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

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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

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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
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 *PCleSlots* 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 `PciId`

- **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

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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
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

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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 *PCleInterface* 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`