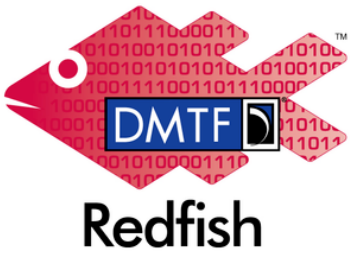

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Redfish Resource and Schema Guide

Information for Work-in-Progress version:

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Overview

The Redfish standard comprises a set of specifications maintained by the Distributed Management Task Force (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 hyperscale 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 multivendor 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.

Why REST, JSON and OData?

One of the goals of the Redfish standard is to define an API that is equally usable by applications, client libraries, and scripts. Another goal is to define data objects that are schema-backed but human readable. The use of RESTful APIs, and JSON and OData formats supports these goals.

JSON is a widely used data format for transporting data that is compatible with RESTful applications. It is inherently human readable, more concise than XML, and supported by many modern programming languages.

Using JSON also carries an advantage in embedded manageability environments because most Baseboard Management Controllers (BMCs) already support a web server and the management of a server through a browser (typically through a Javascript-driven interface). By using JSON, the data from a Redfish service is viewed directly in the browser.

Similarly, while JSON provides an easy-to read representation, the semantics of common properties, such as id, type, links, etc., are imposed through naming conventions that can vary from service to service.

OData defines a set of common RESTful conventions, which provides for interoperability between APIs. Redfish adopts common OData conventions for describing schema, URL conventions, and naming, as well as the structure of common properties in a JSON payload. This uniformity not only encapsulates best practices for RESTful APIs that can be used in traditional and scalable environments, but also enables Redfish services to be consumed by a growing ecosystem of generic client libraries, applications, and tools.

Example

The following code fragment shows an example of a request that retrieves the serial number from a Redfish service:

```
rawData = urllib.urlopen('https://192.168.1.135/redfish/v1/Systems/1')
jsonData = json.loads(rawData)
print ('SN: ' + jsonData['SerialNumber'])
```

A successful request that uses the code snippet above could produce output similar to the following example:

```
SN: 1A87CA442K
```

- (This example uses a Redfish ComputerSystem resource; authentication is not shown.)

Schema versus resources versus services

A schema is a data model. Redfish uses both the json-schema and OData CSDL formats to publish each schema. The model defines the relationship between objects in the system, and defines which objects can contain or be contained by other objects. Think of the schema as the data definitions.

A resource is an actual object or component. In the terminology of RESTful APIs, a URI or URL is a pointer (or end point) that represents the resource. Think of the resource as an object in a system, whose values and rules for each of its properties are contained in a specific Redfish JSON payload.

A payload is the packet of data that contains the values associated with a specific resource. Redfish also defines OData 'annotations' that can be thought of as metadata delivered in a payload.

A Redfish service is any product that implements the Redfish specification. It is the software or firmware that implements the specification, and serves up responses. When a Refish service receives a properly formatted HTTP request, it returns an HTTP response that contains information about the requested resource.

Locating a Redfish service

Every Redfish service contains a base URI or URL that indicates the root of all resources.

The root is the concatenation of:

- the IP address or server name of the Redfish service (For example: https://mgmt.vendor.com)
- the path to the Redfish root (/redfish/v1/)

For example:

```
https://mgmt.vendor.com/redfish/v1
```

Where can I find more information?

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

Redfish Standards - Schemas, specs, mockups, white papers, FAQ, educational material and more: http://www.dmtf.org/standards/redfish

Redfish Developer Hub - Redfish interactive explorer, hosted schema and other links: http://redfish.dmtf.org

SPMF (Working group that maintains the Redfish standard) - Companies involved, upcoming schedules and future work, charter, and information about joining: http://www.dmtf.org/standards/spmf

Common properties

This section describes the properties (schema elements or data fields) common to all Redfish schema. Response payloads returned by a Redfish service will contain these properties.

Id

The `Id` property is common to all Redfish schema.

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

The `Name` property exists in all Redfish schema.

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.

Description

The `Description` property exists in all Redfish schema.

The Description property is used to convey a human-readable description of the resource. The type of the Description property is string.

Status

The `Status` property is common to many Redfish schema.

Status {	object	read-only	This type describes the status and health of a resource and its children.
Health	string	read-only	This represents the health state of this resource in the absence of its dependent resources. *See Property Details, below, for more information about this property.*
HealthRollup	string	read-only	This represents the overall health state from the view of this resource. *See Property Details, below, for more information about this property.*
Oem { }	object	read-write	Oem extension object.
State	string	read-only	This indicates the known state of the resource, such as if it is enabled.

			See Property Details, below, for more information about this property.
}			

Property Details

Health:

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

HealthRollup:

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

State:

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.

Links

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.

Members

The Members property of a Resource Collection identifies the members of the collection.

RelatedItem

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.

Actions

The Actions property contains the actions supported by a resource.

OEM

The OEM property is used for OEM extensions as defined in Schema Extensibility.

@odata.context

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.type

Description of @odata.type

Because our "@odata.type" annotations are written as fragments, rather than full URLs, those fragments must be defined in, or referenced by, that metadata document. Also, because we qualify actions with versionless namespace aliases, those aliases must also be defined through in the referenced metadata document.

@odata.id

Description of @odata.id

Working with Resource Collections

In the Redfish protocol a URI can represent a collection of similar resources. A Resource Collection can represent a group of Systems, Chassis, Managers, or a group of other kinds of resources. For example:

- /redfish/v1/Systems
- /redfish/v1/Chassis
- /redfish/v1/Managers

The Members of a Resource Collection are returned as a JSON array, where each element of the array is a JSON object. The name of the property representing the members of the collection is `Members`.

Operations Related to Resource Collections

Some of the common operations associated with collections are as follows:

A GET request for a Resource Collection

To read the contents of a Resource Collection, a client application sends an HTTP GET request to the URI of the collection. A client application typically discovers the URI of the collection by parsing the resource identifier from a previous request. For example, the `Links` property of a previously returned resource can contain a URI that points to a collection. A client application could parse the information in the `Links` property to obtain the URI of the collection.

The response includes properties of the Resource Collection including an array of its Members. If the Resource Collection is empty, the returned JSON object is an empty array (not null).

To request a subset of Members of the Resource Collection, use the paging query options:

- `$top`
- `$skip`

These paging query options apply specifically to the `Members` array property within a Resource Collection.

The response to a GET request for a Resource Collection

A Redfish service returns a Resource Collection as a JSON object in an HTTP response. The JSON object can include the following properties:

Property	Description
@odata.context	Describes the source of the payload.
@odata.count	Displays the total number of Members in the Resource Collection
@odata.members	The array of the members in the collection
@odata.nextLink	Indicates the "nextLink" when the payload contains partial results

When a response represents only a part of a Resource Collection, the response includes a next link

property named `Members@odata.nextLink`. The value of the `@odata.nextlink` property is a URL to a resource with the same @odata.type that contains the next set of partial members. The `@odata.nextlink` property is only present if the number of Members in the Resource Collection is greater than the number of members returned.

Iterating through the members of a collection

A Resource Collection includes a count of the total number of entries in its "Members" array.

The total number of resources (Members) available in a Resource Collection is represented in the count property. The count property is named `Members@odata.count`. The value of odata.count represents the total number of members available in the Resource Collection. This count is not affected by the `$top` or `$skip` query parameters.

Additional notations

A JSON object representing a Resource Collection may include additional annotations represented as properties whose name is of the form:

@Namespace.TermName

where

- Namespace = the name of the namespace where the annotation term is defined. This namespace is referenced by the metadata document specified in the context URL of the request.
- TermName = the name of the annotation term being applied to the Resource Collection.

The client can get the definition of the annotation from the service metadata, or may ignore the annotation entirely, but should not fail reading the response due to unrecognized annotations, including new annotations defined within the Redfish namespace.

Order of Members

Collections are arrays of OData objects. The OData objects contain IDs of resources.

The order in which Members exist in a collection is deterministic, but the members are not sorted. In other words, assuming that the members have not changed since the last request, the order in which memebrs are returned will be unchanged. The order of the members will not be sorted by any specific criteria.

Examples of commonly used collections

Collection of Systems

A System represents the logical view of a computer system as seen from the operating system (OS) level.

Any subsystem accessible from the host CPU is represented in a System resource. Each instance of a System includes CPUs, memory, and other components. Each computer System can be contained as a member of a Systems collection.


```
{
    "@odata.type": "#ComputerSystemCollection.ComputerSystemCollection",
    "Name": "Computer System Collection",
    "Members@odata.count": 1,
    "Members": [
        {
            "@odata.id": "/redfish/v1/Systems/437XR1138R2"
        }
    ],
    "@odata.context": "/redfish/v1/$metadata#ComputerSystemCollection.ComputerSystemCollect
```

```
    "@odata.id": "/redfish/v1/Systems"
}
```


Collection of Chassis

The Chassis collection contains resources that represent the physical aspects of the infrastructure. Think of this collection as the properties needed to locate a physical unit, or to identify a physical unit, or to install or service a physical computer.

A Chassis is roughly defined as a physical view of a computer system as seen by a human. A single Chassis resource can house sensors, fans, and other components. Racks, enclosures, and blades are examples of Chassis resources included in the Chassis collection.

The Redfish protocol allows the representation of a Chassis contained within another Chassis.


```
{
    "@odata.type": "#ChassisCollection.ChassisCollection",
    "Name": "Chassis Collection",
    "Members@odata.count": 5,
    "Members": [
        {
            "@odata.id": "/redfish/v1/Chassis/MultiBladeEnclosure"
        },
        {
            "@odata.id": "/redfish/v1/Chassis/Blade1"
        },
        {
            "@odata.id": "/redfish/v1/Chassis/Blade2"
        },
        {
            "@odata.id": "/redfish/v1/Chassis/Blade3"
        },
        {
            "@odata.id": "/redfish/v1/Chassis/Blade4"
        }
    ],
    "@odata.context": "/redfish/v1/$metadata#ChassisCollection.ChassisCollection",
    "@odata.id": "/redfish/v1/Chassis"
}
```


Collection of Managers

A Managers collection contains BMCs, Enclosure Managers or any other component managing the infrastructure. Managers handle various management services and can also have their own components (such as NICs).


```
{
    "@odata.type": "#ManagerCollection.ManagerCollection",
    "Name": "Manager Collection",
    "Members@odata.count": 3,
    "Members": [
        {
            "@odata.id": "/redfish/v1/Managers/EnclosureManager"
        },
        {
            "@odata.id": "/redfish/v1/Managers/Blade1BMC"
        },
        {
            "@odata.id": "/redfish/v1/Managers/Blade2BMC"
        }
    ],
```

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

Error messages

A Redfish service typically returns two types of error messages:

- HTTP response codes
- Error responses

HTTP response codes

The HTTP reponse codes are the standard codes returned by all HTTP servers.

These include familiar HTTP codes such as HTTP response code `200 OK`, which means that the HTTP request succeeded.

For more information about the meaning of these codes when returned from a Redfish service, see the latest Redfish specification at:

- http://www.dmtf.org/standards/redfish

Redfish error responses

HTTP response status codes alone often do not provide enough information to determine the nature of an error. For example, if a client application sends a PATCH request and some of the properties do not match while others are not supported, simply returning an HTTP status code of 400 does not clearly indicate which values were in error.

Redfish error responses provide more meaningful and deterministic error information.

A Redfish service can provide multiple error responses in an HTTP response in order to provide as much information about the error situation as possible. Additionally, a Redfish service can provide Redfish-standardized errors, OEM-defined errors, or both, depending on what is available from a perticular service.

Error responses are defined by an extended error resource, represented as a single JSON object. The JSON object is part of a property named "error".

Example error response

The following snippet shows a fragment of an error response.

```
{
  "error": {
       "code": "Base.1.0.GeneralError",
       "message": "A general error has occurred. See ExtendedInfo for more information.",
       "@Message.ExtendedInfo": [
           {
               "@odata.type" : "/redfish/v1/$metadata#Message.v1_0_0.Message",
               "MessageId": "Base.1.0.PropertyValueNotInList",
               "RelatedProperties": [
                   "#/IndicatorLED"
               ],
               "Message": "The value Red for the property IndicatorLED is not in the list
               "MessageArgs": [
```

```
                    "RED",
                    "IndicatorLED"
                ],
                "Severity": "Warning"
            }]
    }
}
```

The above snippet shows a JSON payload with error information. In this example, the `code` property shows that the error is of a type `Base.1.0.GeneralError`. The property annotation `@Message.ExtendedInfo` provides more details about the nature of the error.

Redfish Schema details

AccountService 1.2.0

Account Service contains properties common to all user accounts, such as password requirements, and control features such as account lockout. It also contains links to the collections of Manager Accounts and Roles.

AccountLockoutCounterResetAfter	number (s)	read-write	The interval of time in seconds since the last failed login attempt at which point the lockout threshold counter for the account is reset to zero. Must be less than or equal to AccountLockoutDuration.
AccountLockoutDuration	number, null (s)	read-write	The time in seconds an account is locked after the account lockout threshold is met. Must be >= AccountLockoutResetAfter. If set to 0, no lockout will occur.
AccountLockoutThreshold	number, null	read-write	The number of failed login attempts before a user account is locked for a specified duration (0=never locked).
Accounts {	object	read-only	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	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AuthFailureLoggingThreshold	number	read-write	This is the number of authorization failures that need to occur before the failure attempt is logged to the manager log.
Description	string	read-	Provides a description of this resource and

		only	is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
MaxPasswordLength	number	read-only	This is the maximum password length for this service.
MinPasswordLength	number	read-only	This is the minimum password length for this service.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
PrivilegeMap *(v1.1+)* {	object	read-only	A reference to the Privilege mapping defining 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	read-only	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, null	read-write	This indicates whether this service is enabled.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

Example Response


```
{
    "@odata.type": "#AccountService.v1_0_2.AccountService",
    "Id": "AccountService",
    "Name": "Account Service",
    "Description": "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"
    },
    "@odata.context": "/redfish/v1/$metadata#AccountService.AccountService",
    "@odata.id": "/redfish/v1/AccountService"
}
```


ActionInfo 1.0.2

ActionInfo describes the parameters and other information necessary to perform a Redfish Action to a particular Action target. As parameter support may differ between implementations and even among instances of a resource, this data can be used to ensure Action requests from applications contain supported parameters.

Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Parameters [{	array	read-write	The parameters associated with the specified Redfish Action.
AllowableValues [	array	read-only	A list of values for this parameter supported by this Action target.
	string, null	read-write	
]			
DataType	string	read-only	The JSON property type used for this parameter. *See Property Details, below, for more information about this property.*
Name	string	read-only	The name of the parameter for this Action.
ObjectDataType	string, null	read-only	The OData Type of an object-based parameter.

Required	boolean	read-only	Indicates whether the parameter is required to perform this Action.
}]			

Property Details

DataType:

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.

AttributeRegistry 1.1.0

An Attribute Registry is a set of key-value pairs which are specific to a particular implementation or product, such that creating standardized property names would be impractical. This schema describes the structure of a Registry, and also includes mechanisms for building user interfaces (menus) allowing consistent navigation of the contents.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Language	string	read-only	This is the RFC 5646 compliant language code for the registry.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
OwningEntity	string	read-only	This is the organization or company that publishes this registry.
RegistryEntries {	object	read-write	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, null	read-only	Placeholder of the current value of the attribute.
DefaultValue	string, boolean, number, null	read-only	The default current value of the attribute.
DisplayName	string, null	read-only	The user-readable display string of the attribute in the defined 'Language'.
DisplayOrder	number, null	read-only	The numeric value describing the ascending order that the attribute is displayed relative to other attributes.
GrayOut	boolean, null	read-only	The gray-out state of this attribute.
HelpText	string, null	read-only	The help text for the attribute.
Hidden	boolean, null	read-only	The hidden state of this attribute.
Immutable	boolean, null	read-only	Defines whether this attribute is immutable or not.
IsSystemUniqueProperty	boolean, null	read-only	Defines whether this attribute is unique for this system and should not be replicated.
LowerBound	number, null	read-only	The lower limit of the value of an attribute of type 'Integer'.
MaxLength	number, null	read-only	The maximum character length of the value of an attribute of type 'String'.
MenuPath	string, null	read-only	A path that describes the menu hierarchy of this attribute.
MinLength	number, null	read-only	The minimum character length of the value of an attribute of type 'String'.
ReadOnly	boolean,	read-	The read-only state of this attribute.

	null	only	
ScalarIncrement	number, null	read-only	The amount to increment or decrement the value of an attribute of type 'Integer' each time a user requests a value change.
Type	string	read-only	The type of the attribute. *See Property Details, below, for more information about this property.*
UpperBound	number, null	read-only	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, null	read-only	A user-readable display string of the value of the attribute in the defined 'Language'.
ValueName	string, null	read-only	The value name of the attribute.
}]			
ValueExpression	string, null	read-only	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, null	read-only	The warning text for changing the attribute.
WriteOnly	boolean, null	read-only	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	read-write	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	read-only	The condition that is used to evaluate this dependency expression. *See Property Details, below, for more information about this property.*
MapFromProperty	string	read-only	The meta-data property of the attribute specified in MapFromAttribute that is used to evaluate this dependency expression. *See Property Details, below, for more*

			information about this property.
MapFromValue	string, boolean, number, null	read-only	The value that the is used property specified in MapFromProperty that is used to evaluate this dependency expression.
MapTerms	string	read-only	The logical term used to combine two or more MapFrom conditions in this dependency expression. *See Property Details, below, for more information about this property.*
}]			
MapToAttribute	string	read-only	The Name of the attribute that is affected by this dependency expression.
MapToProperty	string	read-only	The meta-data property of the attribute specified in MapFromAttribute that is used to evaluate this dependency expression. *See Property Details, below, for more information about this property.*
MapToValue	string, boolean, number, null	read-only	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	read-only	The type of the dependency structure. *See Property Details, below, for more information about this property.*
}]			
Menus [{	array	read-write	The array containing the attributes menus and their hierarchy.
DisplayName	string, null	read-only	The user-readable display string of this menu in the defined 'Language'.
DisplayOrder	number, null	read-only	The numeric value describing the ascending order in which this menu is displayed relative to other menus.
GrayOut	boolean, null	read-only	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-	A path that describes this menu hierarchy

	null	only	relative to other menus.
ReadOnly	boolean, null	read-only	The read-only state of this menu.
}]			
}			
RegistryVersion	string	read-only	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	string, null	read-only	Firmware version.
ProductName	string, null	read-only	The product name of the system.
SystemId	string, null	read-only	The system ID of the system.
}]			

Property Details

MapFromCondition:

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:

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.

string	Description
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:

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

MapToProperty:

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.

string	Description
WarningText	The dependency that affects an attribute's WarningText.
WriteOnly	The dependency that affects an attribute's WriteOnly state.

