |
| **Assembly** *(v1.4+)* { | object | | A reference to the Assembly resource 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** *(v1.1+)* | string | read-write (null) | The user assigned asset tag for this storage controller. |

| | | | |
|---|---|---|---|
| **CacheSummary** *(v1.5+)* { | object | | This object describes 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 | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **TotalCacheSizeMiB** } | integer (mebibytes) | read-only required (null) | The total configured cache memory, measured in MiB. |
| **FirmwareVersion** *(v1.1+)* | string | read-only (null) | The firmware version of this storage Controller. |
| **Identifiers** [ { } ] | array (object) | | The Durable names for the storage controller. This type describes any additional identifiers for a resource. See the Identifier object for details on this property. |
| **Links** *(v1.1+)* { | object | | Contains references to other resources that are related to this resource. |
| **Endpoints** [ { | array | read-write | An array of references 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. |
| **StorageServices** *(v1.4+)* [ { | array | read-write | An array of references to the StorageServices that connect to this controller. |
| } ] } | | read-write | |
| **Location** *(v1.4+)* { } | object | | The Location of the storage controller. See the Location object for details on this property. |
| **Manufacturer** *(v1.1+)* | string | read-only (null) | This is the manufacturer of this storage controller. |
| **MemberId** *(v1.1+)* | string | read-only | This is the identifier for the member within the collection. |
| **Model** *(v1.1+)* | string | read-only (null) | This is the model number for the storage controller. |
| **Name** *(v1.3+)* | string | read-only (null) | The name of the Storage Controller. |
| **Oem** *(v1.1+)* { } | object | | See the OEM object definition in the Common properties section. |
| **PartNumber** *(v1.1+)* | string | read-only (null) | The part number for this storage controller. |
| **PCIeInterface** *(v1.5+)* { | object | (null) | The PCIe interface details for this controller. See the PCIeDevice schema for details on this property. |
| **@odata.id** } | string | read-only | Link to a PCIeInterface resource. See the Links section and the PCIeDevice schema for details. |
| **SerialNumber** *(v1.1+)* | string | read-only (null) | The serial number for this storage controller. |
| **SKU** *(v1.1+)* | string | read-only (null) | This is the SKU for this storage controller. |
| **SpeedGbps** *(v1.1+)* | number (Gbit/s) | read-only (null) | The maximum speed of the storage controller's device interface. |
| **Status** *(v1.1+)* { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **SupportedControllerProtocols** [ ] | array (string (enum)) | read-only | This represents the protocols by which this storage controller can be communicated to. *See SupportedControllerProtocols in Property Details, below, for the possible values of this property.* |
| **SupportedDeviceProtocols** [ ] } ] | array (string (enum)) | read-only | This represents the protocols which the storage controller can use to communicate with attached devices. *See SupportedDeviceProtocols in Property Details, below, for the possible values of this property.* |
| **Volumes** { | object | | The set of volumes produced by the storage controllers represented by this resource. Contains a link to a resource. |
| **@odata.id** } | string | read-only | Link to Collection of Volume. See the Volume schema for details. |

## Action Details

**SetEncryptionKey**

This action is used to set the encryption key for the storage subsystem.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **EncryptionKey** | string | read-write required | The encryption key to set on the storage subsytem. |
| } | | | |

## Property Details

**SupportedControllerProtocols:**

This represents the protocols by which this storage controller can be communicated to.

| string | Description |
|---|---|
| AHCI | Advanced Host Controller Interface. |
| FC | Fibre Channel. |
| FCoE | Fibre Channel over Ethernet. |
| FCP | Fibre Channel Protocol for SCSI. |
| FICON | FIbre CONnection (FICON). |
| FTP | File Transfer Protocol. |
| HTTP | Hypertext Transport Protocol. |
| HTTPS | Secure Hypertext Transport Protocol. |
| I2C | Inter-Integrated Circuit Bus. |
| iSCSI | Internet SCSI. |
| iWARP | Internet Wide Area Remote Direct Memory Access Protocol. |
| NFSv3 | Network File System version 3. |
| NFSv4 | Network File System version 4. |
| NVMe | Non-Volatile Memory Express. |
| 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 | Secure File Transfer Protocol. |
| SMB | Server Message Block (aka CIFS Common Internet File System). |
| UHCI | Universal Host Controller Interface. |
| USB | Universal Serial Bus. |

**SupportedDeviceProtocols:**

This represents the protocols which the storage controller can use to communicate with attached devices.

