Redfish 2018 Release 2

DMTF Redfish Forum
August 2018
Redfish 2018 Release 2

- Redfish Specification v1.6.0
  - **NEW** OpenAPI v3.0 Support
  - **NEW** Telemetry Streaming & Eventing
  - Improved Event Subscription methods

- Redfish Specification v1.5.1
  - Errata release with numerous clarifications

- Redfish Schema Bundle 2018.2
  - **DSP8010_2018.2.ZIP** - contains all Redfish schemas

- Redfish Registries 2018.1
  - **NEW** ‘Task’, ‘Resource’ registries
  - Updated ‘Base’, ‘Privilege’ registries

- **13 NEW** Schemas v1.0.0
  - TelemetryService, MetricDefinition, MetricReportDefinition, MetricReport, Triggers
  - JobService, Job, PCIeSlots, (plus 5 Resource Collections)

- **29 Updated Schemas** (highlights)
  - Schedule v1.2.0 – Contribution from SNIA.org with minor additions
  - EventDestination v1.4.0, Event v1.3.0, MessageRegistry v1.2.0 – Improved subscriptions
  - Resource v1.7.0 – Added ‘ContactInfo’ array to commonly-used Location object
Redfish for OpenAPI™ Specification v3.0

- **OpenAPI Specification**
  - A community-driven open specification from the OpenAPI Initiative (OAI), The Linux Foundation® Collaborative Project
  - Describes API services in a YAML-format definition document
  - Rich ecosystem of tools for developers and end users
- **Supported by Redfish Specification v1.6.0**
  - Added support for OpenAPI schema files (YAML)
  - Requires use of standardized URIs
    - Fixed URIs for all Redfish resources
    - Construct path to Collection member using “Id”
- **Redfish Schema (DSP8010) bundle 2018.2**
  - Now includes OpenAPI YAML files
  - Along with JSON Schema and CSDL files
Redfish Specification v1.6.0

- Fixed or constructed URIs now specified
  - Required for OpenAPI v3.0 support
  - Previous Redfish versions allowed “hypermedia” URI structure, with each URI discovered via links in parent resources
  - Resource Collection members must use “Id” property as URI segment
  - All non-Collection resources must use URIs defined by schema
- Use `RedfishVersion` in `ServiceRoot` to check protocol version
  - Values of “1.6.0” or higher support OpenAPI and fixed URI definitions
  - For values below “1.6.0”, URI tree structure is not specified, clients continue to discover path from ServiceRoot
  - Examples:
    - “1.6.0”, “1.6.1”, “1.7.5”, “1.10.2” : supports OpenAPI
    - “1.5.1” : does not support OpenAPI – URI structure cannot be guaranteed

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Redfish Message and Event Enhancements

- More flexible subscription modes
  - Subscribe to specific Registries or Resource Types instead of loosely defined classes
  - Added SubordinateResources which can be used in conjunction with ResourceOrigin
- Grouping NEW
  - EventGroupId property indicates that multiple messages share a root cause
- Telemetry support NEW
  - EventFormatType allows event delivery in either Event or MetricReport format
- SSE filtering NEW
  - Added support of $filter for SSE event subscriptions
- New Message Registries
  - Added Task and Resource Message Registries
  - Expect more in the future that are more device/service specific.
- New Registry properties
  - Added ClearingLogic allowing a message to indicate that it resolves a previous situation
- OEM Registries
  - Clarified rules allowing OEMs to extend messages in the standard registries
Redfish Registries

- Released as DSP8011_2018.1.ZIP
- ResourceEvent Message Registry NEW
  - Defines messages for Resource-related events
- TaskEvent Message Registry NEW
  - Defines messages to use for Task-related events
- Base Message Registry v1.4.0
  - Added NoOperation message
- Base Message Registry v1.3.1
  - Errata release. Clarified description and message text for GeneralError
- Redfish Privilege Registry v1.0.3
  - Errata release correcting plurality of ConfigureComponents and correcting the JSON structure throughout
- Base Message Registry v1.3.0
  - Added PropertyValueOutOfRange and SessionTerminated messages
  - Previously approved for release but not posted publicly
NEW Redfish Schemas for 2018.2

- **TelemetryService** – Monitoring and reporting for Redfish
  - MetricDefinition – Defines a measurement point and its metadata
  - MetricReport – Output of the Telemetry Service
  - MetricReportDefinition – Defines the contents of a Report
  - Triggers – Methods for triggering output from the Telemetry Service
- **JobService** – Scheduled and complex tasks for Redfish
  - Job – Describes a single Job with scheduling and JSON payload
- **PCIeSlots**
  - Physical PCIe slot information for each Chassis
- **Five Resource Collection schemas to support Telemetry and Jobs**
Redfish Schema Minor Revisions (1 of 6)

- ActionInfo v1.1.0
  - Added `MinimumValue` and `MaximumValue` properties
- Assembly v1.2.0
  - Added `SerialNumber` and `PhysicalContext` to `AssemblyData`
- Chassis v1.8.0
  - Added `PCIeSlots` resource link
- CollectionCapabilities v1.1.0
  - Added `ComputerSystemContrainedComposition` enumeration
- CompositionService v1.1.0
  - Added `AllowOverprovisioning` and `AllowZoneAffinity` properties
- Drive v1.5.0
  - Added `HotspareReplacementMode` property
Redfish Schema Minor Revisions (2 of 6)

