Redfish Release 2022.2

- Redfish Specification v1.16.0
  - Adds new optional standard roles
  - Adds allowable string pattern, allowable number values, and writeable property payload annotations
- Redfish Specification v1.15.2
  - Errata release
  - Clarified URI naming rules
  - Clarified usage of HTTP 204 response code
  - Added explanation of service-defined filtering of properties based on user identity beyond what is assigned by Redfish privileges.
  - Explained some design exceptions to Links definitions
- Redfish Schema Bundle 2022.1
  - DSP8010 contains all released Redfish schemas
- Redfish Message Registry Bundle 2022.1
  - DSP8011 contains all released Redfish registries
  - NEW Sensor registry defines general events from the Sensor model
- 27 updated schemas (highlights)
  - Added ResetToDefaults action to various resources
  - Added support for clients to create EthernetInterface resources
  - Added manager network port information
  - See release notes in DSP8010 for errata details
- Download all published material at: http://www.dmtf.org/standards/redfish

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Schema and Registry Guide documents

- **RENAMED Redfish Data Model Specification (DSP0268)**
  - Document was previous titled “Redfish Schema Supplement”
  - Now includes normative statements (“LongDescription”) and informative description details from schema in a single document
  - Intended for both Redfish Service and client-side developers

  - Presents schema (data model) contents in a more friendly format for end users
  - Includes example payloads for each resource type

- **Redfish Message Registry Guide (DSP2065)**
  - Presents message registry definitions in a more human-readable format
  - Includes summary table and individual message details

- **Redfish Property Guide (DSP2053)**
  - Provides an alphabetical list of all properties defined in Redfish schema
  - Useful for schema writers to locate existing definitions or properties
  - Helps avoid re-defining property names already in use
**NEW SecurityPolicy Resource**

- Provides a central point to configure the security policy of a manager
  - Each *Manager* resource can contain a *SecurityPolicy* resource
- Configures SPDM-related connection settings for the manager
  - Enable/disable SPDM
  - Enable/disable secure sessions
  - Allowed/denied SPDM versions and algorithms
  - Trusted/revoked device and CA certificates for SPDM devices
  - For more information, see the Security Protocols and Data Models Working Group: https://www.dmtf.org/standards/spdm
- Configures TLS-related connection settings for the manager
  - Allowed/denied TLS versions and algorithms
  - Trusted/revoked server and CA certificates when the manager acts as a TLS client
NEW TrustedComponent Resource

• Represents a security device for establishing trust
  • Examples include: a TPM, external hardware root of trust, embedded hardware root of trust

• Collection of TrustedComponent resources can be found subordinate to the Chassis resource
  • Allows for a client to discover containment hierarchy of these devices

• Each TrustedComponent resource contains inventory-related information about the device
  • Part number, serial number, model, and other FRU information
  • Certificates installed on the device
  • Software images installed on the device
Creating (POST) EthernetInterface Resources

- **EthernetInterfaceCollection** allows for POST operations
  - Clients can create a VLAN based off an existing interface (replaces the deprecated `VLanNetworkInterfaceCollection` resource)
  - Clients can create interface teams or bonds from a set of interfaces
- **TeamMode** and **RelatedInterfaces** were added to **EthernetInterface**
  - Clients provide these properties in the POST operation
  - **TeamMode**: The teaming/bonding policy for the new interface
  - **RelatedInterfaces**: The parent interface for the new VLAN or the set of interfaces to team/bond
- Existing properties, such as **VLAN**, **IPv4Addresses**, and **IPv4StaticAddresses**, are used in the same manner as physical interfaces
Manager Network Ports

- **DedicatedNetworkPorts** added to Manager
  - Represents physical network ports on the manager
  - Example: 1GbE MAC on a BMC
- **SharedNetworkPorts** added to Manager
  - Represents physical network ports on the manager that are shared with a host system
  - Example: Shared port provided via NCSI from a host system NIC
  - Collection members reference Port resources found in NetworkAdapter
- **Added links between EthernetInterface and Port**
  - Links are only provided when there is a physical association between a port and Ethernet interface
  - Allows a client to find port attributes of an Ethernet interface, such as LLDP information
Manager Network Ports

- Chassis
- 1U
- Network Adapters
- Ports
- Managers
- BMC
- Ethernet Interfaces
  - eth0
  - eth1
- Dedicated Network Ports
- Shared Network Ports

Resources:
- Collection resource
- Singleton resource
- Subordinate resource
- Related resource
Redfish Schema Minor Revisions (1 of 5)

- **ActionInfo v1.3.0**
  - Added *AllowableNumbers* and *AllowablePattern* to Parameters

- **Assembly v1.4.0**
  - Added *Replaceable* to *Assemblies*

- **Battery v1.2.0**
  - Added *Replaceable*

- **Chassis v1.21.0**
  - Added *TrustedComponents*, *HotPluggable*, *Replaceable*, and *Version*

- **Circuit v1.7.0**
  - Added “DC16V”, “DC12V”, “DC9V”, “DC5V”, “DC3_3V”, and “DC1_8V” to *NominalVoltageType*