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

| | |
|---|---|
| I2C | Inter-Integrated Circuit Bus. |
| iSCSI | Internet SCSI. |
| iWARP | Internet Wide Area Remote Direct Memory Access Protocol. |
| NFSv3 | Network File System version 3. |
| NFSv4 | Network File System version 4. |
| NVMe | Non-Volatile Memory Express. |
| 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 | Secure File Transfer Protocol. |
| SMB | Server Message Block (aka CIFS Common Internet File System). |
| UHCI | Universal Host Controller Interface. |
| USB | Universal Serial Bus. |

### Example Response


```
{
    "@odata.type": "#Storage.v1_5_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.SetEncryptionKey"
        }
    },
    "@odata.context": "/redfish/v1/$metadata#Storage.Storage",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1"
}
```


## Switch 1.1.1

Switch contains properties describing a simple fabric switch.

**URIs:**

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Switch.Reset** { } } | object | | This action is used to reset this switch.<br>*For more information, see the Action Details section below.* |
| **AssetTag** | string | read-write (null) | The user assigned asset tag for this switch. |
| **DomainID** | integer | read-only (null) | The Domain ID for this switch. |
| **IndicatorLED** | string (enum) | read-write (null) | The state of the indicator LED, used to identify the switch.<br>*See IndicatorLED in Property Details, below, for the possible values of this property.* |
| **IsManaged** | boolean | read-write (null) | This indicates whether the switch is in a managed or unmanaged state. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Chassis** { | object | | A reference to the chassis which 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. |
| **ManagedBy** [ { | array | read-only | An array of references 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. See the Location object for details on this property. |
| **LogServices** { | object | (null) | A reference 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) | This is 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 | | A collection of references to the 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) | This is the current power state of the switch.<br>*See PowerState in Property Details, below, for the possible values of this property.* |
| **Redundancy** [ { | array | read-write | Redundancy information for the switches. |
| **@odata.id** } ] | string | read-only | The unique identifier for a resource. |
| **SerialNumber** | string | read-only (null) | The serial number for this switch. |
| **SKU** | string | read-only (null) | This is the SKU for this switch. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **SwitchType** | string (enum) | read-only (null) | The protocol being sent over this switch.<br>*See SwitchType in Property Details, below, for the possible values of this property.* |
| **TotalSwitchWidth** | integer | read-only (null) | The total number of lanes, phys, or other physical transport links that this switch contains. |

## Action Details

**Reset**

This action is used to reset this switch.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **ResetType** | string | read-write | The type of reset to be performed. |

| | | | |
|---|---|---|---|
| } | (enum) | | *See ResetType in Property Details, below, for the possible values of this property.* |

## Property Details

**IndicatorLED:**

The state of the indicator LED, used to identify the switch.

| string | Description |
|---|---|
| Blinking | The Indicator LED is blinking. |
| Lit | The Indicator LED is lit. |
| Off | The Indicator LED is off. |

**PowerState:**

This is 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 to be performed.

| string | Description |
|---|---|
| ForceOff | Turn the unit off immediately (non-graceful shutdown). |
| ForceOn | Turn the unit on immediately. |
| ForceRestart | Perform an immediate (non-graceful) shutdown, followed by a restart. |
| GracefulRestart | Perform a graceful shutdown followed by a restart of the system. |
| GracefulShutdown | Perform a graceful shutdown and power off. |
| Nmi | Generate a Diagnostic Interrupt (usually an NMI on x86 systems) to cease normal operations, perform diagnostic actions and typically halt the system. |
| On | Turn the unit on. |
| PowerCycle | Perform a power cycle of the unit. |
| PushPowerButton | Simulate the pressing of the physical power button on this unit. |

**SwitchType:**

The protocol being sent over this switch.

| string | Description |
|---|---|
| AHCI | Advanced Host Controller Interface. |
| FC | Fibre Channel. |
| FCoE | Fibre Channel over Ethernet. |
| FCP | Fibre Channel Protocol for SCSI. |
| FICON | FIbre CONnection (FICON). |
| FTP | File Transfer Protocol. |
| HTTP | Hypertext Transport Protocol. |
| HTTPS | Secure Hypertext Transport Protocol. |
| I2C | Inter-Integrated Circuit Bus. |
| iSCSI | Internet SCSI. |
| iWARP | Internet Wide Area Remote Direct Memory Access Protocol. |
| NFSv3 | Network File System version 3. |
| NFSv4 | Network File System version 4. |
| NVMe | Non-Volatile Memory Express. |
| 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 | Secure File Transfer Protocol. |
| SMB | Server Message Block (aka CIFS Common Internet File System). |
| UHCI | Universal Host Controller Interface. |
| USB | Universal Serial Bus. |

### Example Response


```
{
    "@odata.type": "#Switch.v1_1_1.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.context": "/redfish/v1/$metadata#Switch.Switch",
    "@odata.id": "/redfish/v1/Fabrics/SAS/Switches/Switch1"
}
```


## Task 1.3.0

This resource contains information about a specific Task scheduled by or being executed by a Redfish service's Task Service.