Type:

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 1.0.2

Bios contains properties surrounding a BIOS Attribute Registry (where the system-specific BIOS attributes are described) and the Actions needed to perform changes to BIOS settings, which typically require a system reset to apply.

Actions {	object	read-write	The available actions for this resource.
#Bios.ChangePassword {	object	read-write	This action is used to change the BIOS passwords.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
#Bios.ResetBios {	object	read-write	This action is used to reset the BIOS attributes to default.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AttributeRegistry	string, null	read-only	The Resource ID of the Attribute Registry for the BIOS Attributes resource.
Attributes { }	object	read-write	This is the manufacturer/provider specific list of BIOS attributes.
Description	string	read-	Provides a description of this resource and is used for

		only	commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.

Example Response


```
{
    "@odata.type": "#Bios.v1_0_0.Bios",
    "Id": "BIOS",
    "Name": "BIOS Configuration Current Settings",
    "AttributeRegistry": "BiosAttributeRegistryP89.v1_0_0",
    "Attributes": {
        "AdminPhone": "",
        "BootMode": "Uefi",
        "EmbeddedSata": "Raid",
        "NicBoot1": "NetworkBoot",
        "NicBoot2": "Disabled",
        "PowerProfile": "MaxPerf",
        "ProcCoreDisable": 0,
        "ProcHyperthreading": "Enabled",
        "ProcTurboMode": "Enabled",
        "UsbControl": "UsbEnabled"
    },
    "@Redfish.Settings": {
        "@odata.type": "#Settings.v1_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"
}
```

Chassis 1.5.0

A Chassis represents the physical components for any system. This resource represents the sheet-metal confined spaces and logical zones like racks, enclosures, chassis and all other containers. Subsystems (like sensors), which 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.

Actions {	object	read-write	The available actions for this resource.
#Chassis.Reset {	object	read-write	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.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AssetTag	string, null	read-write	The user assigned asset tag for this chassis.
ChassisType	string	read-only	This property indicates the type of physical form factor of this resource. *See Property Details, below, for more information about this property.*
DepthMm *(v1.4+)*	number, null (mm)	read-only	The depth of the chassis.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
HeightMm *(v1.4+)*	number, null (mm)	read-only	The height of the chassis.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
IndicatorLED	string	read-write	The state of the indicator LED, used to identify the chassis. *See Property Details, below, for more information about this property.*
Links {	object	read-write	Contains references to other resources that are related to this resource.
ComputerSystems [{	array	read-	An array of references to the computer systems

		only	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	read-only	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-write	The unique identifier for a resource.
}]			
Drives [{	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 [{	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	read-write	Oem extension object. See the Resource schema for details on this property.
PCIeDevices [{	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 PCIeDevice schema for details.
}]			
PoweredBy [{	array	read-only	An array of ID[s] of resources that power this chassis. Normally the ID will be a chassis or a specific set of Power Supplies.
@odata.id	string	read-write	The unique identifier for a resource.
}]			
ResourceBlocks [{	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 [{	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.
}]			
}			
Location *(v1.2+)* { }	object	read-only	This type describes the location of a resource. See the Resource.v1_1_0 schema for details on this property.
LogServices {	object	read-only	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, null	read-only	This is the manufacturer of this chassis.
Model	string, null	read-only	This is the model number for the chassis.
Name	string	read-only	The name of the resource or array element.

NetworkAdapters *(v1.4+)* {	object	read-only	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.
}			
Oem { }	object	read-write	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.
PartNumber	string, null	read-only	The part number for this chassis.
PhysicalSecurity *(v1.1+)* {	object	read-write	The state of the physical security sensor.
IntrusionSensor	string	read-write	This indicates the known state of the physical security sensor, such as if it is hardware intrusion detected. *See Property Details, below, for more information about this property.*
IntrusionSensorNumber	number, null	read-only	A numerical identifier to represent the physical security sensor.
IntrusionSensorReArm	string	read-only	This indicates how the Normal state to be restored. *See Property Details, below, for more information about this property.*
}			
Power {	object	read-only	A reference to the power properties (power supplies, power policies, sensors) for this chassis. See the Power schema for details on this property.
@odata.id	string	read-only	Link to a Power resource. See the Links section and the Power schema for details.
}			
PowerState *(v1.0.1+)*	string	read-only	This is the current power state of the chassis. *See Property Details, below, for more information about this property.*
SKU	string, null	read-only	This is the SKU for this chassis.
SerialNumber	string, null	read-only	The serial number for this chassis.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
Thermal {	object	read-	A reference to the thermal properties (fans, cooling,

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

Property Details

ChassisType:

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	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	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.

string	Description
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.
Zone	A logical division or portion of a physical chassis that contains multiple devices or systems that cannot be physically separated.

IndicatorLED:

string	Description
Blinking	The Indicator LED is blinking.
Lit	The Indicator LED is lit.
Off	The Indicator LED is off.
Unknown	The state of the Indicator LED cannot be determined.

IntrusionSensor:

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:

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:

string	Description
Off	The components within the chassis has no power, except some components

string	Description
	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.

Example Response


```
{
    "@odata.type": "#Chassis.v1_2_0.Chassis",
    "Id": "1U",
    "Name": "Computer System Chassis",
    "ChassisType": "RackMount",
    "AssetTag": "Chicago-45Z-2381",
    "Manufacturer": "Contoso",
    "Model": "3500RX",
    "SKU": "8675309",
    "SerialNumber": "437XR1138R2",
    "PartNumber": "224071-J23",
    "PowerState": "On",
    "IndicatorLED": "Lit",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Thermal": {
        "@odata.id": "/redfish/v1/Chassis/1U/Thermal"
    },
    "Power": {
        "@odata.id": "/redfish/v1/Chassis/1U/Power"
    },
    "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 1.0.0

This is the schema definition for the Composition Service. It represents the properties for the service itself and has links to the actual list of resources available for composition.

Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
ResourceBlocks {	object	read-only	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	read-only	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, null	read-write	This indicates whether this service is enabled.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

ComputerSystem 1.4.0

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.

Actions {	object	read-write	The available actions for this resource.

#ComputerSystem.Reset {	object	read-write	This action is used to reset the system.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AssetTag	string, null	read-write	The user definable tag that can be used to track this computer system for inventory or other client purposes.
Bios *(v1.1+)* {	object	read-only	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, null	read-only	The version of the system BIOS or primary system firmware.
Boot {	object	read-write	Information about the boot settings for this system.
BootSourceOverrideEnabled	string	read-write	Describes the state of the Boot Source Override feature. *See Property Details, below, for more information about this property.*
BootSourceOverrideMode	string	read-write	The BIOS Boot Mode (either Legacy or UEFI) to be used when BootSourceOverrideTarget boot source is booted from. *See Property Details, below, for more information about this property.*
BootSourceOverrideTarget	string	read-write	The current boot source to be used at next boot instead of the normal boot device, if BootSourceOverrideEnabled is true. *See Property Details, below, for more information about this property.*
UefiTargetBootSourceOverride	string, null	read-write	This property is the UEFI Device Path of the device to boot from when BootSourceOverrideSupported is UefiTarget.

}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
EthernetInterfaces {	object	read-only	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.
}			
HostName	string, null	read-write	The DNS Host Name, without any domain information.
HostedServices *(v1.2+)* {	object	read-write	The services that this computer system supports.
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
StorageServices		read-only	A reference to a collection of storage services supported by this computer system.
}			
HostingRoles *(v1.2+)* [{	array	read-only	The hosing roles that this computer system supports.
HostingRole	string	read-write	The enumerations of HostingRoles specify different features that the hosting ComputerSystem supports. *See Property Details, below, for more information about this property.*
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
IndicatorLED	string	read-write	The state of the indicator LED, used to identify the system. *See Property Details, below, for more information about this property.*
Links {	object	read-write	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.
}]			
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-write	The unique identifier for a resource.
}]			
Endpoints [{	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	read-write	Oem extension object. See the Resource schema for details on this property.
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-write	The unique identifier for a resource.
}]			
ResourceBlocks [{	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.
}]			
}			
LogServices {	object	read-only	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, null	read-only	The manufacturer or OEM of this system.
Memory *(v1.1+)* {	object	read-only	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 *(v1.2+)* {	object	read-only	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	read-write	This object describes the central memory of the system in general detail.
MemoryMirroring	string	read-only	The ability and type of memory mirroring supported by this system. *See Property Details, below, for more information about this property.*
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
TotalSystemMemoryGiB	number, null	read-only	The total configured operating system-accessible memory (RAM), measured in GiB.
TotalSystemPersistentMemoryGiB	number, null	read-only	The total configured, system-accessible persistent memory, measured in GiB.
}			
Model	string, null	read-only	The model number for this system.
Name	string	read-only	The name of the resource or array element.
NetworkInterfaces *(v1.3+)* {	object	read-only	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.
}			
Oem { }	object	read-write	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.
PCIeDevices *(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 PCIeDevice schema for details.
}]			
PCIeFunctions *(v1.2+)* [{	array	read-only	A reference to a collection of PCIe Functions used by this computer system.
@odata.id	string	read-only	Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.
}]			
PartNumber	string, null	read-only	The part number for this system.
PowerState	string	read-only	This is the current power state of the system. *See Property Details, below, for more information about this property.*
ProcessorSummary {	object	read-write	This object describes the central processors of the system in general detail.
Count	number, null	read-only	The number of processors in the system.
Model	string, null	read-only	The processor model for the primary or majority of processors in this system.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
}			
Processors {	object	read-only	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.
}			
SKU	string, null	read-only	The manufacturer SKU for this system.
SecureBoot *(v1.1+)* {	object	read-only	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, null	read-only	The serial number for this system.
SimpleStorage {	object	read-only	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.
}			
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
Storage *(v1.1+)* {	object	read-only	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.
}			
SystemType	string	read-only	The type of computer system represented by this resource. *See Property Details, below, for more information about this property.*
TrustedModules *(v1.1+)* [{	array	read-write	This object describes the array of Trusted Modules in the system.
FirmwareVersion	string, null	read-only	The firmware version of this Trusted Module.
FirmwareVersion2	string,	read-	The 2nd firmware version of this Trusted

	null	only	Module, if applicable.
InterfaceType	string	read-only	This property indicates the interface type of the Trusted Module. *See Property Details, below, for more information about this property.*
InterfaceTypeSelection	string	read-only	The Interface Type selection supported by this Trusted Module. *See Property Details, below, for more information about this property.*
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
}]			
UUID	string	read-only	The universal unique identifier (UUID) for this system. *See Property Details, below, for more information about this property.*

Property Details

BootSourceOverrideEnabled:

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:

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:

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.
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).

HostingRole:

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:

string	Description
Blinking	The Indicator LED is blinking.
Lit	The Indicator LED is lit.
Off	The Indicator LED is off.
Unknown	The state of the Indicator LED cannot be determined.

InterfaceType:

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:

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:

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:

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.

SystemType:

string	Description
Composed	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.

UUID:

The value of this property contains a universal unique identifier number for the system. Clients should consider the value of the property to be opaque and should not interpret any subfields within the UUID, but comparisons between UUID representations should always be case-insensitive.

The format of the string follows the 35-character string format specified in RFC4122 of form "xxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx" where each x represents a hex value 0-1,a-f.

If the computer system supports SMBIOS, the string should be formed from the raw binary 16-byte SMBIOS UUID structure. This configuration allows out-of-band clients to correlate the UUID that in-band agents are reading from SMBIOS with the UUID represented out-of-band via the Redfish API.

The SMBIOS 2.6+ specification specifies the proper algorithm for converting the raw binary SMBIOS 16-byte structure into the canonical string format of form "xxxxxx-xxxx-xxxx-xxxx-xxxxxx"). Redfish services should follow the SMBIOS 2.6+ specification for implementing this conversion. WMI and Linux dmidecode also follow the SMBIOS guidelines.

The RFC4122 specification specifies that the canonical string value should follow network byte ordering. SMBIOS represents the UUID as five fields shown below:

```
{
 DWORD    time_low,
 WORD     time_mid,
 WORD     time_hi_and_version,
 BYTE     clock_seq_hi_and_reserved,
 BYTE     clock_seq_low,
 BYTE[6]  node
}
```

For the above reasons, for little-endian systems (including x86 systems), there is a little-endian to network-byte-order conversion required for the first three fields to convert the SMBIOS binary UUID to network byte order.

As specified in the SMBIOS 2.6+ specification, if the canonical UUID string is:

```
"00112233-4455-6677-8899-aabbccddeeff"
```

then the corresponding raw representation in the SMBIOS UUID structure would be:

```
raw_smbios_uuid={ 0x33, 0x22, 0x11, 0x00,    0x55, 0x44,     0x77, 0x66,     0x88,
```

The C code to convert the raw SMBIOS UUID struct in a little-endian system to the canonical string would be:

```
/* routine to convert raw little-endian smbios structure to canonical string */
sprintf(redfishUUID,"%02x%02x%02x%02x-%02x%02x-%02x%02x-%02x%02x-%02x%02x%02x%02x%0
```

```
    raw_smbios_uuid[3], raw_smbios_uuid[2], raw_smbios_uuid[1],raw_smbios_uuid[0]
    raw_smbios_uuid[5],raw_smbios_uuid[4],
    raw_smbios_uuid[7],raw_smbios_uuid[6],
    raw_smbios_uuid[8],raw_smbios_uuid[9],
   raw_smbios_uuid[10],raw_smbios_uuid[11],raw_smbios_uuid[12],raw_smbios_uuid[13
    );
```

This code snippet creates the same canonical formatted string as WMI and dmidecode for little-endian X86 systems. In the case that the computer architecture is not little-endian, the conversion and canonical representation should be the same as the OS APIs such as WMI and dmidecode.

Note that as specified in RFC4122, the fields in the string should be zero-filled hex values, as shown in the conversion code above, so that the overall string length and format is of the form xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxx.

Regarding the case of the hex values: RFC4122 specifies that on output, the hex values should be lowercase characters, but that clients should use case-insensitive comparison on input. 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.

Therefore, for new Redfish implementations, the recommendation is to follow RFC4122 and output using lowercase hex values when converting from the SMBIOS raw binary data as shown in the code example above. However, Redfish implementations and OS APIs MAY also output in uppercase and clients MUST therefore compare UUIDs using a case-insensitive comparisons (as recommended by RFC4122).

Example Response


