



Redfish

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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 (redfishv1). 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.

<code>@Message.ExtendedInfo { }</code>	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 <code>null</code> due to an error condition, and the service wants to convey why the property is <code>null</code> .
<code>@odata.count</code>	integer	read-only	The number of items in a collection.
<code>@Redfish.AllowableValues []</code>	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.

<code>@Redfish.ActionInfo</code>	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.
<code>@Redfish.CollectionCapabilities { }</code>	object		Reference to the resource that represents the POST capabilities of a given collection. See the CollectionCapabilities schema for details on this property.
<code>@Redfish.MaintenanceWindow { }</code>	object		Maintenance window configuration of a resource for when to apply settings or operations. See the Settings schema for details on this property.
<code>@Redfish.OperationApplyTime</code>	string (enum)	read-write	The requested apply time from a client when performing a Create, Delete, or Action operation. See @Redfish.OperationApplyTime in <i>Property Details</i> , below, for the possible values of this property.
<code>@Redfish.OperationApplyTimeSupport { }</code>	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 <code>OperationApplyTime</code> term. See the Settings schema for details on this property.
<code>@Redfish.Settings { }</code>	object		Reference to the resource that represents the settings to be applied to this object. See the Settings schema for details on this property.
<code>@Redfish.SettingsApplyTime { }</code>	object		Configuration settings for when the values in the settings object are applied to a given resource. See the Settings schema 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 administrator.
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. <i>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.</i>

InfoFormat (v1.1+, deprecated v1.5)	string	read-only (null)	This represents the format of the Info property. <i>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.</i>
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. <i>See LocationType in Property Details, below, for the possible values of this property.</i>
Orientation	string (enum)	read-only (null)	The orientation for the ordering of the slot enumeration used by the LocationOrdinalValue property. <i>See Orientation in Property Details, below, for the possible values of this property.</i>
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. <i>See Reference in Property Details, below, for the possible values of this property.</i>
ServiceLabel	string	read-only (null)	This is the label of the part location, such as a silk screened name or a printed label.
Placement (v1.3+) {	object		A place within the addressed location.
AdditionalInfo (v1.7+)	string	read-write (null)	Area designation or other additional info.
Rack	string	read-write (null)	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. <i>See RackOffsetUnits in Property Details, below, for the possible values of this property.</i>
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. <i>Deprecated v1.6+. This property has been Deprecated in favor of Location.v1_6_0.Longitude and Location.v1_6_0.Latitude</i>
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 (<i>deprecated v1.7</i>)	string	read-write (null)	Room designation or other additional info. <i>Deprecated v1.7+. This property has been Deprecated in favor of the property AdditionalInfo found in the 1.7.0 definition of PostalAddress.</i>
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 (null)	Road post-modifier.
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	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.

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.

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. See EnabledDaysOfWeek in <i>Property Details, below, for the possible values of this property.</i>
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. See EnabledMonthsOfYear in <i>Property Details, below, for the possible values of this property.</i>
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	Maximum number of scheduled occurrences.

		(null)	
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.

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. 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. 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. 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 minimum 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. See Mode in <i>Property Details, below, for the possible values of this property.</i>
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 Resource schema 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 Resource schema 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.

Settings

This describes the settings for a resource.

ETag	string	read-only (null)	The ETag of the resource to which the settings were applied, after the application.
MaintenanceWindowResource {	object		The value of this property is used to indicate the location of the maintenance window settings.
@odata.id }	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 schema 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 }	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. 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 administrator.
OnReset	Apply on a reset.

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 /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 /redfish/v1/Managers/{ManagerId}/EthernetInterfaces /redfish/v1/Managers/{ManagerId}/HostInterfaces/{HostInterfaceId}/HostEthernetInterfaces /redfish/v1/Systems/{ComputerSystemId}/EthernetInterfaces
EventDestinationCollection	/redfish/v1/EventService/Subscriptions
ExternalAccountProviderCollection	/redfish/v1/AccountService/ExternalAccountProviders /redfish/v1/Managers/{ManagerId}/RemoteAccountService/ExternalAccountProviders
FabricCollection	/redfish/v1/Fabrics/{FabricId}
HostInterfaceCollection	/redfish/v1/Managers/{ManagerId}/HostInterfaces
JobCollection	/redfish/v1/JobService/Jobs /redfish/v1/JobService/Jobs/{JobId}/Steps
JsonSchemaFileCollection	/redfish/v1/JsonSchemas
LogEntryCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/LogServices/{LogServiceId}/Entries /redfish/v1/Managers/{ManagerId}/LogServices/{LogServiceId}/Entries /redfish/v1/Systems/{ComputerSystemId}/LogServices/{LogServiceId}/Entries
LogServiceCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/LogServices /redfish/v1/Managers/{ManagerId}/LogServices /redfish/v1/Systems/{ComputerSystemId}/LogServices
ManagerAccountCollection	/redfish/v1/AccountService/Accounts /redfish/v1/Managers/{ManagerId}/RemoteAccountService/Accounts
ManagerCollection	/redfish/v1/Managers
MemoryChunksCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/MemoryDomains/{MemoryDomainId}/MemoryChunks /redfish/v1/Systems/{ComputerSystemId}/MemoryDomains/{MemoryDomainId}/MemoryChunks
MemoryCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Memory /redfish/v1/Systems/{ComputerSystemId}/Memory

MemoryDomainCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/MemoryDomains /redfish/v1/Systems/{ComputerSystemId}/MemoryDomains
MessageRegistryCollection	
MessageRegistryFileCollection	/redfish/v1/Registries
MetricDefinitionCollection	/redfish/v1/TelemetryService/MetricDefinitions
MetricReportCollection	/redfish/v1/TelemetryService/MetricReports
MetricReportDefinitionCollection	/redfish/v1/TelemetryService/MetricReportDefinitions
NetworkAdapterCollection	/redfish/v1/Chassis/{ChassisId}/NetworkAdapters
NetworkDeviceFunctionCollection	/redfish/v1/Chassis/{ChassisId}/NetworkAdapters/{NetworkAdapterId}/NetworkDeviceFunctions /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/NetworkInterfaces/{NetworkInterfaceId}/NetworkDeviceFunctions /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/NetworkInterfaces/{NetworkInterfaceId}/NetworkDeviceFunctions /redfish/v1/Systems/{ComputerSystemId}/NetworkInterfaces/{NetworkInterfaceId}/NetworkDeviceFunctions
NetworkInterfaceCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/NetworkInterfaces /redfish/v1/Systems/{ComputerSystemId}/NetworkInterfaces
NetworkPortCollection	/redfish/v1/Chassis/{ChassisId}/NetworkAdapters/{NetworkAdapterId}/NetworkPorts /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/NetworkInterfaces/{NetworkInterfaceId}/NetworkPorts /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/NetworkInterfaces/{NetworkInterfaceId}/NetworkPorts /redfish/v1/Systems/{ComputerSystemId}/NetworkInterfaces/{NetworkInterfaceId}/NetworkPorts
PortCollection	/redfish/v1/Fabrics/{FabricId}/Switches/{SwitchId}/Ports
ProcessorCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Processors/{ProcessorId}/SubProcessors /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Processors /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Processors/{ProcessorId}/SubProcessors /redfish/v1/Systems/{ComputerSystemId}/Processors /redfish/v1/Systems/{ComputerSystemId}/Processors/{ProcessorId}/SubProcessors
ResourceBlockCollection	/redfish/v1/CompositionService/ResourceBlocks
RoleCollection	/redfish/v1/AccountService/Roles /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 /redfish/v1/Systems/{ComputerSystemId}/SimpleStorage
SoftwareInventoryCollection	/redfish/v1/UpdateService/FirmwareInventory /redfish/v1/UpdateService/SoftwareInventory
StorageCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Storage /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Storage /redfish/v1/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 /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/EthernetInterfaces/{EthernetInterfaceId}/VLANs /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/EthernetInterfaces/{EthernetInterfaceId}/VLANs /redfish/v1/Managers/{ManagerId}/EthernetInterfaces/{EthernetInterfaceId}/VLANs /redfish/v1/Systems/{ComputerSystemId}/EthernetInterfaces/{EthernetInterfaceId}/VLANs
VolumeCollection	/redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Storage/{StorageId}/Volumes /redfish/v1/CompositionService/ResourceBlocks/{ResourceBlockId}/Systems/{ComputerSystemId}/Storage/{StorageId}/Volumes /redfish/v1/Systems/{ComputerSystemId}/Storage/{StorageId}/Volumes
ZoneCollection	/redfish/v1/CompositionService/ResourceZones /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 }	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. 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 }	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 <i>Property Details</i> , 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 <i>Property Details</i> , 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	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. 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	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	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. See DataType in <i>Property Details, below</i> , 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	boolean	read-only	Indicates whether the parameter is required to perform this Action.
}]			

Property Details

Data Type:

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}/PCleDevices/{PCleDeviceId}/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}/PCleDevices/{PCleDeviceId}/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. See PhysicalContext in <i>Property Details, below</i> , 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 }]	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. See Type in <i>Property Details</i> , 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 }]	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 }]	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. See MapFromCondition in <i>Property Details</i> , 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. See MapFromProperty in <i>Property Details</i> , 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 }]	string (enum)	read-only	The logical term used to combine two or more MapFrom conditions in this dependency expression. See MapTerms in <i>Property Details</i> , 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. See MapToProperty in <i>Property Details</i> , below, for the possible values of this property.
MapToValue }	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 }]	string (enum)	read-only	The type of the dependency structure. See Type in <i>Property Details</i> , 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 }] }	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 }]	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. <i>For more information, see the Action Details section below.</i>
#Bios.ResetBios { }	object		This action is used to reset the BIOS attributes to default. <i>For more information, see the Action Details section below.</i>
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": "BiosAttributeRegistryP09.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. 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. <i>For more information, see the Action Details section below.</i>
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. <i>See ChassisType in Property Details, below, for the possible values of this property.</i>
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. <i>See IndicatorLED in Property Details, below, for the possible values of this property.</i>
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 }}	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 }}	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 }}	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 }}	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 }}	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.
PCleDevices (v1.4+)[{	array	read-only	An array of references to the PCIe Devices located in this Chassis.
@odata.id }}	string	read-only	Link to a PCIeDevice resource. See the Links section and the PCleDevice 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 }}	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 }}	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 }}	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 }}	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 }	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 }	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.
PCleSlots (v1.8+){	object		A reference to the PCIe Slot properties of this chassis. See the PCleSlots schema for details on this property.
@odata.id }	string	read-only	Link to a PCIeSlots resource. See the Links section and the PCleSlots 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. 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 }	string (enum)	read-only (null)	This indicates how the Normal state to be restored. See IntrusionSensorReArm in <i>Property Details, below, for the possible values of this property.</i>
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 }	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. See PowerState in <i>Property Details, below, for the possible values of this property.</i>
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 }	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	string (enum)	read-write	The type of reset to be performed. See ResetType in <i>Property Details, below, for the possible values of this property.</i>
}			

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 (<i>deprecated v1.5</i>)	The state of the Indicator LED cannot be determined. <i>Deprecated v1.5+. This value has been Deprecated in favor of returning null if the state is unknown.</i>

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-452-2381",
  "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	string	read-only	Link to Collection of ResourceBlock . See the ResourceBlock schema for details.
ResourceZones { }	object		The resource zones available on the service. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of Zone . See the Zone schema for details.
ServiceEnabled	boolean	read-write (null)	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. <i>For more information, see the Action Details section below.</i>
#ComputerSystem.SetDefaultBootOrder (v1.5+) { }	object		This action is used to set the Boot Order to the default settings. <i>For more information, see the Action Details section below.</i>
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. <i>See BootSourceOverrideEnabled in Property Details, below, for the possible values of this property.</i>
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. <i>See BootSourceOverrideMode in Property Details, below, for the possible values of this property.</i>
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. <i>See BootSourceOverrideTarget in Property Details, below, for the possible values of this property.</i>
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 { }	object		A reference to a collection of storage services supported by this computer system.
@odata.id }	string	read-only	The unique identifier for a resource.
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. <i>See HostingRoles in Property Details, below, for the possible values of this property.</i>
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. <i>See TimeoutAction in Property Details, below, for the possible values of this property.</i>
WarningAction }	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. <i>See WarningAction in Property Details, below, for the possible values of this property.</i>
IndicatorLED	string (enum)	read-write (null)	The state of the indicator LED, used to identify the system. <i>See IndicatorLED in Property Details, below, for the possible values of this property.</i>
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 }	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 }	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 }	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 }	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 }	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 }	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 }	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 }] }	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 }	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 }	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 }	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. 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+) }	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 }	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.
PCleDevices (v1.2+)[{	array	read-only	A reference to a collection of PCIe Devices used by this computer system.
@odata.id }]	string	read-only	Link to a PCIeDevice resource. See the Links section and the PCleDevice schema for details.
PCleFunctions (v1.2+)[{	array	read-only	A reference to a collection of PCIe Functions used by this computer system.
@odata.id }]	string	read-only	Link to a PCIeFunction resource. See the Links section and the PCleFunction schema for details.
PowerState	string (enum)	read-only (null)	This is the current power state of the system. 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 }	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 { }	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 }	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 }	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 }	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. 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. 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. 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 { } }]	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. 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	string (enum)	read-write	The type of reset to be performed. 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 hosting 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 (<i>deprecated v1.4</i>)	The state of the Indicator LED cannot be determined. <i>Deprecated v1.4+. This value has been Deprecated in favor of returning null if the state is unknown.</i>

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-xxxxxxxxxxx". 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 { }	object		This action is used to securely erase the contents of the drive. <i>For more information, see the Action Details section below.</i>
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	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	read-only	The size in bytes of this Drive.

	(bytes)	(null)	
EncryptionAbility	string (enum)	read-only (null)	The encryption abilities of this drive. See EncryptionAbility in Property Details, below, for the possible values of this property.
EncryptionStatus	string (enum)	read-only (null)	The status of the encryption of this drive. 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. 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. 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. 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 }	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 }]	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 }]	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. 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 }	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+) }]	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. 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 <i>Property Details, below</i> , 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 encryption of this drive.

string	Description
Foreign	The drive is currently encrypted, the data is not accessible to the user, and the system requires user intervention to expose the data.
Locked	The drive is currently encrypted and the data is not accessible to the user, however the system has the ability to unlock the drive automatically.
Unencrypted (<i>deprecated v1.2</i>)	The drive is not currently encrypted. <i>Deprecated v1.2+. This value has been Deprecated in favor of Unencrypted.</i>
Unencrypted (<i>v1.1+</i>)	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.
EntityPcild { }	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. <i>Deprecated v1.2+. This property has been deprecated in favor of the ClassCode property inside the EntityPcild object.</i>