- **ComponentIntegirty v1.2.0**
  - Added *TPMGetSignedMeasurements* action
  - Added *NonceSizeBytesMaximum* to *TPM*
Redfish Schema Minor Revisions (2 of 5)

- **ComputerSystem v1.19.0**
  - Deprecated `TrustedModules` in favor of `TrustedComponents` in `Links`
  - Added `Recovery` to `BootSource`
- **Control v1.2.0**
  - Added `ResetToDefaults` action
- **EnvironmentMetrics v1.3.0**
  - Added `ResetToDefaults` action
- **EthernetInterface v1.9.0**
  - Added `TeamMode`
  - Added Ports and `RelatedInterfaces` to `Links`
- **FabricAdapter v1.4.0**
  - Added `LocationIndicatorActive`
- **Fan v1.3.0**
  - Added `Replaceable`
LogEntry v1.13.0
  • Added `SpecificEventExistsInGroup`
Manager v1.16.0
  • Added `SecurityPolicy`, `DedicatedNetworkPorts`, and `SharedNetworkPorts`
ManagerDiagnosticData v1.1.0
  • Added `UptimeSeconds`, `RestartCount`, and `RestartAfterFailureCount` to `TopProcesses`
ManagerNetworkProtocol v1.9.0
  • Added `NetworkSuppliedServers` to NTP
Memory v1.16.0
  • Added `ResetToDefaults` action
MetricReport v1.5.0
  • Deprecated `MetricDefinition` in favor of `MetricId`
Redfish Schema Minor Revisions (4 of 5)

- **NetworkDeviceFunction v1.9.0**
  - Added “HTTP” to `BootMode`
  - Added `HTTPBoot`
- **PCIeDevice v1.10.0**
  - Added `Switch` to `Links`
  - Added “Retimer” to `DeviceType`
- **PCIeFunction v1.4.0**
  - Added `Processor` to `Links`
- **PowerSupply v1.5.0**
  - Added “DCRegulator” to `PowerSupplyType`
  - Added `OutputNominalVoltageType` and `Replaceable`
- **Processor v1.16.0**
  - Added `Throttled`, `ThrottleCauses`, `Replaceable`, `ProcessorIndex`, and `Family`
  - Added `ResetToDefaults` action
Redfish Schema Minor Revisions (5 of 5)

- ProcessorMetrics v1.6.0
  - Added `PowerLimitThrottleDuration` and `ThermalLimitThrottleDuration`
- Sensor v1.6.0
  - Added `ResetToDefaults` action
- Session v1.5.0
  - Added `Context`
- SoftwareInventory v1.8.0
  - Added `OSDistribution` to `AdditionalVersions`
Redfish Schema Errata Revisions (1 of 3)

- **AccountService v1.x.x**
  - Clarified that OAuthServiceSigningKeys and Issuer are configured by the client when the OAuth 2.0 mode is set to “Offline”

- **ComponentIntegrity v1.x.x**
  - Updated the description for TargetComponentURI to allow it to reference a TrustedComponent resource for TPM devices
  - Clarified the nonce provided in the SPDMGetSignedMeasurements action is sent to the SPDM Responder in the 'GET_MEASUREMENTS' request
  - Added regular expression to ComponentIntegrityTypeVersion when ComponentIntegrityType is “SPDM”

- **ExternalAccountProvider v1.x.x**
  - Clarified that OAuthServiceSigningKeys and Issuer are configured by the client when the OAuth 2.0 mode is set to “Offline”

- **Job v1.x.x**
  - Added guidance for mapping values to JobStatus
Redfish Schema Errata Revisions (2 of 3)

- **MemoryChunks v1.x.x**
  - Clarified the usage of `InterleaveSets` if not specified by the client
  - Added missing required term for `AddressRangeType`

- **MetricDefinition v1.x.x**
  - Clarified that `MetricProperties` and `CalculationParameters` should not be present in the same resource instance

- **MetricReport v1.x.x**
  - Clarified the usage of `MetricId` and `MetricProperty`

- **MetricReportDefinition v1.x.x**
  - Clarified that `MetricProperties` and `MetricId` should not be present in the same object instance in the `Metrics` array
  - Clarified that calculations performed on metrics are optional
Redfish Schema Errata Revisions (3 of 3)

- **Port v1.x.x**
  - Corrected regular expression patterns for LLDP transmit properties to allow for empty strings
  - Corrected the description for LLDP receive properties to state they should be omitted rather than be empty strings

- **Schedule v1.x.x**
  - Clarified that `RecurrenceInterval` specifies the duration between intervals

- **Settings v1.x.x**
  - Clarified the behavior of “Immediate” in `@Redfish.SettingsApplyTime` and `@Redfish.OperationApplyTime` to allow for side effects

- **Task v1.x.x**
  - Added guidance for mapping values to `TaskStatus`

- **UpdateService v1.x.x**
  - Updated the descriptions for the `StartUpdate` action to clarify that it’s tied to usage with the operation apply time value “OnStartUpdateRequest”
  - Clarified that non-resource URIs should not contain URIs of Redfish resources