```
{
    "@odata.type": "#ComputerSystem.v1_1_0.ComputerSystem",
    "Id": "437XR1138R2",
    "Name": "WebFrontEnd483",
    "SystemType": "Physical",
    "AssetTag": "Chicago-45Z-2381",
    "Manufacturer": "Contoso",
    "Model": "3500RX",
    "SKU": "8675309",
    "SerialNumber": "437XR1138R2",
    "PartNumber": "224071-J23",
    "Description": "Web Front End node",
    "UUID": "38947555-7742-3448-3784-823347823834",
    "HostName": "web483",
    "Status": {
        "State": "Enabled",
        "Health": "OK",
        "HealthRollup": "OK"
    },
    "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,
        "Status": {
            "State": "Enabled",
            "Health": "OK",
            "HealthRollup": "OK"
        }
    },
    "Bios": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/BIOS"
    },
    "Processors": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/Processors"
    },
    "Memory": {
```

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


Drive 1.2.0

Drive contains properties describing a single physical disk drive for any system, along with links to associated Volumes.

Actions {	object	read-write	The available actions for this resource.
#Drive.SecureErase {	object	read-write	This action is used to securely erase the contents of the drive.

target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AssetTag	string, null	read-write	The user assigned asset tag for this drive.
BlockSizeBytes	number, null (By)	read-only	The size of the smallest addressible unit (Block) of this drive in bytes.
CapableSpeedGbs	number, null (Gbit/s)	read-only	The speed which this drive can communicate to a storage controller in ideal conditions in Gigabits per second.
CapacityBytes	number, null (By)	read-only	The size in bytes of this Drive.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
EncryptionAbility	string	read-only	The encryption abilities of this drive. *See Property Details, below, for more information about this property.*
EncryptionStatus	string	read-only	The status of the encrytion of this drive. *See Property Details, below, for more information about this property.*
FailurePredicted	boolean, null	read-only	Is this drive currently predicting a failure in the near future.
HotspareType	string	read-only	The type of hotspare this drive is currently serving as. *See Property Details, below, for more information about this property.*
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Identifiers [{	array	read-write	The Durable names for the drive.
{ }	object	read-only	This type describes any additional identifiers for a resource. See the Resource.v1_1_0 schema for details on this property.
}]			

IndicatorLED	string	read-write	The state of the indicator LED, used to identify the drive. *See Property Details, below, for more information about this property.*
Links {	object	read-write	Contains references to other resources that are related to this resource.
Chassis {	object	read-only	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 [{	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	read-write	Oem extension object. See the Resource schema for details on this property.
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	read-write	The Location of the drive.
{ }	object	read-only	This type describes the location of a resource. See the Resource.v1_1_0 schema for details on this property.
}]			
Manufacturer	string, null	read-only	This is the manufacturer of this drive.
MediaType	string	read-only	The type of media contained in this drive. *See Property Details, below, for more information about this property.*
Model	string, null	read-only	This is the model number for the drive.

Name	string	read-only	The name of the resource or array element.
NegotiatedSpeedGbs	number, null (Gbit/s)	read-only	The speed which this drive is currently communicating to the storage controller in Gigabits per second.
Oem { }	object	read-write	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.
Operations *(v1.1+)* [{	array	read-write	The operations currently running on the Drive.
{ }	object	read-write	An operation currently running on this resource. See the Volume.v1_0_0 schema for details on this property.
}]			
PartNumber	string, null	read-only	The part number for this drive.
PredictedMediaLifeLeftPercent	number, null	read-only	The percentage of reads and writes that are predicted to still be available for the media.
Protocol	string	read-only	The protocol this drive is using to communicate to the storage controller. *See Property Details, below, for more information about this property.*
Revision	string, null	read-only	The revision of this Drive. This is typically the firmware/hardware version of the drive.
RotationSpeedRPM	number, null (RPM)	read-only	The rotation speed of this Drive in Revolutions per Minute (RPM).
SKU	string, null	read-only	This is the SKU for this drive.
SerialNumber	string, null	read-only	The serial number for this drive.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
StatusIndicator	string	read-write	The state of the status indicator, used to communicate status information about this drive. *See Property Details, below, for more information about this property.*

Property Details

EncryptionAbility:

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:

string	Description
Foreign	The drive is currently encrypted, the data is not accessible to the user, and the system requires user intervention to expose the data.
Locked	The drive is currently encrypted and the data is not accessible to the user, however the system has the ability to unlock the drive automatically.
Unecrypted	The drive is not currently encrypted.
Unencrypted	The drive is not currently encrypted.
Unlocked	The drive is currently encrypted but the data is accessible to the user unencrypted.

HotspareType:

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:

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

MediaType:

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:

string	Description
AHCI	Advanced Host Controller Interface.
FC	Fibre Channel.
FCP	Fibre Channel Protocol for SCSI.
FCoE	Fibre Channel over Ethernet.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol.
HTTP	Hypertext Transport Protocol.
HTTPS	Secure Hypertext Transport Protocol.
NFSv3	Network File System version 3.
NFSv4	Network File System version 4.
NVMe	Non-Volatile Memory Express.
NVMeOverFabrics	NVMe over Fabrics.
PCIe	PCI Express (Vendor Proprietary).
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.
iSCSI	Internet SCSI.

StatusIndicator:

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.

Endpoint 1.0.2

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.

Actions {	object	read-write	The Actions object contains the available custom actions on this resource.
Oem { }	object, null	read-write	The available OEM specific actions for this resource.
}			
ConnectedEntities [{	array	read-write	All the entities connected to this endpoint.
EntityLink { }	object	read-only	A link to the associated entity. See the Resource.v1_0_0 schema for details on this property.
EntityPciId {	object	read-write	The PCI ID of the connected entity.
DeviceId	string, null	read-only	The Device ID of this PCIe function.
SubsystemId	string, null	read-only	The Subsystem ID of this PCIe function.
SubsystemVendorId	string, null	read-only	The Subsystem Vendor ID of this PCIe function.
VendorId	string, null	read-only	The Vendor ID of this PCIe function.
}			
EntityRole	string	read-only	The role of the connected entity. *See Property Details, below, for more*

			information about this property.
EntityType	string	read-only	The type of the connected entity. *See Property Details, below, for more information about this property.*
Identifiers [{	array	read-write	Identifiers for the remote entity.
{ }	object	read-only	This type describes any additional identifiers for a resource. See the Resource.v1_1_0 schema for details on this property.
}]			
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
PciClassCode	string, null	read-only	The Class Code, Subclass code, and Programming Interface code of this PCIe function.
PciFunctionNumber	number, null	read-only	The PCI ID of the connected entity.
}]			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
EndpointProtocol	string	read-only	The protocol supported by this endpoint. *See Property Details, below, for more information about this property.*
HostReservationMemoryBytes	number, null (By)	read-only	The amount of memory in Bytes that the Host should allocate to connect to this endpoint.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Identifiers [{	array	read-write	Identifiers for this endpoint.
{ }	object	read-only	This type describes any additional identifiers for a resource. See the Resource.v1_1_0 schema for details on this property.
}]			
Links {	object	read-write	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-	Link to another Endpoint resource.

		only	
}]			
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
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.
}]			
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
PciId {	object	read-write	The PCI ID of the endpoint.
DeviceId	string, null	read-only	The Device ID of this PCIe function.
SubsystemId	string, null	read-only	The Subsystem ID of this PCIe function.
SubsystemVendorId	string, null	read-only	The Subsystem Vendor ID of this PCIe function.
VendorId	string, null	read-only	The Vendor ID of this PCIe function.
}			
Redundancy [{	array	read-write	Redundancy information for the lower level endpoints supporting this endpoint.
{ }	object	read-write	A reference to a resource. See the odata.4.0.0 schema for details on this property.
}]			
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

Property Details

EndpointProtocol:

string	Description
AHCI	Advanced Host Controller Interface.
FC	Fibre Channel.
FCP	Fibre Channel Protocol for SCSI.
FCoE	Fibre Channel over Ethernet.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol.
HTTP	Hypertext Transport Protocol.
HTTPS	Secure Hypertext Transport Protocol.
NFSv3	Network File System version 3.
NFSv4	Network File System version 4.
NVMe	Non-Volatile Memory Express.
NVMeOverFabrics	NVMe over Fabrics.
PCIe	PCI Express (Vendor Proprietary).
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.
iSCSI	Internet SCSI.

EntityRole:

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:

string	Description
Bridge	The entity is a PCI(e) bridge.
DisplayController	The entity is a display controller.
Drive	The entity is a disk drive. The EntityLink property (if present) should be a Drive.Drive entity.
NetworkController	The entity is a network controller. The EntityLink property (if present) should be an EthernetInterface.EthernetInterface entity.
Processor	The entity is a processor device.
RootComplex	The entity is a PCI(e) root complex. The EntityLink property (if present) should be a ComputerSystem.ComputerSystem entity.
StorageExpander	The entity is a storage expander. The EntityLink property (if present) should be a Chassis.Chassis entity.
StorageInitiator	The entity is a storage initator. The EntityLink property (if present) should be a Storage.StorageController entity.

EthernetInterface 1.3.0

This schema defines a simple ethernet NIC resource.

Actions *(v1.3+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AutoNeg	boolean, null	read-write	This indicates if the speed and duplex are automatically negotiated and configured on this interface.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
FQDN	string, null	read-write	This is the complete, fully qualified domain name obtained by DNS for this interface.
FullDuplex	boolean, null	read-write	This indicates if the interface is in Full Duplex mode or not.
HostName	string, null	read-write	The DNS Host Name, without any domain information.
IPv4Addresses [{	array	read-write	The IPv4 addresses assigned to this interface.
{ }	object	read-	This type describes an IPv4 Address. See the

		write	IPAddresses.v1_0_0 schema for details on this property.
}]			
IPv6AddressPolicyTable [{	array	read-write	An array representing the RFC 6724 Address Selection Policy Table.
Label	number, null	read-write	The IPv6 Label (as defined in RFC 6724 section 2.1).
Precedence	number, null	read-write	The IPv6 Precedence (as defined in RFC 6724 section 2.1.
Prefix	string, null	read-write	The IPv6 Address Prefix (as defined in RFC 6724 section 2.1).
}]			
IPv6Addresses [{	array	read-write	This array of objects enumerates all of the currently assigned IPv6 addresses on this interface.
{ }	object	read-write	This type describes an IPv6 Address. See the IPAddresses.v1_0_0 schema for details on this property.
}]			
IPv6DefaultGateway	string, null	read-only	This is the IPv6 default gateway address that is currently in use on this interface.
IPv6StaticAddresses [{	array	read-write	This array of objects represents all of the IPv6 static addresses to be assigned on this interface.
{ }	object	read-write	This object represents a single IPv6 static address to be assigned on a network interface. See the IPAddresses.v1_0_0 schema for details on this property.
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
InterfaceEnabled	boolean, null	read-write	This indicates whether this interface is enabled.
LinkStatus *(v1.1+)*	string	read-only	The link status of this interface (port). *See Property Details, below, for more information about this property.*
Links *(v1.1+)* {	object	read-write	Contains references to other resources that are related to this resource.
Chassis {	object	read-only	A reference to the Chassis which contains this Ethernet Interface. See the Chassis schema for details on this property.
@odata.id	string	read-	Link to a Chassis resource. See the Links section and

		only	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 a Endpoint resource. See the Links section and the Endpoint schema for details.
}]			
HostInterface {	object	read-only	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
MACAddress	string	read-write	This is the currently configured MAC address of the (logical port) interface.
MTUSize	number, null	read-write	This is the currently configured Maximum Transmission Unit (MTU) in bytes on this interface.
MaxIPv6StaticAddresses	number, null	read-only	This indicates the maximum number of Static IPv6 addresses that can be configured on this interface.
Name	string	read-only	The name of the resource or array element.
NameServers [	array	read-only	This represents DNS name servers that are currently in use on this interface.
	string	read-write	
]			
Oem { }	object	read-write	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.
PermanentMACAddress	string	read-only	This is the permanent MAC address assigned to this interface (port).
SpeedMbps	number, null (Mbit/s)	read-write	This is the current speed in Mbps of this interface.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema

			for details on this property.
UefiDevicePath	string, null	read-only	The UEFI device path for this interface.
VLAN { }	object	read-write	If this Network Interface supports more than one VLAN, this property will not be present and the client should look for VLANs collection in the link section of this resource. See the VLanNetworkInterface.v1_0_0 schema for details on this property.
VLANs {	object	read-only	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:

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.

Example Response


```
{
    "@odata.type": "#EthernetInterface.v1_0_2.EthernetInterface",
    "Id": "1",
    "Name": "Ethernet Interface",
    "Description": "System NIC 1",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "PermanentMACAddress": "12:44:6A:3B:04:11",
    "MACAddress": "12:44:6A:3B:04:11",
    "SpeedMbps": 1000,
    "FullDuplex": true,
    "HostName": "web483",
    "FQDN": "web483.contoso.com",
    "IPv6DefaultGateway": "fe80::3ed9:2bff:fe34:600",
    "NameServers": [
        "names.contoso.com"
    ],
    "IPv4Addresses": [
        {
            "Address": "192.168.0.10",
```

```
            "SubnetMask": "255.255.252.0",
            "AddressOrigin": "Static",
            "Gateway": "192.168.0.1"
        }
    ],
    "IPv6Addresses": [
        {
            "Address": "fe80::1ec1:deff:fe6f:1e24",
            "PrefixLength": 64,
            "AddressOrigin": "Static",
            "AddressState": "Preferred"
        }
    ],
    "VLANs": {
        "@odata.id": "/redfish/v1/Systems/437XR1138R2/EthernetInterfaces/12446A3B0411/VLANs
    },
    "@odata.context": "/redfish/v1/$metadata#EthernetInterface.EthernetInterface",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/EthernetInterfaces/12446A3B0411"
}
```


Event 1.2.0

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	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific 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.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Events [{	array	read-write	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.
Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Context	string	read-only	A context can be supplied at subscription time. This property is the context value supplied by the subscriber.
EventId	string	read-	This is a unique instance identifier of an event.

		only	
EventTimestamp	string	read-only	This is time the event occurred.
EventType	string	read-only	This indicates the type of event sent, according to the definitions in the EventService. *See Property Details, below, for more information about this property.*
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	read-only	This array of message arguments are substituted for the arguments in the message when looked up in the message registry.
	string	read-write	
]			
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	read-write	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.
OriginOfCondition		read-write	
Severity	string	read-only	This is the severity of the event.
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.

Property Details

EventType:

string	Description
Alert	A condition exists which requires attention.

string	Description
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 1.2.0

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

Actions *(v1.2+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Context	string, null	read-write	A client-supplied string that is stored with the event destination subscription.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Destination	string	read-only	The URI of the destination Event Service.
EventTypes [{	array	read-only	This property shall contain the types of events that shall be sent to the desination.
EventType	string	read-write	*See Property Details, below, for more information about this property.*
}]			
HttpHeaders [{ }]	array	read-write	This is for setting HTTP headers, such as authorization information. This object will be null on a GET.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
MessageIds *(v1.1+)* [	array	read-only	A list of MessageIds that the service will only send.
	string, null	read-write	
]			
Name	string	read-only	The name of the resource or array element.

Oem { }	object	read-write	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.
OriginResources *(v1.1+)* [{	array	read-only	A list of resources for which the service will only send related events.
@odata.id	string	read-write	The unique identifier for a resource.
}]			
Protocol	string	read-only	The protocol type of the event connection. *See Property Details, below, for more information about this property.*

Property Details

EventType:

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:

string
Redfish

Example Response


```
{
    "@odata.type": "#EventDestination.v1_0_2.EventDestination",
    "Id": "1",
    "Name": "EventSubscription 1",
    "Destination": "http://www.dnsname.com/Destination1",
    "EventTypes": [
        "Alert"
    ],
    "Context": "WebUser3",
    "Protocol": "Redfish",
    "@odata.context": "/redfish/v1/$metadata#EventDestination.EventDestination",
    "@odata.id": "/redfish/v1/EventService/Subscriptions/1"
}
```

EventService 1.0.4

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

Actions {	object	read-write	The available actions for this resource.
#EventService.SubmitTestEvent {	object	read-write	This action is used to generate a test event.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
DeliveryRetryAttempts	number	read-only	This is the number of attempts an event posting is retried before the subscription is terminated.
DeliveryRetryIntervalSeconds	number (s)	read-only	This represents the number of seconds between retry attempts for sending any given Event.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
EventTypesForSubscription [{	array	read-only	This is the types of Events that can be subscribed to.
EventType	string	read-write	*See Property Details, below, for more information about this property.*
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
ServiceEnabled	boolean, null	read-write	This indicates whether this service is enabled.

Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
Subscriptions {	object	read-only	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.
}			

Property Details

EventType:

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_0_2.EventService",
    "Id": "EventService",
    "Name": "Event Service",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "ServiceEnabled": true,
    "DeliveryRetryAttempts": 3,
    "DeliveryRetryIntervalSeconds": 60,
    "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"
}
```


Fabric 1.0.2

Fabric contains properties describing a simple fabric consisting of one or more switches, zero or more endpoints, and zero or more zones.

Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Endpoints {	object	read-only	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	read-only	The protocol being sent over this fabric. *See Property Details, below, for more information about this property.*
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	Contains references to other resources that are related to this resource.
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
}			
MaxZones	number, null	read-only	The value of this property shall contain the maximum number of zones the switch can currently configure.
Name	string	read-	The name of the resource or array element.

		only	
Oem { }	object	read-write	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.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
Switches {	object	read-only	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	read-only	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:

string	Description
AHCI	Advanced Host Controller Interface.
FC	Fibre Channel.
FCP	Fibre Channel Protocol for SCSI.
FCoE	Fibre Channel over Ethernet.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol.
HTTP	Hypertext Transport Protocol.
HTTPS	Secure Hypertext Transport Protocol.
NFSv3	Network File System version 3.
NFSv4	Network File System version 4.
NVMe	Non-Volatile Memory Express.
NVMeOverFabrics	NVMe over Fabrics.
PCIe	PCI Express (Vendor Proprietary).
SAS	Serial Attached SCSI.

string	Description
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.
iSCSI	Internet SCSI.

HostInterface 1.1.0

This schema defines a Host Interface resource.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AuthenticationModes [{	array	read-write	This indicates the authentication modes available on this interface.
AuthenticationMode	string	read-write	*See Property Details, below, for more information about this property.*
}]			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
ExternallyAccessible	boolean, null	read-only	This indicates whether this interface is accessible by external entities.
FirmwareAuthEnabled	boolean, null	read-write	This indicates whether this firmware authentication is enabled for this interface.
FirmwareAuthRoleId	string	read-write	This property contains the Role for firmware authentication on this interface.
HostEthernetInterfaces {	object	read-only	This is a reference to a collection of NICs that Computer Systems use for network communication 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	read-	This indicates the Host Interface type for this

		only	interface. *See Property Details, below, for more information about this property.*
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
InterfaceEnabled	boolean, null	read-write	This indicates whether this interface is enabled.
KernelAuthEnabled	boolean, null	read-write	This indicates whether this kernel authentication is enabled for this interface.
KernelAuthRoleId	string	read-write	This property contains the Role for kernel authentication on this interface.
Links {	object	read-write	Contains references to other resources that are related to this resource.
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	read-only	A reference to the Role object defining Privileges for this Host Interface when using firmware 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.
}			
KernelAuthRole {	object	read-only	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
ManagerEthernetInterface {	object	read-only	This is a reference to a single 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.

}			
Name	string	read-only	The name of the resource or array element.
NetworkProtocol {	object	read-only	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.
}			
Oem { }	object	read-write	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.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

Property Details

AuthenticationMode:

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:

string	Description
NetworkHostInterface	This interface is a Network Host Interface.

JsonSchemaFile 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-	The available OEM specific actions for this resource.

		write	
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Languages [	array	read-only	Language codes for the schemas available.
	string	read-write	
]			
Location [{	array	read-write	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.
}]			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Schema	string	read-only	The @odata.type name this schema describes.

LogEntry 1.2.0

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.

Actions *(v1.2+)* {	object	read-write	The available actions for this resource.

Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Created	string	read-only	The time the log entry was created.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
EntryCode	string	read-only	If the EntryType is SEL, this will have the entry code for the log entry. *See Property Details, below, for more information about this property.*
EntryType	string	read-only	his is the type of log entry. *See Property Details, below, for more information about this property.*
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+)*	string	read-only	This indicates the type of an event recorded in this log. *See Property Details, below, for more information about this property.*
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	Contains references to other resources that are related to this resource.
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
OriginOfCondition		read-write	
}			
Message	string, null	read-only	This property decodes from EntryType: If it 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	read-only	The values of this property shall be any arguments for the message.
	string	read-write	
]			
MessageId	string	read-only	This property decodes from EntryType: If it is Event then it is a message id. Otherwise, it is SEL or Oem specific. This value is only used for registries - for more

			information, see the specification.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
OemRecordFormat	string, null	read-only	If the entry type is Oem, this will contain more information about the record format from the Oem.
SensorNumber	number, null	read-only	This property decodes from EntryType: If it is SEL, it is the sensor number; if Event then the count of events. Otherwise, it is Oem specific.
SensorType	string	read-only	If the EntryType is SEL, this will have the sensor type that the log entry pertains to. *See Property Details, below, for more information about this property.*
Severity	string	read-only	This is the severity of the log entry. *See Property Details, below, for more information about this property.*

Property Details

EntryCode:

string
Assert
D0 Power State
D1 Power State
D2 Power State
D3 Power State
Deassert
Device Disabled
Device Enabled
Device Inserted / Device Present
Device Removed / Device Absent
Fully Redundant
Informational
Install Error
Limit Exceeded

string
Limit Not Exceeded
Lower Critical - going high
Lower Critical - going low
Lower Non-critical - going high
Lower Non-critical - going low
Lower Non-recoverable - going high
Lower Non-recoverable - going low
Monitor
Non-redundant:Insufficient Resources
Non-redundant:Sufficient Resources from Insufficient Resources
Non-redundant:Sufficient Resources from Redundant
Performance Lags
Performance Met
Predictive Failure asserted
Predictive Failure deasserted
Redundancy Degraded
Redundancy Degraded from Fully Redundant
Redundancy Degraded from Non-redundant
Redundancy Lost
State Asserted
State Deasserted
Transition to Active
Transition to Busy
Transition to Critical from Non-recoverable
Transition to Critical from less severe
Transition to Degraded
Transition to Idle
Transition to In Test
Transition to Non-Critical from OK

string
Transition to Non-Critical from more severe
Transition to Non-recoverable
Transition to Non-recoverable from less severe
Transition to OK
Transition to Off Duty
Transition to Off Line
Transition to On Line
Transition to Power Off
Transition to Power Save
Transition to Running
Upper Critical - going high
Upper Critical - going low
Upper Non-critical - going high
Upper Non-critical - going low
Upper Non-recoverable - going high
Upper Non-recoverable - going low

EntryType:

string
Event
Oem
SEL

EventType:

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:

string
Add-in Card
BaseOSBoot/InstallationStatus
Battery
Boot Error
Button/Switch
Cable/Interconnect
Chassis
ChipSet
CoolingDevice
Critical Interrupt
Current
Drive Slot/Bay
Entity Presence
Event Logging Disabled
FRUState
Fan
LAN
Management Subsystem Health
Memory
Microcontroller/Coprocessor
Module/Board
Monitor ASIC/IC
OS Stop/Shutdown
Other FRU
Other Units-based Sensor
POST Memory Resize
Physical Chassis Security
Platform Alert

string
Platform Security Violation Attempt
Power Supply / Converter
PowerUnit
Processor
Session Audit
Slot/Connector
System ACPI PowerState
System Event
System Firmware Progress
SystemBoot/Restart
Temperature
Terminator
Version Change
Voltage
Watchdog

Severity:

string
Critical
OK
Warning

Example Response


```
{
    "@odata.type": "#LogEntry.v1_0_2.LogEntry",
    "Id": "1",
    "Name": "Log Entry 1",
    "EntryType": "SEL",
    "OemRecordFormat": "Contoso",
    "Severity": "Critical",
    "Created": "2012-03-07T14:44",
    "EntryCode": "Assert",
    "SensorType": "Temperature",
    "SensorNumber": 1,
    "Message": "System May be Melting",
    "MessageId": "Event.1.0.TempWayTooHot",
    "MessageArgs": [
```

```
            "88"
        ],
        "Links": {
            "OriginOfCondition": {
                "@odata.id": "/redfish/v1/Chassis/1U/Thermal"
            },
            "Oem": {}
        },
        "Oem": {},
        "@odata.context": "/redfish/v1/$metadata#LogEntry.LogEntry",
        "@odata.id": "/redfish/v1/Managers/BMC/LogServices/Log/Entries/1"
}
```


LogService 1.0.4

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

Actions {	object	read-write	The available actions for this resource.
#LogService.ClearLog {	object	read-write	
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
DateTime	string, null	read-write	The current DateTime (with offset) for the log service, used to set or read time.
DateTimeLocalOffset	string, null	read-write	The time offset from UTC that the DateTime property is set to in format: +06:00 .
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Entries {	object	read-only	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.
}			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
MaxNumberOfRecords	number	read-only	The maximum number of log entries this service can have.

Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
OverWritePolicy	string	read-only	The overwrite policy for this service that takes place when the log is full. *See Property Details, below, for more information about this property.*
ServiceEnabled	boolean, null	read-write	This indicates whether this service is enabled.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

Property Details

OverWritePolicy:

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_0_2.LogService",
    "Id": "Log",
    "Name": "System Log Service",
    "MaxNumberOfRecords": 1000,
    "OverWritePolicy": "WrapsWhenFull",
    "DateTime": "2015-03-13T04:14:33+06:00",
    "DateTimeLocalOffset": "+06:00",
    "ServiceEnabled": true,
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Oem": {},
    "Actions": {
        "#LogService.ClearLog": {
            "target": "/redfish/v1/Managers/BMC/LogServices/Log/Actions/LogService.Reset"
        },
        "Oem": {}
    },
    "Entries": {
        "@odata.id": "/redfish/v1/Managers/BMC/LogServices/Log/Entries"
```

```
    },
    "@odata.context": "/redfish/v1/$metadata#LogService.LogService",
    "@odata.id": "/redfish/v1/Managers/BMC/LogServices/Log"
}
```

Manager 1.3.1

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

Actions {	object	read-write	The available actions for this resource.
#Manager.ForceFailover {	object	read-write	The ForceFailover action forces a failover of this manager to the manager used in the parameter.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
#Manager.ModifyRedundancySet {	object	read-write	The ModifyRedundancySet operation is used to add or remove members to a redundant group of manager.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
#Manager.Reset {	object	read-write	The reset action resets/reboots the manager.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
CommandShell {	object	read-write	Information about the Command Shell service provided by this manager.

ConnectTypesSupported [{	array	read-only	This object is used to enumerate the Command Shell connection types allowed by the implementation.
CommandConnectTypesSupported	string	read-write	*See Property Details, below, for more information about this property.*
}]			
MaxConcurrentSessions	number	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, null	read-write	The current DateTime (with offset) for the manager, used to set or read time.
DateTimeLocalOffset	string, null	read-write	The time offset from UTC that the DateTime property is set to in format: +06:00 .
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
EthernetInterfaces {	object	read-only	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, null	read-only	The firmware version of this Manager.
GraphicalConsole {	object	read-write	The value of this property shall contain the information about the Graphical Console (KVM-IP) service of this manager.
ConnectTypesSupported [{	array	read-only	This object is used to enumerate the Graphical Console connection types

			allowed by the implementation.
GraphicalConnectTypesSupported	string	read-write	*See Property Details, below, for more information about this property.*
}]			
MaxConcurrentSessions	number	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	read-only	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.
}			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	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.

}]			
ManagerInChassis {	object	read-only	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
LogServices {	object	read-only	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	read-only	This property represents the type of manager that this resource represents. *See Property Details, below, for more information about this property.*
Model	string, null	read-only	The model information of this Manager as defined by the manufacturer.
Name	string	read-only	The name of the resource or array element.
NetworkProtocol {	object	read-only	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.
}			
Oem { }	object	read-	This is the manufacturer/provider

		write	specific extension moniker used to divide the Oem object into sections. See the Resource schema for details on this property.
PowerState *(v1.2+)*	string	read-only	This is the current power state of the Manager. *See Property Details, below, for more information about this property.*
Redundancy [{	array	read-write	Redundancy information for the managers of this system.
{ }	object	read-write	A reference to a resource. See the odata.4.0.0 schema for details on this property.
}]			
SerialConsole {	object	read-write	Information about the Serial Console service provided by this manager.
ConnectTypesSupported [{	array	read-only	This object is used to enumerate the Serial Console connection types allowed by the implementation.
SerialConnectTypesSupported	string	read-write	*See Property Details, below, for more information about this property.*
}]			
MaxConcurrentSessions	number	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	read-only	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	The UUID of the Redfish Service provided by this manager.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
UUID	string	read-only	The Universal Unique Identifier (UUID) for this Manager.
VirtualMedia {	object	read-only	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.
}			

Property Details

CommandConnectTypesSupported:

string	Description
IPMI	The controller supports a Command Shell connection using the SSH protocol.
Oem	The controller supports a Command Shell connection using an OEM-specific protocol.
SSH	The controller supports a Command Shell connection using the SSH protocol.
Telnet	The controller supports a Command Shell connection using the SSH protocol.

GraphicalConnectTypesSupported:

string	Description
KVMIP	The controller supports a Graphical Console connection using a KVM-IP (redirection of Keyboard, Video, Mouse over IP) protocol.
Oem	The controller supports a Graphical Console connection using an OEM-specific protocol.

ManagerType:

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

string	Description
	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.

PowerState:

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.

SerialConnectTypesSupported:

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.

Example Response


```
{
    "@odata.type": "#Manager.v1_1_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",
    "DateTime": "2015-03-13T04:14:33+06:00",
    "DateTimeLocalOffset": "+06:00",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
```

```
    "GraphicalConsole": {
        "ServiceEnabled": true,
        "MaxConcurrentSessions": 2,
        "ConnectTypesSupported": [
            "KVMIP"
        ]
    },
    "SerialConsole": {
        "ServiceEnabled": true,
        "MaxConcurrentSessions": 1,
        "ConnectTypesSupported": [
            "Telnet",
            "SSH",
            "IPMI"
        ]
    },
    "CommandShell": {
        "ServiceEnabled": true,
        "MaxConcurrentSessions": 4,
        "ConnectTypesSupported": [
            "Telnet",
            "SSH"
        ]
    },
    "FirmwareVersion": "1.00",
    "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 1.1.0

The user accounts, owned by a Manager, are defined in this resource. Changes to a Manager Account may affect the current Redfish service connection if this manager is responsible for the Redfish service.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Enabled	boolean	read-write	This property is used by a User Administrator to disable an account w/o having to delet the user information. When set to true, the user can login. When set to false, the account is administratively disabled and the user cannot login.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	Contains references to other resources that are related to this resource.
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
Role {	object	read-only	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.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Password	string, null	read-write	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	This property contains the Role for this account.
UserName	string	read-write	This property contains the user name for the account.

Example Response


```
{
    "@odata.type": "#ManagerAccount.v1_0_2.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/Admin"
        }
    },
    "@odata.context": "/redfish/v1/$metadata#ManagerAccount.ManagerAccount",
    "@odata.id": "/redfish/v1/AccountService/Accounts/1"
}
```


ManagerNetworkProtocol 1.2.0

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

Actions *(v1.2+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
DHCP *(v1.1+)* {	object	read-write	Settings for this Manager's DHCP protocol support.

Port	number, null	read-write	Indicates the protocol port.
ProtocolEnabled	boolean, null	read-write	Indicates if the protocol is enabled or disabled.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
FQDN	string, null	read-only	This is the fully qualified domain name for the manager obtained by DNS including the host name and top-level domain name.
HTTP {	object	read-write	Settings for this Manager's HTTP protocol support.
Port	number, null	read-write	Indicates the protocol port.
ProtocolEnabled	boolean, null	read-write	Indicates if the protocol is enabled or disabled.
}			
HTTPS {	object	read-write	Settings for this Manager's HTTPS protocol support.
Port	number, null	read-write	Indicates the protocol port.
ProtocolEnabled	boolean, null	read-write	Indicates if the protocol is enabled or disabled.
}			
HostName	string, null	read-only	The DNS Host Name of this manager, without any domain information.
IPMI {	object	read-write	Settings for this Manager's IPMI-over-LAN protocol support.
Port	number, null	read-write	Indicates the protocol port.
ProtocolEnabled	boolean, null	read-write	Indicates if the protocol is enabled or disabled.
}			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
KVMIP {	object	read-write	Settings for this Manager's KVM-IP protocol support.
Port	number,	read-	Indicates the protocol port.

	null	write	
ProtocolEnabled	boolean, null	read-write	Indicates if the protocol is enabled or disabled.
}			
NTP *(v1.2+)* {	object	read-write	Settings for this Manager's NTP protocol support.
NTPServers [	array	read-write	Indicates to which NTP servers this manager is subscribed.
	string, null	read-write	
]			
Port	number, null	read-write	Indicates the protocol port.
ProtocolEnabled	boolean, null	read-write	Indicates if the protocol is enabled or disabled.
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
SNMP {	object	read-write	Settings for this Manager's SNMP support.
Port	number, null	read-write	Indicates the protocol port.
ProtocolEnabled	boolean, null	read-write	Indicates if the protocol is enabled or disabled.
}			
SSDP {	object	read-write	Settings for this Manager's SSDP support.
NotifyIPv6Scope	string	read-write	Indicates the scope for the IPv6 Notify messages for SSDP. *See Property Details, below, for more information about this property.*
NotifyMulticastIntervalSeconds	number, null (s)	read-write	Indicates how often the Multicast is done from this service for SSDP.
NotifyTTL	number, null	read-write	Indicates the time to live hop count for SSDPs Notify messages.

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

Property Details

NotifyIPv6Scope:

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.

string	Description
Site	SSDP Notify messages are sent to addresses in the IPv6 Local Site scope.