PciFunctionNumber (<i>deprecated v1.2</i>) }]	integer	read-only (null)	The PCI ID of the connected entity. <i>Deprecated v1.2+. This property has been deprecated in favor of the FunctionNumber property inside the EntityPcild object.</i>
EndpointProtocol	string (enum)	read-only (null)	The protocol supported by this endpoint. 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 }]	string (enum)	read-only	The protocol used by the connection entity. 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 }]	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 }]	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 }]	string	read-only	Link to a Port resource. See the Links section and the Port schema for details.
Pcild {	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 }	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 }]	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 initiator. 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. 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 [{ Label Precedence Prefix }]	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 }	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 }]	string	read-only	Link to an 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 }	string	read-only	Link to a HostInterface resource. See the Links section and the HostInterface schema for details.
Oem { }	object		See the OEM object definition in the Common properties section.
LinkStatus (v1.1+)	string (enum)	read-only (null)	The link status of this interface (port). See LinkStatus in <i>Property Details</i> , 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 }	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 }	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 }	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::1ecl: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::1ecl: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. <i>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</i>
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. <i>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.</i>
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 describes 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	A client-supplied string that is stored with the event destination subscription.

		required (null)	
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. 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 destination. 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+)[{ @odata.id }]	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.
Protocol	string (enum)	read-only required on create	The protocol type of the event connection. 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. 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 destination.

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.

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 subscriptions 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. <i>For more information, see the Action Details section below.</i>
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. <i>See EventFormatTypes in Property Details, below, for the possible values of this property.</i>
EventTypesForSubscription []	array (string enum)	read-only	This is the types of Events that can be subscribed to. <i>See EventTypesForSubscription in Property Details, below, for the possible values of this property.</i>
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. 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	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 <i>Property Details</i> , 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 <i>Property Details</i> , 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. 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. See AuthenticationModes in <i>Property Details, below</i> , 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	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. See HostInterfaceType in <i>Property Details, below</i> , 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	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	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	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	string	read-only	Link to a Role resource. See the Links section and the Role schema for details.
Oem { }	object		See the OEM object definition in the Common properties section.
ManagerEthernetInterface {	object		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	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 }	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. See JobState in Property Details, below, for the possible values of this property.
JobStatus	string (enum)	read-only	The status of the job. 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 }	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	string	read-only	Link to Collection of Job . See the Job schema for details.
-----------	--------	-----------	---

Property Details

JobState:

The state of the job.

string	Description
Cancelled	Job was cancelled..
Completed	Job 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	The current DateTime (with offset) setting that the job service is using.

		(null)	
Jobs {	object		References to the Jobs collection. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of Job . See the Job schema for details.
}			
Log {	object		This is a reference to a Log Service used by the Job Service. See the LogService schema for details on this property.
@odata.id	string	read-only	Link to a LogService resource. See the Links section and the LogService schema for details.
}			
ServiceCapabilities {	object		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	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	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. See EntryCode in Property Details, below, for the possible values of this property.
EntryType	string (enum)	read-only required on create	This is the type of log entry. 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. See EventType in Property Details, below, for the possible values of this property. 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	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. 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. 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 regained minimum resources needed for normal operation.
Non-redundant:Sufficient Resources from Redundant	Redundancy has been lost but unit is functioning with minimum resources needed for normal operation.
OEM (v1.3+)	An OEM defined event.
Performance Lags	Performance does not meet expectations.
Performance Met	Performance meets expectations.
Predictive Failure asserted	A Predictive Failure has been detected.
Predictive Failure deasserted	A Predictive Failure is no longer present.
Redundancy Degraded	Redundancy still exists, but at less than full level.
Redundancy Degraded from Fully Redundant	Unit has lost some redundant resource(s) but is still in a redundant state.
Redundancy Degraded from Non-redundant	Unit has regained some resource(s) and is redundant but not fully redundant.
Redundancy Lost	Entered any non-redundant state, including Non-redundant: Insufficient Resources.
State Asserted	The state has been asserted.
State Deasserted	The state has been deasserted.
Transition to Active	The state transitioned to active.
Transition to Busy	The state transitioned to busy.
Transition to Critical from less severe	A state has changed to Critical from less severe.
Transition to Critical from Non-recoverable	A state has changed to Critical from Non-recoverable.
Transition to Degraded	A state has transitioned to Degraded.
Transition to Idle	The state transitioned to idle.
Transition to In Test	A state has transitioned to In Test.
Transition to Non-Critical from more severe	A state has changed to Non-Critical from more severe.
Transition to Non-Critical from OK	A state has changed to Non-Critical from OK.
Transition to Non-recoverable	A state has changed to Non-recoverable.
Transition to Non-recoverable from less severe	A state has changed to Non-recoverable from less severe.
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. 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. See LogEntryType in <i>Property Details</i> , 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. See OverWritePolicy in <i>Property Details</i> , 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. <i>For more information, see the Action Details section below.</i>
#Manager.ModifyRedundancySet { }	object		The ModifyRedundancySet operation is used to add or remove members to a redundant group of manager. <i>For more information, see the Action Details section below.</i>
#Manager.Reset { }	object		The reset action resets/reboots the manager. <i>For more information, see the Action Details section below.</i>
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. <i>See ConnectTypesSupported in Property Details, below, for the possible values of this property.</i>
MaxConcurrentSessions	integer	read-only	Indicates the maximum number of service sessions, regardless of protocol, this manager is able to support.
ServiceEnabled	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	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. <i>See ConnectTypesSupported in Property Details, below, for the possible values of this property.</i>
MaxConcurrentSessions	integer	read-only	Indicates the maximum number of service sessions, regardless of protocol, this manager is able to support.
ServiceEnabled	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	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	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	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 }	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.
LogServices {	object		This is a reference to a collection of Logs used by the manager. Contains a link to a resource.
@odata.id }	string	read-only	Link to Collection of LogService . See the LogService schema for details.
ManagerType	string (enum)	read-only	This property represents the type of manager that this resource represents. 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 }	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. 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 }]	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 }	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. 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 }	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 }	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 }	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	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	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	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	string (enum)	read-write	This is the type of reset to be performed. 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 delete 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	This is the fully qualified domain name for the manager obtained by DNS including the host