**URIs:**

/redfish/v1/TaskService/Tasks/*{TaskId}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **EndTime** | string | read-only | The date-time stamp that the task was last completed. |
| **HidePayload** *(v1.3+)* | boolean | read-only | Indicates that the contents of the Payload should be hidden from view after the Task has been created. When set to True, the Payload object will not be returned on GET. |
| **Messages** [ { } ] | array (object) | | This is an array of messages associated with the task. This type describes a Message returned by the Redfish service. See the Message object for details on this property. |
| **Payload** *(v1.3+)* { | object | | The HTTP and JSON payload details for this task. |
| **HttpHeaders** [ ] | array (string) | read-only | This represents the HTTP headers used in the operation of this Task. |

| | | | |
|---|---|---|---|
| **HttpOperation** | string | read-only | The HTTP operation to perform to execute this Task. |
| **JsonBody** | string | read-only | This property contains the JSON payload to use in the execution of this Task. |
| **TargetUri**<br>} | string | read-only | The URI of the target for this task. |
| **StartTime** | string | read-only | The date-time stamp that the task was last 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.<br>*See TaskState in Property Details, below, for the possible values of this property.* |
| **TaskStatus** | string (enum) | read-only | This is the completion status of the task.<br>*See TaskStatus in Property Details, below, for the possible values of this property.* |

### 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 has completed. |
| Exception | Task has stopped due to an exception condition. |
| Interrupted | Task has been interrupted. |
| Killed *(deprecated v1.2)* | Task was terminated. *Deprecated v1.2+. This value has been deprecated and is being replaced by the value Cancelled 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:**

This is the completion status of the task.

| string | Description |
|---|---|
| Critical | A critical condition exists that requires immediate attention. |
| OK | Normal. |
| Warning | A condition exists that requires attention. |

### Example Response

```
{
    "@odata.type": "#Task.v1_3_0.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 value",
            "MessageArgs": [
                "SKU"
            ],
            "Severity": "Warning"
        }
    ],
    "@odata.context": "/redfish/v1/$metadata#Task.Task",
    "@odata.id": "/redfish/v1/TaskService/Tasks/545"
}
```

## TaskService 1.1.2

This is the schema definition for the Task Service. It represents the properties for the service itself and has links to the actual list of tasks.

**URIs:**

/redfish/v1/TaskService

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **CompletedTaskOverWritePolicy** | string (enum) | read-only | Overwrite policy of completed tasks.<br>*See CompletedTaskOverWritePolicy in Property Details, below, for the possible values of this property.* |
| **DateTime** | string | read-only (null) | The current DateTime (with offset) setting that the task service is using. |
| **LifeCycleEventOnTaskStateChange** | boolean | read-only | Send an Event upon Task State Change. |
| **ServiceEnabled** | boolean | read-write (null) | This indicates whether this service is enabled. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Tasks** { | object | | References to the Tasks collection. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Task. See the Task schema for details. |

### Property Details

**CompletedTaskOverWritePolicy:**

Overwrite policy of completed tasks.

| string | Description |
|---|---|
| Manual | Completed tasks are not automatically overwritten. |
| Oldest | Oldest completed tasks are overwritten. |

### Example Response

```
{
    "@odata.type": "#TaskService.v1_1_2.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.context": "/redfish/v1/$metadata#TaskService.TaskService",
    "@odata.id": "/redfish/v1/TaskService"
}
```

## TelemetryService 1.0.0

This is the schema definition for the Metrics Service. It represents the properties for the service itself and has links to collections of metric definitions and metric report definitions.

**URIs:**

/redfish/v1/TelemetryService

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#TelemetryService.SubmitTestMetricReport** { }<br>} | object | | This action is used to generate a metric report.<br>*For more information, see the Action Details section below.* |
| **LogService** { | object | | This is a reference to a Log Service used by the Telemetry Service. See the LogService schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a LogService resource. See the Links section and the LogService schema for details. |
| **MaxReports** | integer | read-only (null) | The maximum number of metric reports supported by this service. |
| **MetricDefinitions** { | object | | A link to the collection of Metric Definitions. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of MetricDefinition. See the MetricDefinition schema for details. |
| **MetricReportDefinitions** { | object | | A 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 | | A link to the collection of Metric Reports. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of MetricReport. See the MetricReport schema for details. |
| **MinCollectionInterval** | string | read-only (null) | The minimum time interval between collections supported by this service. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **SupportedCollectionFunctions** [ ] | array (string (enum)) | read-write (null) | The functions that can be performed over each metric. An operation to perform over the sample.<br>*See SupportedCollectionFunctions in Property Details, below, for the possible values of this property.* |
| **Triggers** { | object | | A link to the collection of Triggers, which apply to metrics. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of Triggers. See the Triggers schema for details. |