Example Response


```
{
    "@odata.type": "#ManagerNetworkProtocol.v1_0_2.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
    },
    "Oem": {},
```

```
    "@odata.context": "/redfish/v1/$metadata#ManagerNetworkProtocol.ManagerNetworkProtocol"
    "@odata.id": "/redfish/v1/Managers/BMC/NetworkProtocol"
}
```


Memory 1.2.0

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

Actions {	object	read-write	The available actions for this resource.
#Memory.DisablePassphrase {	object	read-write	Disable passphrase for given regions.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
#Memory.SecureEraseUnit {	object	read-write	This defines the action for securely erasing given regions.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
#Memory.SetPassphrase {	object	read-write	Set passphrase for the given regions.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
#Memory.UnlockUnit {	object	read-write	This defines the action for unlocking given regions.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.

}			
AllocationAlignmentMiB *(v1.2+)*	number, null	read-only	The boundary which memory regions are allocated on, measured in MiB.
AllocationIncrementMiB *(v1.2+)*	number, null	read-only	The size of the smallest unit of allocation for a memory region, thus it is the multiple in which regions are actually reserved.
AllowedSpeedsMHz [	array	read-only	Speed bins supported by this Memory.
	number	read-write	
]			
BaseModuleType	string	read-only	The base module type of Memory. *See Property Details, below, for more information about this property.*
BusWidthBits	number, null	read-only	Bus Width in bits.
CapacityMiB	number, null (MiBy)	read-only	Memory Capacity in MiB.
DataWidthBits	number, null	read-only	Data Width in bits.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
DeviceID	string, null	read-only	Device ID.
DeviceLocator	string, null	read-only	Location of the Memory in the platform.
ErrorCorrection	string	read-only	Error correction scheme supported for this memory. *See Property Details, below, for more information about this property.*
FirmwareApiVersion	string, null	read-only	Version of API supported by the firmware.
FirmwareRevision	string, null	read-only	Revision of firmware on the Memory controller.
FunctionClasses [	array	read-only	Function Classes by the Memory.
	string	read-write	
]			

Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
IsRankSpareEnabled	boolean, null	read-only	Rank spare enabled status.
IsSpareDeviceEnabled	boolean, null	read-only	Spare device enabled status.
Links *(v1.2+)* {	object	read-write	Contains references to other resources that are related to this resource.
Chassis {	object	read-only	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
Manufacturer	string, null	read-only	The Memory manufacturer.
MaxTDPMilliWatts [	array	read-only	Maximum TDPs in milli Watts.
	number	read-write	
]			
MemoryDeviceType	string	read-only	Type details of the Memory. *See Property Details, below, for more information about this property.*
MemoryLocation {	object	read-write	Memory connection information to sockets and memory controllers.
Channel	number, null	read-only	Channel number in which Memory is connected.
MemoryController	number, null	read-only	Memory controller number in which Memory is connected.
Slot	number, null	read-only	Slot number in which Memory is connected.
Socket	number, null	read-only	Socket number in which Memory is connected.
}			
MemoryMedia [{	array	read-	Media of this Memory.

		only	
MemoryMedia	string	read-write	*See Property Details, below, for more information about this property.*
}]			
MemoryType	string	read-only	The type of Memory. *See Property Details, below, for more information about this property.*
Metrics {	object	read-only	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.
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
OperatingMemoryModes [{	array	read-only	Memory modes supported by the Memory.
OperatingMemoryModes	string	read-write	*See Property Details, below, for more information about this property.*
}]			
OperatingSpeedMhz	number, null	read-only	Operating speed of Memory in MHz.
PartNumber	string, null	read-only	The product part number of this device.
PersistentRegionNumberLimit *(v1.2+)*	number, null	read-only	Total number of persistent regions this Memory can support.
PersistentRegionSizeLimitMiB	number, null	read-only	Total size of persistent regions in MiB.
PersistentRegionSizeMaxMiB *(v1.2+)*	number, null	read-only	Maximum size of a single persistent region in MiB.
PowerManagementPolicy {	object	read-write	Power management policy information.
AveragePowerBudgetMilliWatts	number, null	read-only	Average power budget in milli watts.

	(mW)		
MaxTDPMilliWatts	number, null (mW)	read-only	Maximum TDP in milli watts.
PeakPowerBudgetMilliWatts	number, null (mW)	read-only	Peak power budget in milli watts.
PolicyEnabled	boolean, null	read-only	Power management policy enabled status.
}			
RankCount	number, null	read-only	Number of ranks available in the Memory.
Regions [{	array	read-write	Memory regions information within the Memory.
MemoryClassification	string	read-only	Classification of memory occupied by the given memory region. *See Property Details, below, for more information about this property.*
OffsetMiB	number, null (MiBy)	read-only	Offset with in the Memory that corresponds to the starting of this memory region in MiB.
PassphraseState	boolean, null	read-only	State of the passphrase for this region.
RegionId	string, null	read-only	Unique region ID representing a specific region within the Memory.
SizeMiB	number, null (MiBy)	read-only	Size of this memory region in MiB.
}]			
SecurityCapabilities {	object	read-write	This object contains security capabilities of the Memory.
MaxPassphraseCount	number, null	read-only	Maximum number of passphrases supported for this Memory.
PassphraseCapable	boolean, null	read-only	Memory passphrase set capability.
SecurityStates [{	array	read-only	Security states supported by the Memory.
SecurityStates	string	read-write	*See Property Details, below, for more information about this property.*
}]			

}			
SerialNumber	string, null	read-only	The product serial number of this device.
SpareDeviceCount	number, null	read-only	Number of unused spare devices available in the Memory.
Status *(v1.1+)* { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
SubsystemDeviceID	string, null	read-only	Subsystem Device ID.
SubsystemVendorID	string, null	read-only	SubSystem Vendor ID.
VendorID	string, null	read-only	Vendor ID.
VolatileRegionNumberLimit *(v1.2+)*	number, null	read-only	Total number of volatile regions this Memory can support.
VolatileRegionSizeLimitMiB	number, null	read-only	Total size of volatile regions in MiB.
VolatileRegionSizeMaxMiB *(v1.2+)*	number, null	read-only	Maximum size of a single volatile region in MiB.

Property Details

BaseModuleType:

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:

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:

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

MemoryDeviceType:

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.
DDR4E_SDRAM	DDR4E SDRAM.
DDR4_SDRAM	DDR4 SDRAM.
DDR_SDRAM	DDR SDRAM.
DDR_SGRAM	DDR SGRAM.
EDO	EDO.
FastPageMode	Fast Page Mode.
LPDDR3_SDRAM	LPDDR3 SDRAM.
LPDDR4_SDRAM	LPDDR4 SDRAM.

string	Description
PipelinedNibble	Pipelined Nibble.
ROM	ROM.
SDRAM	SDRAM.

MemoryMedia:

string	Description
DRAM	DRAM media.
NAND	NAND media.
Proprietary	Proprietary media.

MemoryType:

string	Description
DRAM	The memory module is composed of 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:

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

SecurityStates:

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.

string	Description
Unlocked	Secure mode is enabled and access to the data is unlocked.