		(null)	name and top-level domain name.
HostName	string	read-only (null)	The DNS Host Name of this manager, without any domain information.
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. 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}

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

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

Actions {	object		The available actions for this resource.
#Memory.DisablePassphrase { }	object		Disable passphrase for given regions. 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. 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: Cryptographic Erase. For more information, see the Action Details section below.
#Memory.SetPassphrase { }	object		Set passphrase for the given regions. For more information, see the Action Details section below.
#Memory.UnlockUnit { }	object		This defines the action for unlocking given regions. 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 }	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. 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. <i>Deprecated v1.3+.</i> This property has been <i>Deprecated</i> in favor of <i>Memory.v1_3_0.ModuleProductID</i>
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. 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. <i>Deprecated v1.4+.</i> This property has been <i>Deprecated</i> in favor of <i>Memory.v1_0_0.Memory.OperatingMemoryModes</i> or <i>Memory.v1_0_0.Memory.RegionSet.MemoryClassification</i> .
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 }	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 (v1.4+) {}	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. 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 }	integer	read-only (null)	Socket number in which Memory is connected.
MemoryMedia []	array (string (enum))	read-only	Media of this Memory. 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. 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 }	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. 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. <i>Deprecated v1.5+. This property has been Deprecated in favor of Memory.v1_5_0.Memory.RegionSet.PassphraseEnabled.</i>
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. <i>Deprecated v1.3+. This property has been Deprecated in favor of Memory.v1_3_0.MemorySubsystemControllerProductID</i>
SubsystemVendorID (deprecated v1.3)	string	read-only (null)	SubSystem Vendor ID. <i>Deprecated v1.3+. This property has been Deprecated in favor of Memory.v1_3_0.MemorySubsystemControllerManufacturerID</i>
VendorID (deprecated v1.3)	string	read-only (null)	Vendor ID. <i>Deprecated v1.3+. This property has been Deprecated in favor of Memory.v1_3_0.ModuleManufacturerID</i>
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 volatile 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	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	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: Cryptographic 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	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	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	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 accessible 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. 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 (mebibytes)	read-only (null)	Size of this memory region measured in mebibytes (MiB).
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 accessible 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	Indicates if this Memory Domain supports the creation of Memory Chunks with sparing enabled.

		(null)	
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 }] }]	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 }	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 { }	object		This sets the CurrentPeriod object values to zero. <i>For more information, see the Action Details section below.</i>
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 }	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 }	boolean	read-only (null)	Uncorrectable data error threshold crossing alarm trip detected status.
DataLossDetected	boolean	read-only	Data loss detection status.

		(null)	
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": {}
},
{
  "@odata.type": "#MemoryMetrics.v1_1_4.MemoryMetrics",
  "@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.
ClearingLogic (v1.2+){}	object	(null)	The clearing logic associated with this message. The properties within indicate that what messages are cleared by this message as well as under what conditions.
ClearsAll	boolean	read-only (null)	This property indicates that all prior conditions and messages are cleared provided the ClearsIf condition is met.
ClearsIf	string (enum)	read-only (null)	This property contains the available OEM specific actions for this resource. See ClearsIf in Property Details, below, for the possible values of this property.
ClearsMessage [] }	array (string, null)	read-only	This property contains the array of Message Ids that are cleared by this message, provided the other conditions are met.
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.
------------------------	--------	--------------------	--

Property Details

ClearsIf:

This property contains the available OEM specific actions for this resource.

string	Description
SameOriginOfCondition	Indicates the message is cleared by the other message(s) listed in the ClearingLogic object, provided the OriginOfCondition for both Events are the same.