- **Endpoint v1.2.0**
  - Deprecated `PciFunctionNumber` and `PciClassCode` in favor of `FunctionNumber` and `ClassCode` inside `Pcild`

- **Event v1.3.0**
  - Deprecated `EventType` in favor of new subscription properties
  - Added `EventGroupId` to `EventRecord`

- **EventDestination v1.4.0**
  - Added `RegistryPrefixes`, `ResourceTypes`, `SubordinateResources` and `EventFormatType` properties

- **EventService v1.2.0**
  - Added `RegistryPrefixes`, `ResourceTypes`, `SubordinateResourcesSupported` and `EventFormatType` properties
  - Added `SSEFilterPropertiesSupported` object
Redfish Schema Minor Revisions (3 of 6)

- **HostInterface v1.2.0**
  - Added `AuthNoneRoleId` and `AuthNoneRole` properties
- **LogEntry v1.4.0**
  - Deprecated `EventType`, added `EventGroupId` properties
- **Manager v1.5.0**
  - Added `RemoteRedfishServiceUri` property
  - Added `RemoteAccountService` resource link
- **ManagerNetworkProtocol v1.3.0**
  - Added `DHCPv6`, `DRP` and `RFB` objects
- **Memory v1.6.0**
  - Added `OverwriteUnit` Action
  - Added `IntelOptane` to the `MemoryType` enumerations

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Redfish Schema Minor Revisions (4 of 6)

- **MessageRegistry v1.2.0**
  - Added `ClearingLogic` property

- **NetworkAdapter v1.2.0**
  - Added `PCIeInterface` object, `NPAR` property to control NIC partitioning

- **NetworkDeviceFunction v1.3.0**
  - Added `VLAN` and `VLANs` properties to `Ethernet` object
  - Added `FibreChannelId` to `FibreChannel` object.
  - Deprecated `PhysicalPortAssignment` at root in favor of property within `Links`

- **NetworkPort v1.2.0**
  - Added properties to support Fibre Channel devices
  - Deprecated `LinkSpeedMbps` in favor of `CapableLinkSpeedMbps`

- **PCIeDevice v1.3.0**
  - Added `PCIeInterface` object and definition for external referencing
Redfish Schema Minor Revisions (5 of 6)

• Protocol (unversioned)
  • Added I2C protocol type

• Resource v1.7.0
  • Deprecated Location string within PostalAddress in favor of AdditionalInfo
  • Added AdditionalInfo in Placement
  • Added Contacts object array in Location

• ResourceBlock v1.2.0
  • Added Expansion to ResourceBlockType enumerations
  • Added Unavailable to CompositionState enumerations

• Schedule v1.2.0
  • Transitioned from SNIA to DMTF ownership
  • Added enumeration Every to DayOfWeek and MonthOfYear
  • Updated several properties to use Duration and DateTimeOffset types
Redfish Schema Minor Revisions (6 of 6)

- ServiceRoot v1.4.0
  - Added ExcerptQuery and OnlyMemberQuery to ProtocolFeaturesSupported
  - Added JobService and TelemetryService resource links
- Storage v1.5.0
  - Added CacheSummary and PCIeInterface objects to StorageController
- Task v1.3.0
  - Added Payload object and HidePayload property
- Thermal v1.5.0
  - Added SensorNumber to Fan object
- UpdateService v1.3.0
  - Deprecated NSF enumeration in TransferProtocolType in favor of NFS
Errata Schema Revisions (1 of 2)

• All schemas
  • Numerous clarification in *Descriptions* and *LongDescriptions*
  • Corrected some cases in JSON Schema where the type *integer* should have been used instead of *number*
  • Added *@odata.id*, *@odata.type*, and *@odata.context* as required properties in JSON Schema.
  • Added *Description* and *LongDescription* terms to all schema elements where missing.
  • Added *Capabilities* and *Uris* annotations on all resources.

• Resource Collection schemas
  • Added missing *Required* annotation on *Members* properties
  • Added missing *Members@odata.nextLink* property

• Complete errata details shown in the Change Log within DSP8010
Errata Schema Revisions (2 of 2)

- **Assembly v1.x.x**
  - Added guidance for reporting timestamps for ProductionDate
- **AttributeRegistry v1.x.x**
  - Relaxed regex patterns for ValueName, MenuName, and MenuPath
- **EthernetInterface v1.0.7**
  - Fixed type definition of IPv6StaticDefaultGateways to not require PrefixLength
- **EventService v1.x.x**
  - Added clarification to OriginOfCondition parameter for SubmitTestEvent to highlight that it's a string and not a reference object
- **Resource v1.6.1**
  - Fixed permissions of Longitude, Latitude, and AltitudeMeters properties
- **SoftwareInventory v1.x.x**
  - Added guidance for reporting timestamps for ReleaseDate