Example Response


```
{
    "@odata.type": "#Memory.v1_1_0.Memory",
    "Name": "DIMM Slot 1",
    "Id": "DIMM1",
    "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 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AddressRangeType	string	read-only	Memory type of this memory chunk. *See Property Details, below, for more information about this property.*
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-	Uniquely identifies the resource within the collection of

		only	like resources.
InterleaveSets [{	array	read-write	This is the interleave sets for the memory chunk.
Memory		read-write	
MemoryLevel	number, null	read-only	Level of the interleave set for multi-level tiered memory.
OffsetMiB	number, null	read-only	Offset within the DIMM that corresponds to the start of this memory region, with units in MiB.
RegionId	string, null	read-only	DIMM region identifier.
SizeMiB	number, null	read-only	Size of this memory region in MiB.
}]			
IsMirrorEnabled	boolean, null	read-only	Mirror Enabled status.
IsSpare	boolean, null	read-only	Spare enabled status.
MemoryChunkSizeMiB	number, null	read-only	Size of the memory chunk in MiB.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.

Property Details

AddressRangeType:

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

MemoryDomain 1.2.0

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.

Actions *(v1.2+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AllowsBlockProvisioning	boolean, null	read-only	Indicates if this Memory Domain supports the provisioning of blocks of memory.
AllowsMemoryChunkCreation	boolean, null	read-only	Indicates if this Memory Domain supports the creation of Memory Chunks.
AllowsMirroring *(v1.1+)*	boolean, null	read-only	Indicates if this Memory Domain supports the creation of Memory Chunks with mirroring enabled.
AllowsSparing *(v1.1+)*	boolean, null	read-only	Indicates if this Memory Domain supports the creation of Memory Chunks with sparing enabled.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
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	read-only	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.
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.

MemoryMetrics 1.1.2

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

Actions {	object	read-write	The available actions for this resource.
#MemoryMetrics.ClearCurrentPeriod {	object	read-write	This sets the CurrentPeriod object values to zero.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
BlockSizeBytes	number, null (By)	read-only	Block size in bytes.
CurrentPeriod {	object	read-write	This object contains the Memory metrics since last reset or ClearCurrentPeriod action.
BlocksRead	number, null	read-only	Number of blocks read since reset.
BlocksWritten	number, null	read-only	Number of blocks written since reset.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
HealthData {	object	read-write	This object describes the health information of the memory.
AlarmTrips {	object	read-write	Alarm trip information about the memory.
AddressParityError	boolean, null	read-only	Address parity error detected status.
CorrectableECCError	boolean, null	read-only	Correctable data error threshold crossing alarm trip detected status.
SpareBlock	boolean, null	read-only	Spare block capacity crossing alarm trip detected status.
Temperature	boolean,	read-	Temperature threshold crossing alarm

	null	only	trip detected status.
UncorrectableECCError	boolean, null	read-only	Uncorrectable data error threshold crossing alarm trip detected status.
}			
DataLossDetected	boolean, null	read-only	Data loss detection status.
LastShutdownSuccess	boolean, null	read-only	Status of last shutdown.
PerformanceDegraded	boolean, null	read-only	Performance degraded mode status.
PredictedMediaLifeLeftPercent	number, null	read-only	The percentage of reads and writes that are predicted to still be available for the media.
RemainingSpareBlockPercentage	number, null	read-only	Remaining spare blocks in percentage.
}			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
LifeTime {	object	read-write	This object contains the Memory metrics for the lifetime of the Memory.
BlocksRead	number, null	read-only	Number of blocks read for the lifetime of the Memory.
BlocksWritten	number, null	read-only	Number of blocks written for the lifetime of the Memory.
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.

MessageRegistry 1.1.0

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	read-write	The available actions for this resource.

Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Language	string	read-only	This is the RFC 5646 compliant language code for the registry.
Messages { }	object	read-write	The pattern property indicates that a free-form string is the unique identifier for the message within the registry.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
OwningEntity	string	read-only	This is the organization or company that publishes this registry.
RegistryPrefix	string	read-only	This is the single word prefix used to form a messageID structure.
RegistryVersion	string	read-only	This is the message registry version which is used in the middle portion of a messageID.

MessageRegistryFile 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Languages [	array	read-only	Language codes for the schemas available.
	string	read-write	

]			
Location [{	array	read-write	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.
}]			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Registry	string	read-only	The Registry Name, Major and Minor version used in MessageID construction.

NetworkAdapter 1.0.1

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.

Actions {	object	read-write	The available actions for this resource.
#NetworkAdapter.ResetSettingsToDefault {	object	read-write	This action is to clear the settings back to factory defaults.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			

Controllers [{	array	read-write	The set of network controllers ASICs that make up this NetworkAdapter.
ControllerCapabilities {	object	read-write	The capabilities of this controller.
DataCenterBridging {	object	read-write	Data Center Bridging (DCB) for this controller.
Capable	boolean, null	read-only	Whether this controller is capable of Data Center Bridging (DCB).
}			
NPIV {	object	read-write	N_Port ID Virtualization (NPIV) capabilties for this controller.
MaxDeviceLogins	number, null	read-only	The maximum number of N_Port ID Virtualization (NPIV) logins allowed simultaneously from all ports on this controller.
MaxPortLogins	number, null	read-only	The maximum number of N_Port ID Virtualization (NPIV) logins allowed per physical port on this controller.
}			
NetworkDeviceFunctionCount	number, null	read-only	The maximum number of physical functions available on this controller.
NetworkPortCount	number, null	read-only	The number of physical ports on this controller.
VirtualizationOffload {	object	read-write	Virtualization offload for this controller.
SRIOV {	object	read-write	Single-Root Input/Output Virtualization (SR-IOV) capabilities.
SRIOVVEPACapable	boolean, null	read-only	Whether this controller supports Single Root Input/Output Virtualization (SR-IOV) in Virtual Ethernet Port Aggregator (VEPA) mode.
}			
VirtualFunction {	object	read-write	A virtual function of a controller.
DeviceMaxCount	number, null	read-only	The maximum number of Virtual Functions (VFs) supported by this controller.

MinAssignmentGroupSize	number, null	read-only	The minimum number of Virtual Functions (VFs) that can be allocated or moved between physical functions for this controller.
NetworkPortMaxCount	number, null	read-only	The maximum number of Virtual Functions (VFs) supported per network port for this controller.
}			
}			
}			
FirmwarePackageVersion	string, null	read-only	The version of the user-facing firmware package.
Links {	object	read-write	Links.
NetworkDeviceFunctions [{	array	read-only	Contains the members of this collection.
@odata.id	string	read-only	Link to a NetworkDeviceFunction resource. See the Links section and the NetworkDeviceFunction schema for details.
}]			
NetworkPorts [{	array	read-only	Contains the members of this collection.
@odata.id	string	read-only	Link to a NetworkPort resource. See the Links section and the NetworkPort schema for details.
}]			
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
PCIeDevices [{	array	read-only	Contains the members of this collection.
@odata.id	string	read-only	Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details.
}]			
}			
}]			

Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Manufacturer	string, null	read-only	The manufacturer or OEM of this network adapter.
Model	string, null	read-only	The model string for this network adapter.
Name	string	read-only	The name of the resource or array element.
NetworkDeviceFunctions {	object	read-only	Contains the members of this collection. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of NetworkDeviceFunction. See the NetworkDeviceFunction schema for details.
}			
NetworkPorts {	object	read-only	Contains the members of this collection. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of NetworkPort. See the NetworkPort schema for details.
}			
Oem { }	object	read-write	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.
PartNumber	string, null	read-only	Part number for this network adapter.
SKU	string, null	read-only	The manufacturer SKU for this network adapter.
SerialNumber	string, null	read-only	The serial number for this network adapter.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this

			property.

NetworkDeviceFunction 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AssignablePhysicalPorts [{	array	read-only	Contains the members of this collection.
@odata.id	string	read-only	Link to a NetworkPort resource. See the Links section and the NetworkPort schema for details.
}]			
BootMode	string	read-write	The boot mode configured for this network device function. *See Property Details, below, for more information about this property.*
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
DeviceEnabled	boolean, null	read-write	Whether the network device function is enabled.
Ethernet {	object	read-write	Ethernet.
MACAddress	string, null	read-write	This is the currently configured MAC address of the (logical port) network device function.
MTUSize	number, null	read-write	The Maximum Transmission Unit (MTU) configured for this network device function.
PermanentMACAddress	string, null	read-only	This is the permanent MAC address assigned to this network device function (physical function).
}			
FibreChannel {	object	read-write	Fibre Channel.
AllowFIPVLANDiscovery	boolean, null	read-write	Whether the FCoE Initialization Protocol (FIP) is used for populating the FCoE VLAN Id.
BootTargets [{	array	read-	An array of Fibre Channel boot targets

		write	configured for this network device function.
BootPriority	number, null	read-write	The relative priority for this entry in the boot targets array.
LUNID	string, null	read-write	The Logical Unit Number (LUN) ID to boot from on the device referred to by the corresponding WWPN.
WWPN	string, null	read-write	The World-Wide Port Name to boot from.
}]			
FCoEActiveVLANId	number, null	read-only	The active FCoE VLAN ID.
FCoELocalVLANId	number, null	read-write	The locally configured FCoE VLAN ID.
PermanentWWNN	string, null	read-only	This is the permanent WWNN address assigned to this network device function (physical function).
PermanentWWPN	string, null	read-only	This is the permanent WWPN address assigned to this network device function (physical function).
WWNN	string, null	read-write	This is the currently configured WWNN address of the network device function (physical function).
WWNSource	string	read-write	The configuration source of the WWNs for this connection (WWPN and WWNN). *See Property Details, below, for more information about this property.*
WWPN	string, null	read-write	This is the currently configured WWPN address of the network device function (physical function).
}			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	Links.
PCIeFunction {	object	read-only	Contains the members of this collection. See the PCIeFunction schema for details on this property.
@odata.id	string	read-only	Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.
}			

}			
MaxVirtualFunctions	number, null	read-only	The number of virtual functions (VFs) that are available for this Network Device Function.
Name	string	read-only	The name of the resource or array element.
NetDevFuncCapabilities [{	array	read-only	Capabilities of this network device function.
NetworkDeviceTechology	string	read-write	*See Property Details, below, for more information about this property.*
}]			
NetDevFuncType	string	read-write	The configured capability of this network device function. *See Property Details, below, for more information about this property.*
Oem { }	object	read-write	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.
PhysicalPortAssignment {	object	read-only	Contains the members of this collection. 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.
}			
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
VirtualFunctionsEnabled	boolean, null	read-only	Whether Single Root I/O Virtualization (SR-IOV) Virual Functions (VFs) are enabled for this Network Device Function.
iSCSIBoot {	object	read-write	iSCSI Boot.
AuthenticationMethod	string	read-write	The iSCSI boot authentication method for this network device function. *See Property Details, below, for more information about this property.*
CHAPSecret	string, null	read-write	The shared secret for CHAP authentication.
CHAPUsername	string, null	read-write	The username for CHAP authentication.

IPAddressType	string	read-write	The type of IP address (IPv6 or IPv4) being populated in the iSCSIBoot IP address fields. *See Property Details, below, for more information about this property.*
IPMaskDNSViaDHCP	boolean, null	read-write	Whether the iSCSI boot initiator uses DHCP to obtain the iniator name, IP address, and netmask.
InitiatorDefaultGateway	string, null	read-write	The IPv6 or IPv4 iSCSI boot default gateway.
InitiatorIPAddress	string, null	read-write	The IPv6 or IPv4 address of the iSCSI initiator.
InitiatorName	string, null	read-write	The iSCSI initiator name.
InitiatorNetmask	string, null	read-write	The IPv6 or IPv4 netmask of the iSCSI boot initiator.
MutualCHAPSecret	string, null	read-write	The CHAP Secret for 2-way CHAP authentication.
MutualCHAPUsername	string, null	read-write	The CHAP Username for 2-way CHAP authentication.
PrimaryDNS	string, null	read-write	The IPv6 or IPv4 address of the primary DNS server for the iSCSI boot initiator.
PrimaryLUN	number, null	read-write	The logical unit number (LUN) for the primary iSCSI boot target.
PrimaryTargetIPAddress	string, null	read-write	The IP address (IPv6 or IPv4) for the primary iSCSI boot target.
PrimaryTargetName	string, null	read-write	The name of the iSCSI primary boot target.
PrimaryTargetTCPPort	number, null	read-write	The TCP port for the primary iSCSI boot target.
PrimaryVLANEnable	boolean, null	read-write	This indicates if the primary VLAN is enabled.
PrimaryVLANId	number, null	read-write	The 802.1q VLAN ID to use for iSCSI boot from the primary target.
RouterAdvertisementEnabled	boolean, null	read-write	Whether IPv6 router advertisement is enabled for the iSCSI boot target.
SecondaryDNS	string, null	read-write	The IPv6 or IPv4 address of the secondary DNS server for the iSCSI boot initiator.
SecondaryLUN	number, null	read-write	The logical unit number (LUN) for the secondary iSCSI boot target.
SecondaryTargetIPAddress	string, null	read-write	The IP address (IPv6 or IPv4) for the secondary iSCSI boot target.

SecondaryTargetName	string, null	read-write	The name of the iSCSI secondary boot target.
SecondaryTargetTCPPort	number, null	read-write	The TCP port for the secondary iSCSI boot target.
SecondaryVLANEnable	boolean, null	read-write	This indicates if the secondary VLAN is enabled.
SecondaryVLANId	number, null	read-write	The 802.1q VLAN ID to use for iSCSI boot from the secondary target.
TargetInfoViaDHCP	boolean, null	read-write	Whether the iSCSI boot target name, LUN, IP address, and netmask should be obtained from DHCP.
}			

Property Details

AuthenticationMethod:

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:

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.
PXE	Boot this device using the embedded PXE support. Only applicable if the NetworkDeviceFunctionType is set to Ethernet.
iSCSI	Boot this device using the embedded iSCSI boot support and configuration. Only applicable if the NetworkDeviceFunctionType is set to iSCSI.

IPAddressType:

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.

NetDevFuncType:

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.

NetworkDeviceTechology:

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:

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 1.1.0

A NetworkInterface contains references linking NetworkAdapter, NetworkPort, and NetworkDeviceFunction resources and represents the functionality available to the containing system.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-	The available OEM specific actions for this resource.

		write	
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	Links.
NetworkAdapter {	object	read-only	Contains the members of this collection. 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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
Name	string	read-only	The name of the resource or array element.
NetworkDeviceFunctions {	object	read-only	Contains the members of this collection. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of NetworkDeviceFunction. See the NetworkDeviceFunction schema for details.
}			
NetworkPorts {	object	read-only	Contains the members of this collection. Contains a link to a resource.
@odata.id	string	read-only	Link to Collection of NetworkPort. See the NetworkPort schema for details.
}			
Oem { }	object	read-write	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.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

NetworkPort 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
ActiveLinkTechnology	string	read-write	Network Port Active Link Technology. *See Property Details, below, for more information about this property.*
AssociatedNetworkAddresses [	array	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.
	string, null	read-write	
]			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
EEEEnabled	boolean, null	read-write	Whether IEEE 802.3az Energy Efficient Ethernet (EEE) is enabled for this network port.
FlowControlConfiguration	string	read-write	The locally configured 802.3x flow control setting for this network port. *See Property Details, below, for more information about this property.*
FlowControlStatus	string	read-only	The 802.3x flow control behavior negotiated with the link partner for this network port (Ethernet-only). *See Property Details, below, for more information about this property.*
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
LinkStatus	string	read-only	The status of the link between this port and its link partner. *See Property Details, below, for more information about this property.*
Name	string	read-only	The name of the resource or array element.
NetDevFuncMaxBWAlloc [{	array	read-write	The array of maximum bandwidth allocation percentages for the Network Device

			Functions associated with this port.
MaxBWAllocPercent	number, null	read-write	The maximum bandwidth allocation percentage allocated to the corresponding network device function instance.
NetworkDeviceFunction {	object	read-only	Contains the members of this collection. 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	number, null	read-write	The minimum bandwidth allocation percentage allocated to the corresponding network device function instance.
NetworkDeviceFunction {	object	read-only	Contains the members of this collection. 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.
}			
}]			
Oem { }	object	read-write	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.
PhysicalPortNumber	string, null	read-only	The physical port number label for this port.
PortMaximumMTU	number, null	read-only	The largest maximum transmission unit (MTU) that can be configured for this network port.
SignalDetected	boolean, null	read-only	Whether or not the port has detected enough signal on enough lanes to establish link.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

SupportedEthernetCapabilities [{	array	read-only	The set of Ethernet capabilities that this port supports.
SupportedEthernetCapabilities	string	read-write	*See Property Details, below, for more information about this property.*
}]			
SupportedLinkCapabilities [{	array	read-write	The self-described link capabilities of this port.
LinkNetworkTechnology	string	read-only	The self-described link network technology capabilities of this port. *See Property Details, below, for more information about this property.*
LinkSpeedMbps	number, null	read-only	The speed of the link in Mbps when this link network technology is active.
}]			
WakeOnLANEnabled	boolean, null	read-write	Whether Wake on LAN (WoL) is enabled for this network port.

Property Details

ActiveLinkTechnology:

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.

FlowControlConfiguration:

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:

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.

string	Description
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:

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:

string	Description
Down	The port is enabled but link is down.
Up	The port is enabled and link is good (up).

SupportedEthernetCapabilities:

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 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AssetTag	string, null	read-write	The user assigned asset tag for this PCIe device.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
DeviceType	string	read-only	The device type for this PCIe device. *See Property Details, below, for more information about this property.*

FirmwareVersion	string, null	read-only	The version of firmware for this PCIe device.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	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	read-write	Oem extension object. See the Resource schema for details on this property.
PCIeFunctions [{	array	read-only	An array of references to PCIeFunctions exposed by this device.
@odata.id	string	read-only	Link to a PCIeFunction resource. See the Links section and the PCIeFunction schema for details.
}]			
}			
Manufacturer	string, null	read-only	This is the manufacturer of this PCIe device.
Model	string, null	read-only	This is the model number for the PCIe device.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
PartNumber	string, null	read-only	The part number for this PCIe device.
SKU	string, null	read-only	This is the SKU for this PCIe device.
SerialNumber	string, null	read-only	The serial number for this PCIe device.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

Property Details

DeviceType:

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.

PCIeFunction 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
ClassCode	string, null	read-only	The Class Code of this PCIe function.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
DeviceClass	string	read-only	The class for this PCIe Function. *See Property Details, below, for more information about this property.*
DeviceId	string, null	read-only	The Device ID of this PCIe function.
FunctionId	number, null	read-only	The the PCIe Function identifier.
FunctionType	string	read-only	The type of the PCIe Function. *See Property Details, below, for more information about this property.*
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	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.
}]			
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
PCIeDevice {	object	read-only	A reference to the PCIeDevice on which this function resides. See the PCIeDevice schema for details on this property.
@odata.id	string	read-only	Link to a PCIeDevice resource. See the Links section and the PCIeDevice schema for details.
}			
StorageControllers [{	array	read-only	An array of references to the storage controllers which the PCIe device produces.
{ }	object	read-write	This schema defines a storage controller and its respective properties. A storage controller represents a storage device (physical or virtual) that produces Volumes. See the Storage.v1_0_0 schema for details on this property.
}]			
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
RevisionId	string, null	read-only	The Revision ID of this PCIe function.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
SubsystemId	string, null	read-only	The Subsystem ID of this PCIe function.
SubsystemVendorId	string, null	read-only	The Subsystem Vendor ID of this PCIe function.
VendorId	string, null	read-only	The Vendor ID of this PCIe function.

Property Details

DeviceClass:

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:

string	Description
Physical	A physical PCie function.

string	Description
Virtual	A virtual PCIe function.

Port 1.0.2

Port contains properties describing a port of a switch.

Actions {	object	read-write	The available actions for this resource.
#Port.Reset {	object	read-write	This action is used to reset this switch.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
CurrentSpeedGbps	number, null (Gbit/s)	read-only	The current speed of this port.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	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.
}]			
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.
}]			
ConnectedSwitches [{	array	read-	An array of references to the switches that connect

		only	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.
}]			
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
}			
MaxSpeedGbps	number, null (Gbit/s)	read-only	The maximum speed of this port as currently configured.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
PortId	string, null	read-only	This is the label of this port on the physical switch package.
PortProtocol	string	read-only	The protocol being sent over this port. *See Property Details, below, for more information about this property.*
PortType	string	read-only	This is the type of this port. *See Property Details, below, for more information about this property.*
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
Width	number, null	read-only	The number of lanes, phys, or other physical transport links that this port contains.

Property Details

PortProtocol:

string	Description
AHCI	Advanced Host Controller Interface.
FC	Fibre Channel.
FCP	Fibre Channel Protocol for SCSI.
FCoE	Fibre Channel over Ethernet.
FICON	FIbre CONnection (FICON).

string	Description
FTP	File Transfer Protocol.
HTTP	Hypertext Transport Protocol.
HTTPS	Secure Hypertext Transport Protocol.
NFSv3	Network File System version 3.
NFSv4	Network File System version 4.
NVMe	Non-Volatile Memory Express.
NVMeOverFabrics	NVMe over Fabrics.
PCIe	PCI Express (Vendor Proprietary).
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.
iSCSI	Internet SCSI.

PortType:

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.

Power 1.3.0

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

Actions *(v1.3+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-	The available OEM specific actions for this

		write	resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
PowerControl [{	array	read-write	This is the definition for power control function (power reading/limiting).
Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
MemberId	string	read-only	This is the identifier for the member within the collection.
Name	string, null	read-only	Power Control Function name.
Oem { }	object	read-write	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.
PowerAllocatedWatts	number, null (W)	read-only	The total amount of power that has been allocated (or budegeted)to chassis resources.
PowerAvailableWatts	number, null (W)	read-only	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, null (W)	read-only	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, null (W)	read-only	The actual power being consumed by the chassis.

PowerLimit {	object	read-write	Power limit status and configuration information for this chassis.
CorrectionInMs	number, null (ms)	read-write	The time required for the limiting process to reduce power consumption to below the limit.
LimitException	string	read-write	The action that is taken if the power cannot be maintained below the LimitInWatts. *See Property Details, below, for more information about this property.*
LimitInWatts	number, null (W)	read-write	The Power limit in watts. Set to null to disable power capping.
}			
PowerMetrics {	object	read-write	Power readings for this chassis.
AverageConsumedWatts	number, null (W)	read-only	The average power level over the measurement window (the last IntervalInMin minutes).
IntervalInMin	number, null (min)	read-only	The time interval (or window) in which the PowerMetrics are measured over.
MaxConsumedWatts	number, null (W)	read-only	The highest power consumption level that has occured over the measurement window (the last IntervalInMin minutes).
MinConsumedWatts	number, null (W)	read-only	The lowest power consumption level over the measurement window (the last IntervalInMin minutes).
}			
PowerRequestedWatts	number, null (W)	read-only	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-write	The unique identifier for a resource.
}]			
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
}]			

PowerSupplies [{	array	read-write	Details of the power supplies associated with this system or device.
Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
FirmwareVersion	string, null	read-only	The firmware version for this Power Supply.
IndicatorLED	string	read-write	The state of the indicator LED, used to identify the power supply. *See Property Details, below, for more information about this property.*
InputRanges [{	array	read-write	This is the input ranges that the power supply can use.
InputType	string	read-only	The Input type (AC or DC). *See Property Details, below, for more information about this property.*
MaximumFrequencyHz	number, null (Hz)	read-only	The maximum line input frequency at which this power supply input range is effective.
MaximumVoltage	number, null (V)	read-only	The maximum line input voltage at which this power supply input range is effective.
MinimumFrequencyHz	number, null (Hz)	read-only	The minimum line input frequency at which this power supply input range is effective.
MinimumVoltage	number, null (V)	read-only	The minimum line input voltage at which this power supply input range is effective.
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
OutputWattage	number, null (W)	read-only	The maximum capacity of this Power Supply when operating in this input range.
}]			
LastPowerOutputWatts	number, null (W)	read-only	The average power output of this Power Supply.
LineInputVoltage	number, null (V)	read-only	The line input voltage at which the Power Supply is operating.

LineInputVoltageType	string	read-only	The line voltage type supported as an input to this Power Supply. *See Property Details, below, for more information about this property.*
Manufacturer	string, null	read-only	This is the manufacturer of this power supply.
MemberId	string	read-only	This is the identifier for the member within the collection.
Model	string, null	read-only	The model number for this Power Supply.
Name	string, null	read-only	The name of the Power Supply.
Oem { }	object	read-write	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.
PartNumber	string, null	read-only	The part number for this Power Supply.
PowerCapacityWatts	number, null (W)	read-only	The maximum capacity of this Power Supply.
PowerSupplyType	string	read-only	The Power Supply type (AC or DC). *See Property Details, below, for more information about this property.*
Redundancy [{	array	read-write	This structure is used to show redundancy for power supplies. The Component ids will reference the members of the redundancy groups.
{ }	object	read-write	A reference to a resource. See the odata.4.0.0 schema for details on this property.
}]			
RelatedItem [{	array	read-write	The ID(s) of the resources associated with this Power Limit.
@odata.id	string	read-write	The unique identifier for a resource.
}]			
SerialNumber	string, null	read-only	The serial number for this Power Supply.
SparePartNumber	string, null	read-only	The spare part number for this Power Supply.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource

			schema for details on this property.
}]			
Redundancy [{	array	read-write	Redundancy information for the power subsystem of this system or device.
{ }	object	read-write	A reference to a resource. See the odata.4.0.0 schema for details on this property.
}]			
Voltages [{	array	read-write	This is the definition for voltage sensors.
Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
LowerThresholdCritical	number, null (V)	read-only	Below normal range but not yet fatal.
LowerThresholdFatal	number, null (V)	read-only	Below normal range and is fatal.
LowerThresholdNonCritical	number, null (V)	read-only	Below normal range.
MaxReadingRange	number, null (V)	read-only	Maximum value for this Voltage sensor.
MemberId	string	read-only	This is the identifier for the member within the collection.
MinReadingRange	number, null (V)	read-only	Minimum value for this Voltage sensor.
Name	string, null	read-only	Voltage sensor name.
Oem { }	object	read-write	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.
PhysicalContext	string	read-only	Describes the area or device to which this voltage measurement applies. *See Property Details, below, for more information about this property.*

ReadingVolts	number, null (V)	read-only	The present reading of the voltage sensor.
RelatedItem [{	array	read-only	Describes the areas or devices to which this voltage measurement applies.
@odata.id	string	read-write	The unique identifier for a resource.
}]			
SensorNumber	number, null	read-only	A numerical identifier to represent the voltage sensor.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
UpperThresholdCritical	number, null (V)	read-only	Above normal range but not yet fatal.
UpperThresholdFatal	number, null (V)	read-only	Above normal range and is fatal.
UpperThresholdNonCritical	number, null (V)	read-only	Above normal range.
}]			

Property Details

IndicatorLED:

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

InputType:

string	Description
AC	Alternating Current (AC) input range.
DC	Direct Current (DC) input range.

LimitException:

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:

string	Description
AC120V	AC 120V nominal input.
AC240V	AC 240V nominal input.
AC277V	AC 277V nominal input.
ACHighLine	277V AC input.
ACLowLine	100-127V AC input.
ACMidLine	200-240V AC input.
ACWideRange	Wide range AC input.
ACandDCWideRange	Wide range AC or DC 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:

string	Description
Back	The back of the chassis.
Backplane	A backplane within the chassis.
CPU	A Processor (CPU).
ComputeBay	Within a compute bay.
Exhaust	The exhaust point of the chassis.
ExpansionBay	Within an expansion bay.
Front	The front of the chassis.

string	Description
GPU	A Graphics Processor (GPU).
Intake	The intake 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:

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_1_0.Power",
    "Id": "Power",
    "Name": "Power",
    "PowerControl": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Power#/PowerControl/0",
            "MemberId": "0",
            "Name": "Server Power Control",
            "PowerConsumedWatts": 344,
            "PowerRequestedWatts": 800,
            "PowerAvailableWatts": 0,
            "PowerCapacityWatts": 800,
            "PowerAllocatedWatts": 800,
```

```
            "PowerMetrics": {
                "IntervalInMin": 30,
                "MinConsumedWatts": 271,
                "MaxConsumedWatts": 489,
                "AverageConsumedWatts": 319
            },
            "PowerLimit": {
                "LimitInWatts": 500,
                "LimitException": "LogEventOnly",
                "CorrectionInMs": 50
            },
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ],
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "Oem": {}
        }
    ],
    "Voltages": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Power#/Voltages/0",
            "MemberId": "0",
            "Name": "VRM1 Voltage",
            "SensorNumber": 11,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "ReadingVolts": 12,
            "UpperThresholdNonCritical": 12.5,
            "UpperThresholdCritical": 13,
            "UpperThresholdFatal": 15,
            "LowerThresholdNonCritical": 11.5,
            "LowerThresholdCritical": 11,
            "LowerThresholdFatal": 10,
            "MinReadingRange": 0,
            "MaxReadingRange": 20,
            "PhysicalContext": "VoltageRegulator",
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ]
        },
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Power#/Voltages/1",
            "MemberId": "1",
```

```
            "Name": "VRM2 Voltage",
            "SensorNumber": 12,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            },
            "ReadingVolts": 5,
            "UpperThresholdNonCritical": 5.5,
            "UpperThresholdCritical": 7,
            "LowerThresholdNonCritical": 4.75,
            "LowerThresholdCritical": 4.5,
            "MinReadingRange": 0,
            "MaxReadingRange": 20,
            "PhysicalContext": "VoltageRegulator",
            "RelatedItem": [
                {
                    "@odata.id": "/redfish/v1/Systems/437XR1138R2"
                },
                {
                    "@odata.id": "/redfish/v1/Chassis/1U"
                }
            ]
        }
    ],
    "PowerSupplies": [
        {
            "@odata.id": "/redfish/v1/Chassis/1U/Power#/PowerSupplies/0",
            "MemberId": "0",
            "Name": "Power Supply Bay",
            "Status": {
                "State": "Enabled",
                "Health": "Warning"
            },
            "Oem": {},
            "PowerSupplyType": "AC",
            "LineInputVoltageType": "ACWideRange",
            "LineInputVoltage": 120,
            "PowerCapacityWatts": 800,
            "LastPowerOutputWatts": 325,
            "Model": "499253-B21",
            "Manufacturer": "ManufacturerName",
            "FirmwareVersion": "1.00",
            "SerialNumber": "1Z0000001",
            "PartNumber": "0000001A3A",
            "SparePartNumber": "0000001A3A",
            "InputRanges": [
                {
                    "InputType": "AC",
                    "MinimumVoltage": 100,
                    "MaximumVoltage": 120,
                    "OutputWattage": 800
                },
                {
                    "InputType": "AC",
                    "MinimumVoltage": 200,
                    "MaximumVoltage": 240,
                    "OutputWattage": 1300
                }
```