### Action Details

**SubmitTestMetricReport**

This action is used to generate a metric report.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **MetricReportName** | string | read-write required | The Name property of the metric report in generated metric report. |
| **MetricReportValues**<br>} | string | read-write required | The content of MetricReportValues array in generated metric report. |

### 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_0_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.context": "/redfish/v1/$metadata#TelemetryService",
    "@odata.id": "/redfish/v1/TelemetryService"
}
```


## Thermal 1.5.0

This is the schema definition for the Thermal properties. It represents the properties for Temperature and Cooling.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.3+)* { } | object | | The available actions for this resource. |
| **Fans** [ { | array | read-write | This is the definition for fans. |
| **@odata.id** *(v1.5+)* | string | read-only | The unique identifier for a resource. |
| **Actions** *(v1.3+)* { } | object | | The available actions for this resource. |
| **Assembly** *(v1.4+)* { | object | | A reference to the Assembly resource associated with this fan. See the Assembly schema for details on this property. |
| **@odata.id**<br>} | string | read-only | Link to a Assembly resource. See the Links section and the Assembly schema for details. |
| **FanName** *(deprecated v1.2)* | string | read-only (null) | Name of the fan. *Deprecated v1.2+. This property has been Deprecated in favor of Thermal.v1_1_0.Thermal.Fan.Name* |
| **HotPluggable** *(v1.4+)* | boolean | read-only (null) | Indicates if 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, used to identify this Fan.<br>*See IndicatorLED in Property Details, below, for the possible values of this property.* |
| **Location** *(v1.4+)* { } | object | | The Location of the fan. See the Location object for details on this property. |
| **LowerThresholdCritical** | integer | read-only (null) | Below normal range but not yet fatal. |
| **LowerThresholdFatal** | integer | read-only (null) | Below normal range and is fatal. |
| **LowerThresholdNonCritical** | integer | read-only (null) | Below normal range. |
| **Manufacturer** *(v1.2+)* | string | read-only (null) | This is the manufacturer of this Fan. |
| **MaxReadingRange** | integer | read-only (null) | Maximum value for Reading. |
| **MemberId** | string | read-only | This is the identifier for the member within the collection. |
| **MinReadingRange** | integer | read-only (null) | Minimum value for Reading. |
| **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 | Describes the area or device associated with this fan.<br>*See PhysicalContext in Property Details, below, for the possible values of this property.* |
| **Reading** | integer | read-only (null) | Current fan speed. |
| **ReadingUnits** *(v1.1+)* | string (enum) | read-only (null) | Units in which the reading and thresholds are measured.<br>*See ReadingUnits in Property Details, below, for the possible values of this property.* |
| **Redundancy** [ { | array | read-write | 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**<br>} ] | string | read-only | The unique identifier for a resource. |
| **RelatedItem** [ { | array | read-only | The ID(s) of the resources serviced with this fan. |
| **@odata.id**<br>} ] | string | read-only | The unique identifier for a resource. |
| **SensorNumber** *(v1.5+)* | integer | read-only (null) | A numerical identifier to represent the 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 | | This property describes the status and health of the resource and its children. See |

| | | | |
|---|---|---|---|
| | | | the Status object for details on this property. |
| **UpperThresholdCritical** | integer | read-only (null) | Above normal range but not yet fatal. |
| **UpperThresholdFatal** | integer | read-only (null) | Above normal range and is fatal. |
| **UpperThresholdNonCritical** } ] | integer | read-only (null) | Above normal range. |
| **Redundancy** [ { | array | read-write | This structure is used to show redundancy for fans. The Component ids will reference the members of the redundancy groups. |
| **@odata.id** } ] | string | read-only | The unique identifier for a resource. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **Temperatures** [ { | array | read-write | This is the definition for temperature sensors. |
| **@odata.id** *(v1.5+)* | string | read-only | 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 | Describes the area or device to which the DeltaReadingCelsius temperature measurement applies, relative to PhysicalContext. *See DeltaPhysicalContext in Property Details, below, for the possible values of this property.* |
| **DeltaReadingCelsius** *(v1.4+)* | number (Celsius) | read-only (null) | Delta Temperature reading. |
| **LowerThresholdCritical** | number (Celsius) | read-only (null) | Below normal range but not yet fatal. |
| **LowerThresholdFatal** | number (Celsius) | read-only (null) | Below normal range and is fatal. |
| **LowerThresholdNonCritical** | number (Celsius) | read-only (null) | Below normal 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 ReadingCelsius. |
| **MemberId** | string | read-only | This is 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 ReadingCelsius. |
| **Name** | string | read-only (null) | Temperature sensor name. |
| **Oem** { } | object | | See the OEM object definition in the Common properties section. |
| **PhysicalContext** | string (enum) | read-only | Describes the area or device to which this temperature measurement applies. *See PhysicalContext in Property Details, below, for the possible values of this property.* |
| **ReadingCelsius** | number (Celsius) | read-only (null) | Temperature. |
| **RelatedItem** [ { | array | read-only | Describes the areas or devices to which this temperature measurement applies. |
| **@odata.id** } ] | string | read-only | The unique identifier for a resource. |
| **SensorNumber** | integer | read-only (null) | A numerical identifier to represent the temperature sensor. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **UpperThresholdCritical** | number (Celsius) | read-only (null) | Above normal range but not yet fatal. |

| | | | |
|---|---|---|---|
| **UpperThresholdFatal** | number (Celsius) | read-only (null) | Above normal range and is fatal. |
| **UpperThresholdNonCritical** } ] | number (Celsius) | read-only (null) | Above normal range. |

## Property Details

**DeltaPhysicalContext:**

Describes the area or device to which the DeltaReadingCelsius temperature measurement applies, relative to PhysicalContext.

| string | Description |
|---|---|
| ASIC | An ASIC device, such as an FPGA or a GPGPU. |
| Back | The back of the chassis. |
| Backplane | A backplane within the chassis. |
| Chassis | The entire chassis. |
| ComputeBay | Within a compute bay. |
| CPU | A Processor (CPU). |
| Exhaust | The air exhaust point of the chassis. |
| ExpansionBay | Within an expansion bay. |
| Fan | A fan. |
| Front | The front of the chassis. |
| GPU | A Graphics Processor (GPU). |
| Intake | The air intake point 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. |
| NetworkBay | Within a networking bay. |
| NetworkingDevice | A networking device. |
| PowerSupply | A power supply. |
| PowerSupplyBay | Within a power supply bay. |
| Room | The room. |
| StorageBay | Within a storage bay. |
| StorageDevice | A storage device. |
| SystemBoard | The system board (PCB). |
| Upper | The upper portion of the chassis. |
| VoltageRegulator | A voltage regulator device. |

**IndicatorLED:**

The state of the indicator LED, used to identify this Fan.

| string | Description |
|---|---|
| Blinking | The Indicator LED is blinking. |
| Lit | The Indicator LED is lit. |
| Off | The Indicator LED is off. |

**PhysicalContext:**

Describes the area or device to which this temperature measurement applies.

| string | Description |
|---|---|
| ASIC | An ASIC device, such as an FPGA or a GPGPU. |
| Back | The back of the chassis. |
| Backplane | A backplane within the chassis. |

| | |
|---|---|
| Chassis | The entire chassis. |
| ComputeBay | Within a compute bay. |
| CPU | A Processor (CPU). |
| Exhaust | The air exhaust point of the chassis. |
| ExpansionBay | Within an expansion bay. |
| Fan | A fan. |
| Front | The front of the chassis. |
| GPU | A Graphics Processor (GPU). |
| Intake | The air intake point 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. |
| NetworkBay | Within a networking bay. |
| NetworkingDevice | A networking device. |
| PowerSupply | A power supply. |
| PowerSupplyBay | Within a power supply bay. |
| Room | The room. |
| StorageBay | Within a storage bay. |
| StorageDevice | A storage device. |
| SystemBoard | The system board (PCB). |
| Upper | The upper portion of the chassis. |
| VoltageRegulator | A voltage regulator device. |

**ReadingUnits:**

Units in which the reading and thresholds are measured.

| string | Description |
|---|---|
| Percent | Indicates that the fan reading and thresholds are measured in percentage. |
| RPM | Indicates that the fan reading and thresholds are measured in rotations per minute. |

## Example Response