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 required	Location information for this registry 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 }	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. 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. 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. 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. 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. 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. 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 (null)	Accuracy of the timestamp.
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	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	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	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	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. 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 (null)	Specifies the duration over which the function is computed.
CollectionFunction	string (enum)	read-write (null)	Specifies 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:

Specifies 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. <i>For more information, see the Action Details section below.</i>
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 }	boolean	read-write (null)	When true, NIC function partitioning is active on this controller.
NPIV {	object	(null)	N_Port ID Virtualization (NPIV) capabilities for this controller.
MaxDeviceLogins	integer	read-only (null)	The maximum number of N_Port ID Virtualization (NPIV) logins allowed simultaneously from all ports on this controller.
MaxPortLogins }	integer	read-only (null)	The maximum number of N_Port ID Virtualization (NPIV) logins allowed per physical port on this controller.
VirtualizationOffload {	object	(null)	Virtualization offload for this controller.
SRIOV {	object	(null)	Single-Root Input/Output Virtualization (SR-IOV) capabilities.
SRIOVVEPACapable }	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 }	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] }	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] }	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.
PCleDevices [{	array	read-only	An array of references to the PCleDevices associated with this Network Controller.
@odata.id }	string	read-only	Link to a PCleDevice resource. See the Links section and the PCleDevice 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 }	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 }	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 }	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 }	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. See BootMode in <i>Property Details, below</i> , 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 }	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 }	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 }]	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 initiator 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	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 }	string	read-only	Link to a Endpoint resource. See the Links section and the Endpoint schema for details.
PCleFunction {	object		A reference to the PCleFunction associated with this Network Device Function. See the PCleFunction schema for details on this property.
@odata.id }	string	read-only	Link to a PCleFunction resource. See the Links section and the PCleFunction 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 }	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. 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. 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. <i>Deprecated v1.3+. This property has been deprecated and moved to the Links section to avoid loops on expand.</i>
@odata.id }	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) Virtual 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 { }	string	read-only	Link to a NetworkAdapter resource. See the Links section and the NetworkAdapter schema for details.
Oem { }	object		See the OEM object definition in the Common properties section.
NetworkDeviceFunctions { }	object		A reference to the collection of NetworkDeviceFunctions associated with this NetworkInterface. Contains a link to a resource.
@odata.id { }	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 { }	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. 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. 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. 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). 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. 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 }	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 }	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. 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. 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. <i>Deprecated v1.2+. This property has been Deprecated in favor of the CapableLinkSpeedMbps collection found in NetworkPort.v1_2_0.</i>
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	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. 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 }]	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.
PCleFunctions [{	array	read-only	An array of references to PCleFunctions exposed by this device.
@odata.id }] }	string	read-only	Link to a PCleFunction resource. See the Links section and the PCleFunction 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 (null)	The part number for this PCIe device.
PCleInterface (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.
MaxPCleType	string (enum)	read-only (null)	The highest version of the PCIe specification supported by this device. See MaxPCleType in Property Details, below, for the possible values of this property.
Oem { }	object		See the OEM object definition in the Common properties section.
PCleType }	string (enum)	read-only (null)	The version of the PCIe specification in use by this device. See PCleType 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.

MaxPCleType:

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*}/PCleDevices/{*PCleDeviceId*}/PCleFunctions/{*PCleFunctionId*}

/redfish/v1/Systems/{*ComputerSystemId*}/PCleDevices/{*PCleDeviceId*}/PCleFunctions/{*PCleFunctionId*}

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. 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. 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	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	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	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.
PCleDevice {	object	(null)	A reference to the PCIeDevice on which this function resides. See the PCleDevice schema for details on this property.
@odata.id	string	read-only	Link to a PCIeDevice resource. See the Links section and the PCleDevice schema for details.
StorageControllers [{	array	read-only	An array of references to the storage controllers which the PCIe device produces.
@odata.id	string	read-only	Link to a StorageController resource. See the Links section and the Storage schema for details.
RevisionId	string	read-only (null)	The Revision ID of this PCIe function.
Status { }	object		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.

PCleSlots 1.0.0

This is the schema definition for the PCIe Slot properties.