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

PrivilegeRegistry 1.1.0

This is the schema definition for Operation to Privilege mapping.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Mappings [{	array	read-write	
Entity	string	read-only	Indicates entity name. e.g., Manager.
OperationMap {	object	read-write	List mapping between HTTP method and privilege required for entity.
DELETE [{	array	read-write	Indicates privilege required for HTTP DELETE operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
GET [{	array	read-write	Indicates privilege required for HTTP GET operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.

	string	read-write	
]			
}]			
HEAD [{	array	read-write	Indicates privilege required for HTTP HEAD operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
PATCH [{	array	read-write	Indicates privilege required for HTTP PATCH operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
POST [{	array	read-write	Indicates privilege required for HTTP POST operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
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	read-write	
]			
}]			

}			
PropertyOverrides [{	array	read-write	Indicates privilege overrides of property or element within a entity.
OperationMap {	object	read-write	List mapping between HTTP operation and privilege needed to perform operation.
DELETE [{	array	read-write	Indicates privilege required for HTTP DELETE operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
GET [{	array	read-write	Indicates privilege required for HTTP GET operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
HEAD [{	array	read-write	Indicates privilege required for HTTP HEAD operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
PATCH [{	array	read-write	Indicates privilege required for HTTP PATCH operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			

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

Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
HEAD [{	array	read-write	Indicates privilege required for HTTP HEAD operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
PATCH [{	array	read-write	Indicates privilege required for HTTP PATCH operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
POST [{	array	read-write	Indicates privilege required for HTTP POST operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
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	read-write	
]			

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

PATCH [{	array	read-write	Indicates privilege required for HTTP PATCH operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
POST [{	array	read-write	Indicates privilege required for HTTP POST operation.
Privilege [	array	read-only	Lists the privileges that are allowed to perform the given type of HTTP operation on the entity type.
	string	read-write	
]			
}]			
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	read-write	
]			
}]			
}			
Targets [	array	read-only	Indicates the URI or Entity.
	string, null	read-write	
]			
}]			
}]			
Name	string	read-only	The name of the resource or array element.
OEMPrivilegesUsed [	array	read-only	Lists the set of OEM Priviliges used in building this mapping.

	string	read-write	
]			
Oem { }	object	read-write	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.
PrivilegesUsed [{	array	read-only	Lists the set of Redfish standard priviliges used in building this mapping.
PrivilegeType	string	read-write	*See Property Details, below, for more information about this property.*
}]			

Property Details

PrivilegeType:

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 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
InstructionSet	string	read-only	The instruction set of the processor. *See Property Details, below, for more information about this property.*

Links *(v1.1+)* {	object	read-write	Contains references to other resources that are related to this resource.
Chassis {	object	read-only	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
Manufacturer	string, null	read-only	The processor manufacturer.
MaxSpeedMHz	number, null	read-only	The maximum clock speed of the processor.
Model	string, null	read-only	The product model number of this device.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
ProcessorArchitecture	string	read-only	The architecture of the processor. *See Property Details, below, for more information about this property.*
ProcessorId {	object	read-write	Identification information for this processor. *See Property Details, below, for more information about this property.*
EffectiveFamily	string, null	read-only	The effective Family for this processor. *See Property Details, below, for more information about this property.*
EffectiveModel	string, null	read-only	The effective Model for this processor. *See Property Details, below, for more information about this property.*
IdentificationRegisters	string, null	read-only	The contents of the Identification Registers (CPUID) for this processor. *See Property Details, below, for more information about this property.*
MicrocodeInfo	string, null	read-only	The Microcode Information for this processor. *See Property Details, below, for more information about this property.*

Step	string, null	read-only	The Step value for this processor. *See Property Details, below, for more information about this property.*
VendorId	string, null	read-only	The Vendor Identification for this processor. *See Property Details, below, for more information about this property.*
}			
ProcessorType	string	read-only	The type of processor. *See Property Details, below, for more information about this property.*
Socket	string, null	read-only	The socket or location of the processor.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
TotalCores	number, null	read-only	The total number of cores contained in this processor.
TotalThreads	number, null	read-only	The total number of execution threads supported by this processor.

Property Details

EffectiveFamily:

This property contains a value derived from register values resulting from the execution of the CPUID instruction.

EffectiveModel:

This property contains a value derived from register values resulting from the execution of the CPUID instruction. The value is based on the following formula:

```
((cpuid.1.eax & 0x000f0000) >> 12) + ((cpuid.1.eax & 0x000000f0) >> 4)
```

IdentificationRegisters:

This property contains the register contents resulting from the execution of the CPUID instruction.

InstructionSet:

string	Description
ARM-A32	ARM 32-bit.
ARM-A64	ARM 64-bit.
IA-64	Intel IA-64.
MIPS32	MIPS 32-bit.

string	Description
MIPS64	MIPS 64-bit.
OEM	OEM-defined.
x86	x86 32-bit.
x86-64	x86 64-bit.

MicrocodeInfo:

This property contains the 64-bit value contained in MSR 0x8B.

ProcessorArchitecture:

string	Description
ARM	ARM.
IA-64	Intel Itanium.
MIPS	MIPS.
OEM	OEM-defined.
x86	x86 or x86-64.

ProcessorId:

This object's properties contain values that depend on the value of the ProcessorArchitecture property, as listed in the sections below:

ProcessorType:

string	Description
Accelerator	An Accelerator.
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.

Step:

This property contains a value derived from register values resulting from the execution of the CPUID instruction. The value is based on the following formula:

```
(cpuid->eax & 0xf)
```

VendorId:

This property contains a 12-byte, little-endian ASCII string derived from register values

resulting from the execution of the CPUID instruction.

Example Response


```
{
    "@odata.type": "#Processor.v1_0_2.Processor",
    "Id": "CPU1",
    "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 1.0.0

This schema defines a Resource Block resource.

Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
CompositionStatus {	object	read-write	This property describes the composition status details for this Resource Block.
CompositionState	string	read-only	This property represents the current state of the Resource Block from a composition perspective. *See Property Details, below, for more information about this property.*
Reserved	boolean, null	read-write	This represents if the Resource Block is reserved by any client.
}			

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.
}]			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
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.
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	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	read-write	Oem extension object. See the Resource schema for details on this property.
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.

}]			
Name	string	read-only	The name of the resource or array element.
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.
}]			
Oem { }	object	read-write	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.
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	read-only	This property represents the types of resources available on this Resource Block.
ResourceBlockType	string	read-write	*See Property Details, below, for more information about 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	read-only	This type describes the status and health of a resource and its children. See the Resource schema 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:

string	Description
Composed	Final successful state of a Resource Block which has participated in composition.
Composing	Intermediate state indicating composition is in progress.
Failed	The final composition resulted in failure and manual intervention is required to fix it.
Unused	Indicates the Resource Block is free and can participate in composition.

ResourceBlockType:

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.
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.

Role 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AssignedPrivileges [{	array	read-write	The redfish privileges that this role includes.
PrivilegeType	string	read-write	*See Property Details, below, for more information about this property.*
}]			

Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
IsPredefined	boolean	read-only	This property is used to indicate if the Role is one of the Redfish Predefined Roles vs a Custom role.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
OemPrivileges [	array	read-write	The OEM privileges that this role includes.
	string	read-write	
]			

Property Details

PrivilegeType:

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_0_2.Role",
    "Id": "Admin",
    "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/Admin"
}
```


SecureBoot 1.0.2

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

Actions {	object	read-write	The available actions for this resource.
#SecureBoot.ResetKeys {	object	read-write	This action is used to reset the Secure Boot keys.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
SecureBootCurrentBoot	string	read-only	Secure Boot state during the current boot cycle. *See Property Details, below, for more information about this property.*
SecureBootEnable	boolean, null	read-write	Enable or disable UEFI Secure Boot (takes effect on next boot).
SecureBootMode	string	read-only	Current Secure Boot Mode. *See Property Details, below, for more information about this property.*

Property Details

SecureBootCurrentBoot:

string	Description
Disabled	Secure Boot is currently disabled.
Enabled	Secure Boot is currently enabled.

SecureBootMode:

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 1.1.0

This schema defines an asynchronous serial interface resource.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
BitRate	string	read-write	The receive and transmit rate of data flow, typically in bits-per-second (bps), over the serial connection. *See Property Details, below, for more information about this property.*
ConnectorType	string	read-only	The type of connector used for this interface. *See Property Details, below, for more information about this property.*
DataBits	string	read-write	The number of data bits that will follow the start bit over the serial connection. *See Property Details, below, for more information about this property.*
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
FlowControl	string	read-write	The type of flow control, if any, that will be imposed on the serial connection. *See Property Details, below, for more information about this property.*

Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
InterfaceEnabled	boolean, null	read-write	This indicates whether this interface is enabled.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Parity	string	read-write	The type of parity used by the sender and receiver in order to detect errors over the serial connection. *See Property Details, below, for more information about this property.*
PinOut	string	read-only	The physical pin configuration needed for a serial connector. *See Property Details, below, for more information about this property.*
SignalType	string	read-only	The type of signal used for the communication connection - RS232 or RS485. *See Property Details, below, for more information about this property.*
StopBits	string	read-write	The period of time before the next start bit is transmitted. *See Property Details, below, for more information about this property.*

Property Details

BitRate:

string
115200
1200
19200
230400
2400
38400
4800
57600
9600

ConnectorType:

string
DB25 Female.
DB25 Male.
DB9 Female.
DB9 Male.
RJ11.
RJ45.
USB.
mUSB.
uUSB.

DataBits:

string
5
6
7
8

FlowControl:

string	Description
Hardware	Out of band flow control imposed.
None	No flow control imposed.
Software	XON/XOFF in-band flow control imposed.

Parity:

string
Even
Mark
None
Odd
Space

PinOut:

string
Cisco
Cyclades
Digi

SignalType:

string
Rs232
Rs485

StopBits:

string
1
2

ServiceRoot 1.2.0

This object represents the root Redfish service.

AccountService {	object	read-only	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	read-only	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	read-only	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.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.

EventService {	object	read-only	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	read-only	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.
}			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
JsonSchemas {	object	read-only	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	read-write	Contains references to other resources that are related to this resource.
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
Sessions {	object	read-only	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	read-only	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.
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
RedfishVersion	string	read-	The version of the Redfish service.

		only	
Registries {	object	read-only	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	read-only	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 *(v1.1+)*		read-only	A link to a collection of all storage service entities.
StorageSystems *(v1.1+)*		read-only	This is a link to a collection of storage systems.
Systems {	object	read-only	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	read-only	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.
}			
UUID	string	read-only	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.
UpdateService *(v1.1+)* {	object	read-only	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.
}			

Example Response


```
{
    "@odata.type": "#ServiceRoot.v1_0_2.ServiceRoot",
    "Id": "RootService",
    "Name": "Root Service",
```

```
    "RedfishVersion": "1.0.2",
    "UUID": "92384634-2938-2342-8820-489239905423",
    "Systems": {
        "@odata.id": "/redfish/v1/Systems"
    },
    "Chassis": {
        "@odata.id": "/redfish/v1/Chassis"
    },
    "Managers": {
        "@odata.id": "/redfish/v1/Managers"
    },
    "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 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Password	string, null	read-only	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, null	read-only	The UserName for the account for this session.

SessionService 1.1.2

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.

Actions *(v1.1+)* {	object	read-write	The Actions object contains the available custom actions on this resource.
Oem { }	object, null	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
ServiceEnabled	boolean, null	read-write	This indicates whether this service is enabled.
SessionTimeout	number (s)	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.
Sessions {	object	read-only	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.
}			
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

Example Response


```
{
    "@odata.type": "#SessionService.v1_0_2.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 1.2.0

This is the schema definition for the Simple Storage resource. It represents the properties of a storage controller and its directly-attached devices.

Actions *(v1.2+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Devices [{	array	read-write	The storage devices associated with this resource.
CapacityBytes	number, null (By)	read-only	The size of the storage device.
Manufacturer	string, null	read-only	The name of the manufacturer of this device.
Model	string, null	read-only	The product model number of this device.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	Oem extension object. See the Resource schema for details on this property.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.

Links *(v1.2+)* {	object	read-write	Contains references to other resources that are related to this resource.
Chassis {	object	read-only	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
UefiDevicePath	string, null	read-only	The UEFI device path used to access this storage controller.