```
{
    "@odata.type": "#Thermal.v1_5_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,
            "UpperThresholdNonCritical": 30,
            "UpperThresholdCritical": 40,
            "UpperThresholdFatal": 50,
            "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.context": "/redfish/v1/$metadata#Thermal.Thermal",
    "@odata.id": "/redfish/v1/Chassis/1U/Thermal"
}
```


## Triggers 1.0.0

Triggers which apply to a list of metrics.

**URIs:**

/redfish/v1/TelemetryService/Triggers/*{TriggersId}*

| | | | |
|---|---|---|---|
| **Actions** { } | object | | The available actions for this resource. |

| | | | |
|---|---|---|---|
| **DiscreteTriggerCondition** | string (enum) | read-only (null) | Specifies the conditions when a discrete metric triggers.<br>*See DiscreteTriggerCondition in Property Details, below, for the possible values of this property.* |
| **DiscreteTriggers** [ { | array | read-write | List of discrete triggers. |
| **DwellTime** | string | read-write (null) | This time the trigger occurance persists before a trigger event has occurred. |
| **Name** | string | read-only (null) | The name of trigger. |
| **Severity** | string (enum) | read-write (null) | This property contains the value of the Severity property in the Event message.<br>*See Severity in Property Details, below, for the possible values of this property.* |
| **Value**<br>} ] | string | read-write (null) | The value of the discrete metric that constitutes a trigger occurance. |
| **MetricProperties** [ ] | array (string, null) | read-write | A collection of URI for the properties on which this metric definition is defined. |
| **MetricType** | string (enum) | read-only (null) | The type of trigger.<br>*See MetricType in Property Details, below, for the possible values of this property.* |
| **NumericThresholds** { | object | (null) | Specifies the thresholds when a numeric metric triggers. |
| **LowerCritical** { | object | (null) | Below normal range and requires attention. |
| **Activation** | string (enum) | read-write (null) | The direction of crossing that activates this threshold.<br>*See Activation in Property Details, below, for the possible values of this property.* |
| **DwellTime** | string | read-write (null) | The time interval over which the sensor reading must have passed through this Threshold value before the threshold is considered to be violated. |
| **Reading**<br>} | number | read-write (null) | The threshold value. |
| **LowerWarning** { | object | (null) | Below normal range. |
| **Activation** | string (enum) | read-write (null) | The direction of crossing that activates this threshold.<br>*See Activation in Property Details, below, for the possible values of this property.* |
| **DwellTime** | string | read-write (null) | The time interval over which the sensor reading must have passed through this Threshold value before the threshold is considered to be violated. |
| **Reading**<br>} | number | read-write (null) | The threshold value. |
| **UpperCritical** { | object | (null) | Above normal range and requires attention. |
| **Activation** | string (enum) | read-write (null) | The direction of crossing that activates this threshold.<br>*See Activation in Property Details, below, for the possible values of this property.* |
| **DwellTime** | string | read-write (null) | The time interval over which the sensor reading must have passed through this Threshold value before the threshold is considered to be violated. |
| **Reading**<br>} | number | read-write (null) | The threshold value. |
| **UpperWarning** { | object | (null) | Above normal range. |
| **Activation** | string (enum) | read-write (null) | The direction of crossing that activates this threshold.<br>*See Activation in Property Details, below, for the possible values of this property.* |
| **DwellTime** | string | read-write (null) | The time interval over which the sensor reading must have passed through this Threshold value before the threshold is considered to be violated. |
| **Reading**<br>}<br>} | number | read-write (null) | The threshold value. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |
| **TriggerActions** [ ] | array (string (enum)) | read-only | This property specifies the actions to perform when the trigger occurs. Specifies the actions to perform when a trigger occurs.<br>*See TriggerActions in Property Details, below, for the possible values of this property.* |
| **Wildcards** [ { | array | read-write | Wildcards used to replace values in MetricProperties array property. |
| **Name** | string | read-only (null) | The name of Wildcard. |
| **Values** [ ]<br>} ] | array (string, null) | read-only | An array of values to substitute for the wildcard. |

**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:**

Specifies the conditions when a discrete metric triggers.

| string | Description |
|---|---|
| Changed | A discrete trigger occures whenever the value of the metric changes. |
| Specified | A discrete trigger occurs when the value of the metric becomes one of the values listed in the DiscreteTriggers property. |

**MetricType:**

The type of trigger.

| string | Description |
|---|---|
| Discrete | The trigger is for a discrete sensor. |
| Numeric | The trigger is for numeric sensor. |

**Severity:**

This property contains the value of the Severity property in the Event message.

| string | Description |
|---|---|
| Critical | A critical condition exists that requires immediate attention. |
| OK | Normal. |
| Warning | A condition exists that requires attention. |

**TriggerActions:**

This property specifies the actions to perform when the trigger occurs. Specifies the actions to perform when a trigger occurs.

| string | Description |
|---|---|
| LogToLogService | Upon a trigger, record in a log. |
| RedfishEvent | Upon a trigger, send a Redfish Event message of type MetricReport. |

## Example Response


