



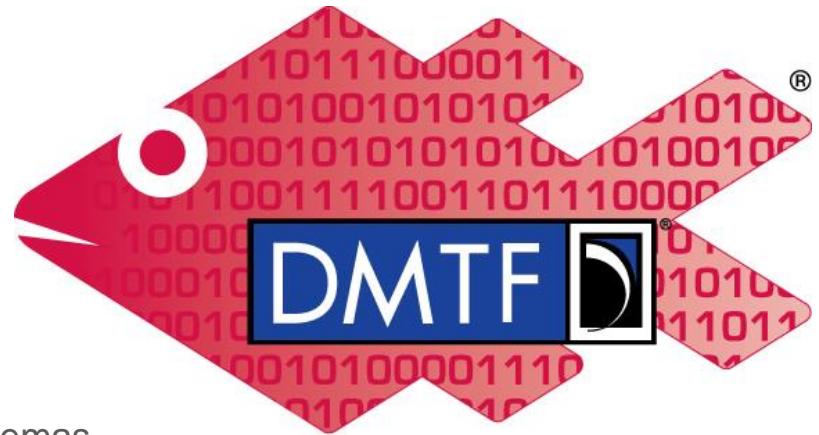
Redfish 2018 Release 2

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



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



OPENAPI
INITIATIVE



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
- **PCleSlots**
 - Physical PCle 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 *ComputerSystemConstrainedComposition* 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



Redfish Schema Minor Revisions (4 of 6)

- MessageRegistry v1.2.0
 - Added *ClearingLogic* property
- NetworkAdapter v1.2.0
 - Added *PCIInterface* 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 *PCIInterface* 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*



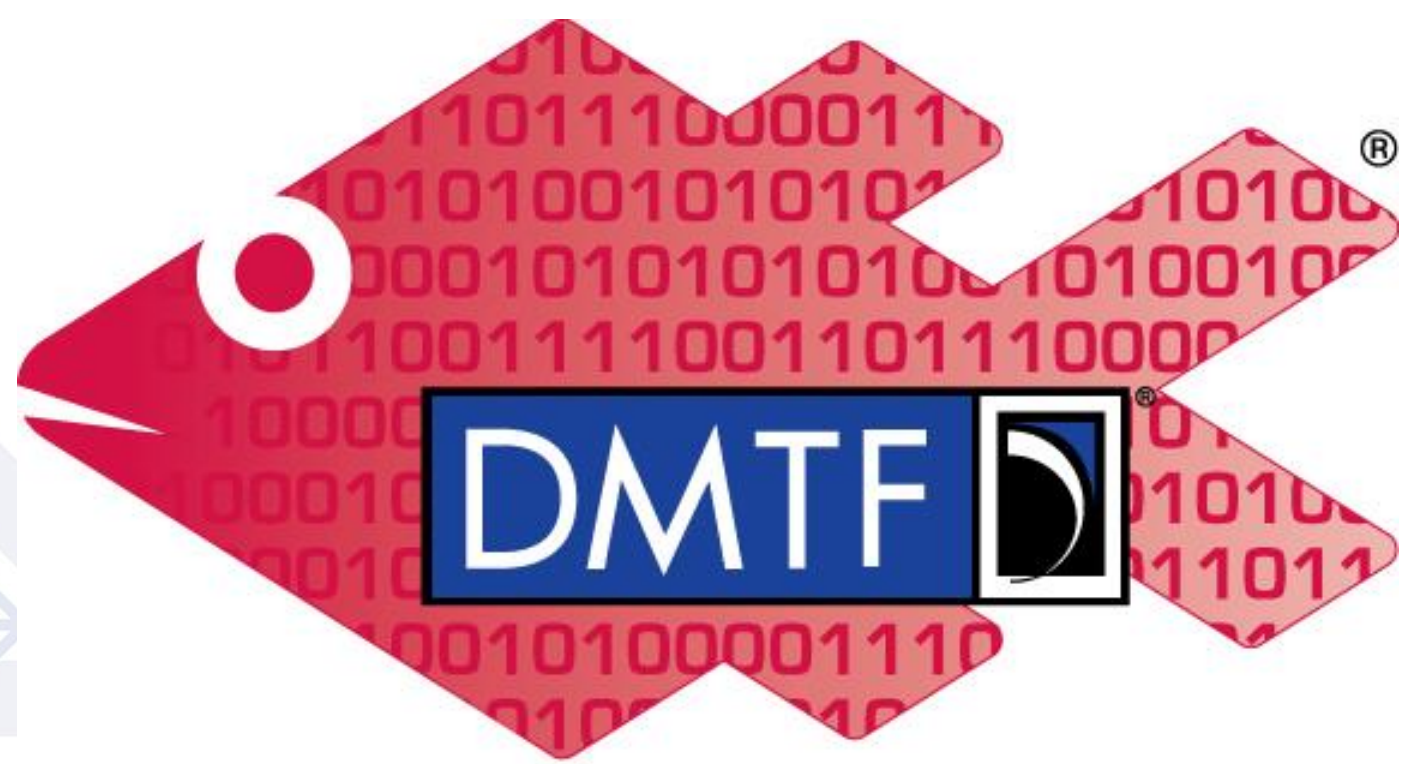
Errata Schema Revisions (1 of 2)

- 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*



Redfish