Example Response


```
{
    "@odata.type": "#SimpleStorage.v1_0_2.SimpleStorage",
    "Id": "1",
    "Name": "Simple Storage Controller",
    "Description": "System SATA",
    "UefiDevicePath": "Acpi(PNP0A03,0)/Pci(1F|1)/Ata(Primary,Master)/HD(Part3, Sig00110011)
    "Status": {
        "State": "Enabled",
        "Health": "OK",
        "HealthRollup": "Warning"
    },
    "Devices": [
        {
            "Name": "SATA Bay 1",
            "Manufacturer": "Contoso",
            "Model": "3000GT8",
            "CapacityBytes": 8000000000000,
            "Status": {
                "State": "Enabled",
                "Health": "OK"
            }
        },
        {
            "Name": "SATA Bay 2",
            "Manufacturer": "Contoso",
            "Model": "3000GT7",
```

```
            "CapacityBytes": 4000000000000,
            "Status": {
                "State": "Enabled",
                "Health": "Degraded"
            }
        },
        {
            "Name": "SATA Bay 3",
            "Status": {
                "State": "Absent"
            }
        },
        {
            "Name": "SATA Bay 4",
            "Status": {
                "State": "Absent"
            }
        }
    ],
    "@odata.context": "/redfish/v1/$metadata#SimpleStorage.SimpleStorage",
    "@odata.id": "/redfish/v1/Systems/437XR1138R2/SimpleStorage/1"
}
```


SoftwareInventory 1.1.1

This schema defines an inventory of software components.

Actions {	object	read-write	The Actions object contains the available custom actions on this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
LowestSupportedVersion *(v1.1+)*	string, null	read-only	A string representing the lowest supported version of this software.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
RelatedItem *(v1.1+)* [{	array	read-only	The ID(s) of the resources associated with this software inventory item.
@odata.id	string	read-write	The unique identifier for a resource.

}]			
SoftwareId *(v1.1+)*	string	read-only	A string representing the implementation-specific ID for identifying this software.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
UefiDevicePaths *(v1.1+)* [	array	read-only	A list of strings representing the UEFI Device Path(s) of the component(s) associated with this software inventory item.
	string, null	read-write	
]			
Updateable	boolean, null	read-only	Indicates whether this software can be updated by the update service.
Version	string, null	read-only	A string representing the version of this software.

Storage 1.2.0

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.

Actions {	object	read-write	The available actions for this resource.
#Storage.SetEncryptionKey {	object	read-write	This action is used to set the encryption key for the storage subsystem.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Drives [{	array	read-only	The set of drives attached to the storage controllers represented by this resource.
@odata.id	string	read-	Link to a Drive resource. See the Links

		only	section and the Drive schema for details.
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Redundancy [{	array	read-write	Redundancy information for the storage subsystem.
{ }	object	read-write	A reference to a resource. See the odata.4.0.0 schema for details on this property.
}]			
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
StorageControllers [{	array	read-only	The set of storage controllers represented by this resource.
Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AssetTag	string, null	read-write	The user assigned asset tag for this storage controller.
FirmwareVersion	string,	read-	The firmware version of this storage

	null	only	Controller.
Identifiers [{	array	read-write	The Durable names for the storage controller.
{ }	object	read-only	This type describes any additional identifiers for a resource. See the Resource.v1_1_0 schema for details on this property.
}]			
Links {	object	read-write	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
Manufacturer	string, null	read-only	This is the manufacturer of this storage controller.
MemberId	string	read-only	This is the identifier for the member within the collection.
Model	string, null	read-only	This is the model number for the storage controller.
Oem { }	object	read-write	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.
PartNumber	string, null	read-only	The part number for this storage controller.
SKU	string, null	read-only	This is the SKU for this storage controller.
SerialNumber	string, null	read-only	The serial number for this storage controller.
SpeedGbps	number, null (Gbit/s)	read-only	The speed of the storage controller interface.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
SupportedControllerProtocols	array	read-	This represents the protocols by which this

[{		only	storage controller can be communicated to.
Protocol	string	read-write	*See Property Details, below, for more information about this property.*
}]			
SupportedDeviceProtocols [{	array	read-only	This represents the protocols which the storage controller can use to communicate with attached devices.
Protocol	string	read-write	*See Property Details, below, for more information about this property.*
}]			
}]			
Volumes {	object	read-only	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.
}			

Property Details

Protocol:

string	Description
AHCI	Advanced Host Controller Interface.
FC	Fibre Channel.
FCP	Fibre Channel Protocol for SCSI.
FCoE	Fibre Channel over Ethernet.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol.
HTTP	Hypertext Transport Protocol.
HTTPS	Secure Hypertext Transport Protocol.
NFSv3	Network File System version 3.
NFSv4	Network File System version 4.
NVMe	Non-Volatile Memory Express.
NVMeOverFabrics	NVMe over Fabrics.

string	Description
PCIe	PCI Express (Vendor Proprietary).
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.
iSCSI	Internet SCSI.

Switch 1.0.2

Switch contains properties describing a simple fabric switch.

Actions {	object	read-write	The available actions for this resource.
#Switch.Reset {	object	read-write	This action is used to reset this switch.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
AssetTag	string, null	read-write	The user assigned asset tag for this switch.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
DomainID	number, null	read-only	The Domain ID for this switch.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
IndicatorLED	string	read-write	The state of the indicator LED, used to identify the switch. *See Property Details, below, for more information about this property.*
IsManaged	boolean,	read-	This indicates whether the switch is in a managed or

	null	write	unmanaged state.
Links {	object	read-write	Contains references to other resources that are related to this resource.
Chassis {	object	read-only	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
LogServices {	object	read-only	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, null	read-only	This is the manufacturer of this switch.
Model	string, null	read-only	The product model number of this switch.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
PartNumber	string, null	read-only	The part number for this switch.
Ports {	object	read-only	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	read-	This is the current power state of the switch.

		only	*See Property Details, below, for more information about this property.*
Redundancy [{	array	read-write	Redundancy information for the switches.
{ }	object	read-write	A reference to a resource. See the odata.4.0.0 schema for details on this property.
}]			
SKU	string, null	read-only	This is the SKU for this switch.
SerialNumber	string, null	read-only	The serial number for this switch.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
SwitchType	string	read-only	The protocol being sent over this switch. *See Property Details, below, for more information about this property.*
TotalSwitchWidth	number, null	read-only	The total number of lanes, phys, or other physical transport links that this switch contains.

Property Details

IndicatorLED:

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

PowerState:

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.

SwitchType:

string	Description
AHCI	Advanced Host Controller Interface.
FC	Fibre Channel.
FCP	Fibre Channel Protocol for SCSI.
FCoE	Fibre Channel over Ethernet.
FICON	FIbre CONnection (FICON).
FTP	File Transfer Protocol.
HTTP	Hypertext Transport Protocol.
HTTPS	Secure Hypertext Transport Protocol.
NFSv3	Network File System version 3.
NFSv4	Network File System version 4.
NVMe	Non-Volatile Memory Express.
NVMeOverFabrics	NVMe over Fabrics.
PCIe	PCI Express (Vendor Proprietary).
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.
iSCSI	Internet SCSI.

Task 1.1.0

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

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-	Provides a description of this resource and is used for commonality in

		only	the schema definitions.
EndTime	string	read-only	The date-time stamp that the task was last completed.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Messages [{	array	read-write	This is an array of messages associated with the task.
{ }	object	read-write	This type describes a Message returned by the Redfish service. See the Message schema for details on this property.
}]			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
StartTime	string	read-only	The date-time stamp that the task was last started.
TaskState	string	read-only	The state of the task. *See Property Details, below, for more information about this property.*
TaskStatus	string	read-only	This is the completion status of the task. *See Property Details, below, for more information about this property.*

Property Details

TaskState:

string	Description
Completed	Task has completed.
Exception	Task has stopped due to an exception condition.
Interrupted	Task has been interrupted.
Killed	Task was terminated.
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.

string	Description
Suspended	Task has been suspended.

TaskStatus:

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

TaskService 1.1.0

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.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
CompletedTaskOverWritePolicy	string	read-only	Overwrite policy of completed tasks. *See Property Details, below, for more information about this property.*
DateTime	string, null	read-only	The current DateTime (with offset) setting that the task service is using.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
LifeCycleEventOnTaskStateChange	boolean	read-only	Send an Event upon Task State Change.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
ServiceEnabled	boolean, null	read-write	This indicates whether this service is enabled.
Status { }	object	read-	This type describes the status and health

		only	of a resource and its children. See the Resource schema for details on this property.
Tasks {	object	read-only	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:

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

Thermal 1.3.0

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

Actions *(v1.3+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Fans [{	array	read-write	This is the definition for fans.
Actions {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
FanName	string, null	read-only	Name of the fan.
IndicatorLED	string	read-write	The state of the indicator LED, used to identify this Fan. *See Property Details, below, for more*

			information about this property.
LowerThresholdCritical	number, null	read-only	Below normal range but not yet fatal.
LowerThresholdFatal	number, null	read-only	Below normal range and is fatal.
LowerThresholdNonCritical	number, null	read-only	Below normal range.
Manufacturer	string, null	read-only	This is the manufacturer of this Fan.
MaxReadingRange	number, null	read-only	Maximum value for Reading.
MemberId	string	read-only	This is the identifier for the member within the collection.
MinReadingRange	number, null	read-only	Minimum value for Reading.
Model	string, null	read-only	The model number for this Fan.
Name	string, null	read-only	Name of the fan.
Oem { }	object	read-write	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.
PartNumber	string, null	read-only	The part number for this Fan.
PhysicalContext	string	read-only	Describes the area or device associated with this fan. *See Property Details, below, for more information about this property.*
Reading	number, null	read-only	Current fan speed.
ReadingUnits	string	read-only	Units in which the reading and thresholds are measured. *See Property Details, below, for more information about this property.*
Redundancy [{	array	read-write	This structure is used to show redundancy for fans. The Component ids will reference the members of the redundancy groups.
{ }	object	read-write	A reference to a resource. See the odata.4.0.0 schema for details on this property.
}]			

RelatedItem [{	array	read-only	The ID(s) of the resources serviced with this fan.
@odata.id	string	read-write	The unique identifier for a resource.
}]			
SerialNumber	string, null	read-only	The serial number for this Fan.
SparePartNumber	string, null	read-only	The spare part number for this Fan.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
UpperThresholdCritical	number, null	read-only	Above normal range but not yet fatal.
UpperThresholdFatal	number, null	read-only	Above normal range and is fatal.
UpperThresholdNonCritical	number, null	read-only	Above normal range.
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Redundancy [{	array	read-write	This structure is used to show redundancy for fans. The Component ids will reference the members of the redundancy groups.
{ }	object	read-write	A reference to a resource. See the odata.4.0.0 schema for details on this property.
}]			
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
Temperatures [{	array	read-write	This is the definition for temperature sensors.
Actions {	object	read-write	The available actions for this resource.

Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
LowerThresholdCritical	number, null (Cel)	read-only	Below normal range but not yet fatal.
LowerThresholdFatal	number, null (Cel)	read-only	Below normal range and is fatal.
LowerThresholdNonCritical	number, null (Cel)	read-only	Below normal range.
MaxReadingRangeTemp	number, null (Cel)	read-only	Maximum value for ReadingCelsius.
MemberId	string	read-only	This is the identifier for the member within the collection.
MinReadingRangeTemp	number, null (Cel)	read-only	Minimum value for ReadingCelsius.
Name	string, null	read-only	Temperature sensor name.
Oem { }	object	read-write	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.
PhysicalContext	string	read-only	Describes the area or device to which this temperature measurement applies. *See Property Details, below, for more information about this property.*
ReadingCelsius	number, null (Cel)	read-only	Temperature.
RelatedItem [{	array	read-only	Describes the areas or devices to which this temperature measurement applies.
@odata.id	string	read-write	The unique identifier for a resource.
}]			
SensorNumber	number, null	read-only	A numerical identifier to represent the temperature sensor.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

UpperThresholdCritical	number, null (Cel)	read-only	Above normal range but not yet fatal.
UpperThresholdFatal	number, null (Cel)	read-only	Above normal range and is fatal.
UpperThresholdNonCritical	number, null (Cel)	read-only	Above normal range.
}]			

Property Details

IndicatorLED:

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

PhysicalContext:

string	Description
Back	The back of the chassis.
Backplane	A backplane within the chassis.
CPU	A Processor (CPU).
ComputeBay	Within a compute bay.
Exhaust	The exhaust point of the chassis.
ExpansionBay	Within an expansion bay.
Front	The front of the chassis.
GPU	A Graphics Processor (GPU).
Intake	The intake 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.

string	Description
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:

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_0_2.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,
            "MinReadingRange": 0,
            "MaxReadingRange": 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,
            "MinReadingRange": 0,
            "MaxReadingRange": 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,
            "MinReadingRange": 0,
            "MaxReadingRange": 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"
}
```


UpdateService 1.2.0

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.

Actions {	object	read-write	The Actions object contains the available custom actions on this resource.
#UpdateService.SimpleUpdate {	object	read-write	This action is used to update software components.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
FirmwareInventory {	object	read-only	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	read-write	The array of URIs indicating the target for applying the update image.
	string, null	read-write	

]			
HttpPushUriTargetsBusy *(v1.2+)*	boolean, null	read-write	This represents if the HttpPushUriTargets property is reserved by any client.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
ServiceEnabled	boolean, null	read-write	This indicates whether this service is enabled.
SoftwareInventory {	object	read-only	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	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

VLanNetworkInterface 1.1.0

This resource describes the attributes of a Virtual LAN.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.

VLANEnable	boolean, null	read-write	This indicates if this VLAN is enabled.
VLANId	number	read-write	This indicates the VLAN identifier for this VLAN.

Example Response


```
{
    "@odata.type": "#VLanNetworkInterface.v1_0_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"
}
```


VirtualMedia 1.1.0

This resource allows monitoring and control of an instance of virtual media (e.g. a remote CD, DVD, or USB device) functionality provided by a Manager for a system or device.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
ConnectedVia	string	read-only	Current virtual media connection methods. *See Property Details, below, for more information about this property.*
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Image	string, null	read-only	A URI providing the location of the selected image.
ImageName	string, null	read-only	The current image name.
Inserted	boolean, null	read-only	Indicates if virtual media is inserted in the virtual device.
MediaTypes [{	array	read-only	This is the media types supported as virtual media.
MediaType	string	read-write	*See Property Details, below, for more information about this*

			property.
}]			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
WriteProtected	boolean, null	read-only	Indicates the media is write protected.

Property Details

ConnectedVia:

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.

MediaType:

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_0_2.VirtualMedia",
    "Id": "CD1",
    "Name": "Virtual CD",
    "MediaTypes": [
        "CD",
        "DVD"
    ],
    "Image": "redfish.dmtf.org/freeImages/freeOS.1.1.iso",
    "ImageName": "mymedia-read-only",
    "ConnectedVia": "Applet",
    "Inserted": true,
    "WriteProtected": false,
    "@odata.context": "/redfish/v1/$metadata#VirtualMedia.VirtualMedia",
```

```
    "@odata.id": "/redfish/v1/Managers/BMC/VirtualMedia/CD1"
}
```

Volume 1.0.3

Volume contains properties used to describe a volume, virtual disk, LUN, or other logical storage entity for any system.

Actions {	object	read-write	The available actions for this resource.
#Volume.Initialize {	object	read-write	This action is used to prepare the contents of the volume for use by the system.
target	string	read-write	Link to invoke action
title	string	read-write	Friendly action name
}			
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
BlockSizeBytes	number, null (By)	read-only	The size of the smallest addressible unit (Block) of this volume in bytes.
CapacityBytes	number, null (By)	read-only	The size in bytes of this Volume.
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Encrypted	boolean, null	read-write	Is this Volume encrypted.
EncryptionTypes [{	array	read-write	The types of encryption used by this Volume.
EncryptionTypes	string	read-write	*See Property Details, below, for more information about this property.*
}]			
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Identifiers [{	array	read-write	The Durable names for the volume.
{ }	object	read-only	This type describes any additional identifiers for a resource. See the Resource.v1_1_0 schema for

			details on this property.
}]			
Links {	object	read-write	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	read-write	Oem extension object. See the Resource schema for details on this property.
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Operations [{	array	read-write	The operations currently running on the Volume.
AssociatedTask {	object	read-only	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, null	read-only	The name of the operation.
PercentageComplete	number, null	read-only	The percentage of the operation that has been completed.
}]			
OptimumIOSizeBytes	number, null (By)	read-only	The size in bytes of this Volume's optimum IO size.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.
VolumeType	string	read-only	The type of this volume. *See Property Details, below, for more information about this property.*

Property Details

EncryptionTypes:

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:

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.

Zone 1.1.0

Switch contains properties describing a simple fabric zone.

Actions *(v1.1+)* {	object	read-write	The available actions for this resource.
Oem { }	object	read-write	The available OEM specific actions for this resource.
}			
Description	string	read-only	Provides a description of this resource and is used for commonality in the schema definitions.
Id	string	read-only	Uniquely identifies the resource within the collection of like resources.
Links {	object	read-write	Contains references to other resources that are related to this resource.
Endpoints [{	array	read-only	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	An array of references to the switchs that are utilized 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	read-write	Oem extension object. See the Resource schema for details on this property.
ResourceBlocks [{	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.
}]			
}			
Name	string	read-only	The name of the resource or array element.
Oem { }	object	read-write	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.
Status { }	object	read-only	This type describes the status and health of a resource and its children. See the Resource schema for details on this property.

ANNEX A

Change log

Version	Date	Description
2017.0a	2017-5-19	Work in progress release to gather feedback on content and format.