```
{
    "@odata.type": "#Triggers.v1_0_0.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.context": "/redfish/v1/$metadata#Triggers.Triggers",
    "@odata.id": "/redfish/v1/TelemetryService/Triggers/PlatformPowerCapTriggers"
}
```


# UpdateService 1.3.0

This is the schema definition for the Update Service. It represents the properties for the service itself and has links to collections of firmware and software inventory.

**URIs:**

/redfish/v1/UpdateService

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#UpdateService.SimpleUpdate** { } | object | | This action is used to update software components. |

| | | | |
|---|---|---|---|
| } | | | *For more information, see the Action Details section below.* |
| **FirmwareInventory** { | object | (null) | An inventory of firmware. Contains a link to a resource. |
| **@odata.id**<br>} | 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. |
| **HttpPushUriTargets** *(v1.2+)* [ ] | array (string, null) | read-write | The array of URIs indicating the target for applying the update image. |
| **HttpPushUriTargetsBusy** *(v1.2+)* | boolean | read-write (null) | This represents if the HttpPushUriTargets property is reserved by any client. |
| **ServiceEnabled** | boolean | read-write (null) | This indicates whether this service is enabled. |
| **SoftwareInventory** { | object | (null) | An inventory of software. Contains a link to a resource. |
| **@odata.id**<br>} | string | read-only | Link to Collection of SoftwareInventory. See the SoftwareInventory schema for details. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

## Action Details

**SimpleUpdate**

This action is used to update software components.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **ImageURI** | string | read-write required | The URI of the software image to be installed. |
| **Targets** [ ] | array (string) | read-write | The array of URIs indicating where the update image is to be applied. |
| **TransferProtocol**<br>} | string (enum) | read-write | The network protocol used by the Update Service to retrieve the software image file located at the URI provided in ImageURI, if the URI does not contain a scheme.<br>*See TransferProtocol in Property Details, below, for the possible values of this property.* |

## Property Details

**TransferProtocol:**

The network protocol used by the Update Service 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 protocol. |
| FTP | File Transfer Protocol. |
| HTTP | Hypertext Transfer Protocol. |
| HTTPS | HTTP Secure protocol. |
| NFS *(v1.3+)* | Network File System protocol. |
| NSF *(deprecated v1.3)* | Network File System protocol. *Deprecated v1.3+. This value has been Deprecated in favor of NFS.* |
| OEM | A protocol defined by the manufacturer. |
| SCP | Secure File Copy protocol. |
| SFTP *(v1.1+)* | Secure File Transfer Protocol. |
| TFTP | Trivial File Transfer Protocol. |

## Example Response