URIs:

/redfish/v1/Chassis/{ChassisId}/PCleSlots

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.
PCleDevice [{	array	read-only	An array of references to the PCIe Devices contained in this slot.
@odata.id	string	read-only	Link to a PCleDevice resource. See the Links section and the PCleDevice 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.
PCleType	string (enum)	read-only (null)	This is the PCIe specification supported by this slot. See PCleType in <i>Property Details, below</i> , for the possible values of this property.
SlotType	string (enum)	read-only (null)	This is the PCIe slot type for this slot. See SlotType in <i>Property Details, below</i> , 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

PCleType:

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": [
    {
      "PCleType": "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"
          }
        ]
      }
    },
    {
      "PCleType": "Gen4",
      "Lanes": 4,
      "SlotType": "FullLength",
      "Status": {
        "State": "Absent"
      },
      "Location": {
        "PartLocation": {
          "ServiceLabel": "Slot 2",
          "LocationOrdinalValue": 2,
          "LocationType": "Slot",
          "Orientation": "LeftToRight",
          "Reference": "Rear"
        }
      }
    },
    {
      "PCleType": "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 { }	object		This action is used to reset this port. <i>For more information, see the Action Details section below.</i>
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] }	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] }	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] }	string	read-only	Link to another Port resource.
Oem { }	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. <i>See PortProtocol in Property Details, below, for the possible values of this property.</i>
PortType	string (enum)	read-only (null)	This is the type of this port. <i>See PortType in Property Details, below, for the possible values of this property.</i>
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.

Property	Type	Read-Write	Description
ResetType	string (enum)	read-write	The type of reset to be performed. <i>See ResetType in Property Details, below, for the possible values of this property.</i>

Property Details

PortProtocol:

The protocol being sent over this port.

Value	Description
string	

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 <i>Property Details, below</i> , for the possible values of this property.
PowerAllocatedWatts	number (Watts)	read-only (null)	The total amount of power that has been allocated (or budgegeted)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 <i>Property Details, below</i> , 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 IntervallInMin minutes).
IntervallInMin	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 occurred over the measurement window (the last IntervallInMin minutes).
MinConsumedWatts	number	read-only	The lowest power consumption level over the measurement window (the last IntervallInMin minutes).

}	(Watts)	(null)	
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 (null)	The firmware version for this Power Supply.
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. 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). 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. 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	read-only	The maximum capacity of this Power Supply.

	(Watts)	(null)	
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). See PowerSupplyType in <i>Property Details, below</i> , for the possible values of this property.
Redundancy [{ @odata.id }]	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.
RelatedItem [{ @odata.id }]	array	read-write	The ID(s) of the resources associated with this Power Limit.
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 [{ @odata.id }]	array	read-write	Redundancy information for the power subsystem of this system or device.
Voltages [{ @odata.id }]	array	read-write	This is the definition for voltage sensors.
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. See PhysicalContext in <i>Property Details, below</i> , for the possible values of this property.
ReadingVolts	number (Volts)	read-only (null)	The present reading of the voltage sensor.
RelatedItem [{ @odata.id }]	array	read-only	Describes the areas or devices to which this voltage measurement applies.
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	number	read-only	Above normal range.

}}	(Volts)	(null)
----	---------	--------

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. <i>Deprecated v1.3+. This value has been Deprecated in favor of AC277V.</i>
ACLowLine (deprecated v1.3)	100-127V AC input. <i>Deprecated v1.3+. This value has been Deprecated in favor of AC120V.</i>
ACMidLine (deprecated v1.3)	200-240V AC input. <i>Deprecated v1.3+. This value has been Deprecated in favor of AC240V.</i>
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": "120000001",
    "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	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.

}} }	(string)		
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 Privileges used in building this mapping.
PrivilegesUsed []	array (string enum)	read-only	Lists the set of Redfish standard privileges used in building this mapping. See PrivilegesUsed in Property Details, below, for the possible values of this property.

Property Details

PrivilegesUsed:

Lists the set of Redfish standard privileges 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. 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 (enum)	read-only (null)	The architecture of the processor. 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. 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. See CompositionState in <i>Property Details, below</i> , 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+)	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	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	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	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	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	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	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	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	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. 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	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	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. See AssignedPrivileges in <i>Property Details</i> , 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 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. For more information, see the Action Details section below.
SecureBootCurrentBoot	string (enum)	read-only (null)	Secure Boot state during the current boot cycle. See SecureBootCurrentBoot in <i>Property Details</i> , 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. See SecureBootMode in <i>Property Details</i> , 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. See ResetKeysType in <i>Property Details</i> , below, for the possible values of this property.
}			

Property Details

ResetKeyType:

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		
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. 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. 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. 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. 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. 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. 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. 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. 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	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	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	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	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	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	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	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	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	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	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	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	string	read-only	Link to a SessionService resource. See the Links section and the SessionService schema for details.
}			
StorageServices {	object		A link to a collection of all storage service entities.
@odata.id	string	read-only	The unique identifier for a resource.
}			
StorageSystems {	object		This is a link to a collection of storage systems.
@odata.id	string	read-only	The unique identifier for a resource.
}			
Systems {	object		This is a link to a collection of Systems. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of ComputerSystem . See the ComputerSystem schema for details.
}			
Tasks {	object		This is a link to the Task Service. See the TaskService schema for details on this property.
@odata.id	string	read-only	Link to a TaskService resource. See the Links section and the TaskService schema for details.
}			
TelemetryService (v1.4+){	object		This is a link to the TelemetryService. See the TelemetryService schema for details on this property.
@odata.id	string	read-only	Link to a TelemetryService resource. See the Links section and the TelemetryService schema for details.
}			
UpdateService (v1.1+){	object		This is a link to the UpdateService. See the UpdateService schema for details on this property.
@odata.id	string	read-only	Link to a UpdateService resource. See the Links section and the UpdateService schema for details.
}			
UUID	string	read-only (null)	Unique identifier for a service instance. When SSDP is used, this value should be an exact match of the UUID value returned in a 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	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.