```
{
    "@odata.type": "#UpdateService.v1_3_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.context": "/redfish/v1/$metadata#UpdateService.UpdateService",
    "@odata.id": "/redfish/v1/UpdateService"
}
```

## VirtualMedia 1.2.1

The VirtualMedia schema contains properties related to monitoring and control of an instance of virtual media such as a remote CD, DVD, or USB device. Virtual media functionality is provided by a Manager for a system or device.

**URIs:**

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { | object | | The available actions for this resource. |
| **#VirtualMedia.EjectMedia** *(v1.2+)* { } | object | | This action is used to detach remote media from virtual media.<br>*For more information, see the Action Details section below.* |
| **#VirtualMedia.InsertMedia** *(v1.2+)* { } } | object | | This action is used to attach remote media to virtual media.<br>*For more information, see the Action Details section below.* |
| **ConnectedVia** | string (enum) | read-only (null) | Current virtual media connection methods.<br>*See ConnectedVia in Property Details, below, for the possible values of this property.* |
| **Image** | string | read-write (null) | A URI providing the location of the selected image. |
| **ImageName** | string | read-only (null) | The current image name. |
| **Inserted** | boolean | read-write (null) | Indicates if virtual media is inserted in the virtual device. |
| **MediaTypes** [ ] | array (string (enum)) | read-only | This is the media types supported as virtual media.<br>*See MediaTypes in Property Details, below, for the possible values of this property.* |
| **WriteProtected** | boolean | read-write (null) | Indicates the media is write protected. |

### Action Details

**EjectMedia**

This action is used to detach remote media from virtual media.

(This action takes no parameters.)

**InsertMedia**

This action is used to attach remote media to virtual media.

The following table shows the parameters for the action which are included in the POST body to the URI shown in the "target" property of the Action.

| | | | |
|---|---|---|---|
| { | | | |
| **Image** | string | read-write required | The URI of the remote media to attach to the virtual media. |
| **Inserted** | boolean | read-write | Indicates if the image is to be treated as inserted upon completion of the action. |
| **WriteProtected** } | boolean | read-write | Indicates if the remote media is supposed to be treated as write protected. |

### Property Details

**ConnectedVia:**

Current virtual media connection methods.

| string | Description |
|---|---|
| Applet | Connected to a client application. |
| NotConnected | No current connection. |
| Oem | Connected via an OEM-defined method. |
| URI | Connected to a URI location. |

**MediaTypes:**

This is 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. |

### Example Response


```
{
    "@odata.type": "#VirtualMedia.v1_2_1.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.context": "/redfish/v1/$metadata#VirtualMedia.VirtualMedia",
    "@odata.id": "/redfish/v1/Managers/BMC/VirtualMedia/CD1"
}
```


## VLanNetworkInterface 1.1.2

This resource describes the attributes of a Virtual LAN.

**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/Systems/*{ComputerSystemId}*/EthernetInterfaces/*{EthernetInterfaceId}*/VLANs/*{VLanNetworkInterfaceId}*

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **VLANEnable** | boolean | read-write required on create (null) | This indicates if this VLAN is enabled. |
| **VLANId** | integer | read-write required on create (null) | This indicates the VLAN identifier for this VLAN. |

### Example Response


```
{
    "@odata.type": "#VLanNetworkInterface.v1_1_2.VLanNetworkInterface",
    "Id": "1",
    "Name": "VLAN Network Interface",
    "Description": "System NIC 1 VLAN",
    "VLANEnable": true,
    "VLANId": 101,
    "@odata.context": "/redfish/v1/$metadata#VLanNetworkInterface.VLanNetworkInterface",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/EthernetInterfaces/12446A3B0411/VLANs/1"
}
```


## Volume 1.0.3

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/Systems/*{ComputerSystemId}*/Storage/*{StorageId}*/Volumes/*{VolumeId}*

| | | | |
|---|---|---|---|
| **Actions** { | object | | The available actions for this resource. |
| **#Volume.Initialize** { } } | object | | This action is used to prepare the contents of the volume for use by the system.<br>*For more information, see the Action Details section below.* |
| **BlockSizeBytes** | number (bytes) | read-only (null) | The size of the smallest addressible unit (Block) of this volume in bytes. |
| **CapacityBytes** | number (bytes) | read-only (null) | The size in bytes of this Volume. |
| **Encrypted** | boolean | read-write (null) | Is this Volume encrypted. |
| **EncryptionTypes** [ ] | array (string (enum)) | read-write | The types of encryption used by this Volume.<br>*See EncryptionTypes in Property Details, below, for the possible values of this property.* |
| **Identifiers** [ { } ] | array (object) | | The Durable names for the volume. See the Identifier object (v1.1.0) for details on this property. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Drives** [ { | array | read-only | 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. |
| **Operations** [ { | array | read-write | 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** } ] | number | read-only (null) | The percentage of the operation that has been completed. |
| **OptimumIOSizeBytes** | number (bytes) | read-only (null) | The size in bytes of this Volume's optimum IO size. |
| **Status** { } | object | | This type describes the status and health of a resource and its children. See the Status object for details on this property. |
| **VolumeType** | string (enum) | read-only (null) | The type of this volume.<br>*See VolumeType in Property Details, below, for the possible values of this property.* |

## Action Details

**Initialize**

This action is used to prepare the contents of the volume for use by the system.

(This action takes no parameters.)

## Property Details

**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. |

**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. |
| 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. |

## Example Response


```
{
    "@odata.type": "#Volume.v1_0_3.Volume",
    "Id": "2",
    "Name": "Virtual Disk 2",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Encrypted": false,
    "VolumeType": "NonRedundant",
    "CapacityBytes": 107374182400,
    "Identifiers": [
        {
            "DurableNameFormat": "UUID",
            "DurableName": "0324c96c-8031-4f5e-886c-50cd90aca854"
        }
    ],
    "Links": {
        "Drives": [
            {
                "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Drives/3D58ECBC375FD9F2"
            }
        ]
    },
    "Actions": {
        "#Volume.Initialize": {
            "target": "/redfish/v1/Systems/3/Storage/RAIDIntegrated/Volumes/1/Actions/Volume.Initialize",
            "InitializeType@Redfish.AllowableValues": [
```

```
                "Fast",
                "Slow"
            ]
        }
    },
    "@odata.context": "/redfish/v1/$metadata#Volume.Volume",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/Storage/1/Volumes/2"
}
```

## Zone 1.2.1

The Zone schema represents a fabric zone.

**URIs:**

/redfish/v1/CompositionService/ResourceZones/*{ZoneId}*

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

| | | | |
|---|---|---|---|
| **Actions** *(v1.1+)* { } | object | | The available actions for this resource. |
| **Identifiers** [ { } ] | array (object) | (null) | Identifiers for this zone. This type describes any additional identifiers for a resource. See the Identifier object for details on this property. |
| **Links** { | object | | Contains references to other resources that are related to this resource. |
| **Endpoints** [ { | array | read-only | Represents an array of references to the endpoints that are contained in this zone. |
| **@odata.id**<br>} ] | string | read-only | Link to a Endpoint resource. See the Links section and the Endpoint schema for details. |
| **InvolvedSwitches** [ { | array | read-only | Represents an array of references to the switches in this zone. |
| **@odata.id**<br>} ] | 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 | read-only | An array of references to the Resource Blocks that are used in this Zone. |
| **@odata.id**<br>} ]<br>} | string | read-only | Link to a ResourceBlock resource. See the Links section and the ResourceBlock schema for details. |
| **Status** { } | object | | This property describes the status and health of the resource and its children. See the Status object for details on this property. |

### Example Response

```
{
    "@odata.type": "#Zone.v1_2_1.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.context": "/redfish/v1/$metadata#Zone.Zone",
    "@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 |
|---|---|---|
| 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. |