URLs:

/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(1F1)/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. <i>For more information, see the Action Details section below.</i>

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.
@odata.id }]	string	read-only	The unique identifier for a resource.
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.

PCIInterface (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 PCIInterface 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 <i>Property Details, below</i> , 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 <i>Property Details, below</i> , 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 subsystem.
}			

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:

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

Actions {	object		The available actions for this resource.
#Switch.Reset { }	object		This action is used to reset this switch. <i>For more information, see the Action Details section below.</i>
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. <i>See IndicatorLED in Property Details, below, for the possible values of this property.</i>
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. 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. 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 (enum)	read-write	The type of reset to be performed. 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	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. 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. 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. <i>Deprecated v1.2+. This value has been deprecated and is being replaced by the value Cancelled which has more determinate semantics.</i>
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. See CompletedTaskOverWritePolicy in <i>Property Details</i> , 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	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 { }	object		This action is used to generate a metric report. <i>For more information, see the Action Details section below.</i>
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	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	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	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. <i>See SupportedCollectionFunctions in Property Details, below, for the possible values of this property.</i>
Triggers {	object		A link to the collection of Triggers, which apply to metrics. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of Triggers . See the Triggers schema for details.

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	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	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. <i>Deprecated v1.2+. This property has been Deprecated in favor of Thermal.v1_1_0.Thermal.Fan.Name</i>
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. 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. See PhysicalContext in <i>Property Details, below</i> , 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. See ReadingUnits in <i>Property Details, below</i> , 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-only	The ID(s) of the resources serviced with this fan.
 @odata.id }]	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 <i>Property Details, below</i> , 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 <i>Property Details</i> , below, for the possible values of this property.
ReadingCelsius	number (Celsius)	read-only (null)	Temperature.
RelatedItem [{ @odata.id }]	array	read-only	Describes the areas or devices to which this temperature measurement applies.
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. See DiscreteTriggerCondition in <i>Property Details, below</i> , for the possible values of this property.
DiscreteTriggers [{ }	array	read-write	List of discrete triggers.
DwellTime	string	read-write (null)	This time the trigger occurrence 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. See Severity in <i>Property Details, below</i> , for the possible values of this property.
Value }]	string	read-write (null)	The value of the discrete metric that constitutes a trigger occurrence.
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. See MetricType in <i>Property Details, below</i> , 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. See Activation in <i>Property Details, below</i> , 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 }	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. See Activation in <i>Property Details, below</i> , 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 }	number	read-write (null)	The threshold value.
UpperCritical { }	object	(null)	Above normal range and requires attention.
Activation	string	read-write	The direction of crossing that activates this threshold.

	(enum)	(null)	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 }	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. 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 }	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. 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 [] }]	array (string, null)	read-only	An array of values to substitute for the wildcard.

Property Details

Activation:

The direction of crossing that activates this threshold.

string	Description
Decreasing	Value decreases below the threshold.
Either	Value crosses the threshold in either direction.
Increasing	Value increases above the threshold.

DiscreteTriggerCondition:

Specifies the conditions when a discrete metric triggers.

string	Description
Changed	A discrete trigger occurs 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": "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. <i>For more information, see the Action Details section below.</i>
FirmwareInventory {	object	(null)	An inventory of firmware. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of SoftwareInventory . See the SoftwareInventory schema for details.
HttpPushUri (v1.1+)	string	read-only	The URI used to perform an HTTP or HTTPS push update to the Update Service.
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	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	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. <i>See TransferProtocol in Property Details, below, for the possible values of this property.</i>
}			

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. <i>Deprecated v1.3+. This value has been Deprecated in favor of NFS.</i>
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. <i>For more information, see the Action Details section below.</i>
#VirtualMedia.InsertMedia (v1.2+) { }	object		This action is used to attach remote media to virtual media. <i>For more information, see the Action Details section below.</i>
ConnectedVia	string (enum)	read-only (null)	Current virtual media connection methods. <i>See ConnectedVia in Property Details, below, for the possible values of this property.</i>
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. <i>See MediaTypes in Property Details, below, for the possible values of this property.</i>
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. <i>For more information, see the Action Details section below.</i>
BlockSizeBytes	number (bytes)	read-only (null)	The size of the smallest addressable 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. <i>See EncryptionTypes in Property Details, below, for the possible values of this property.</i>
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. <i>See VolumeType in Property Details, below, for the possible values of this property.</i>

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	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	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	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.