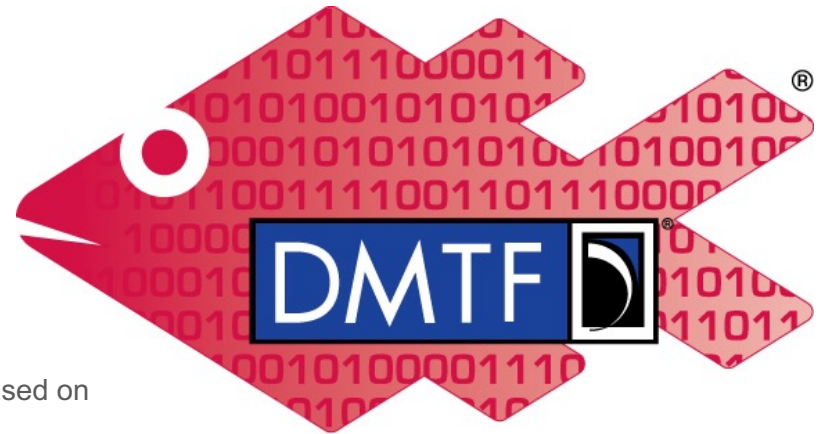# Redfish Release 2022.2

DMTF Redfish Forum

August 2022

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 2022.2
  - DSP8010 contains all released Redfish schemas
- Redfish Message Registry Bundle 2022.2
  - 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

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
- Redfish Resource and Schema Guide (DSP2046)
  - 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
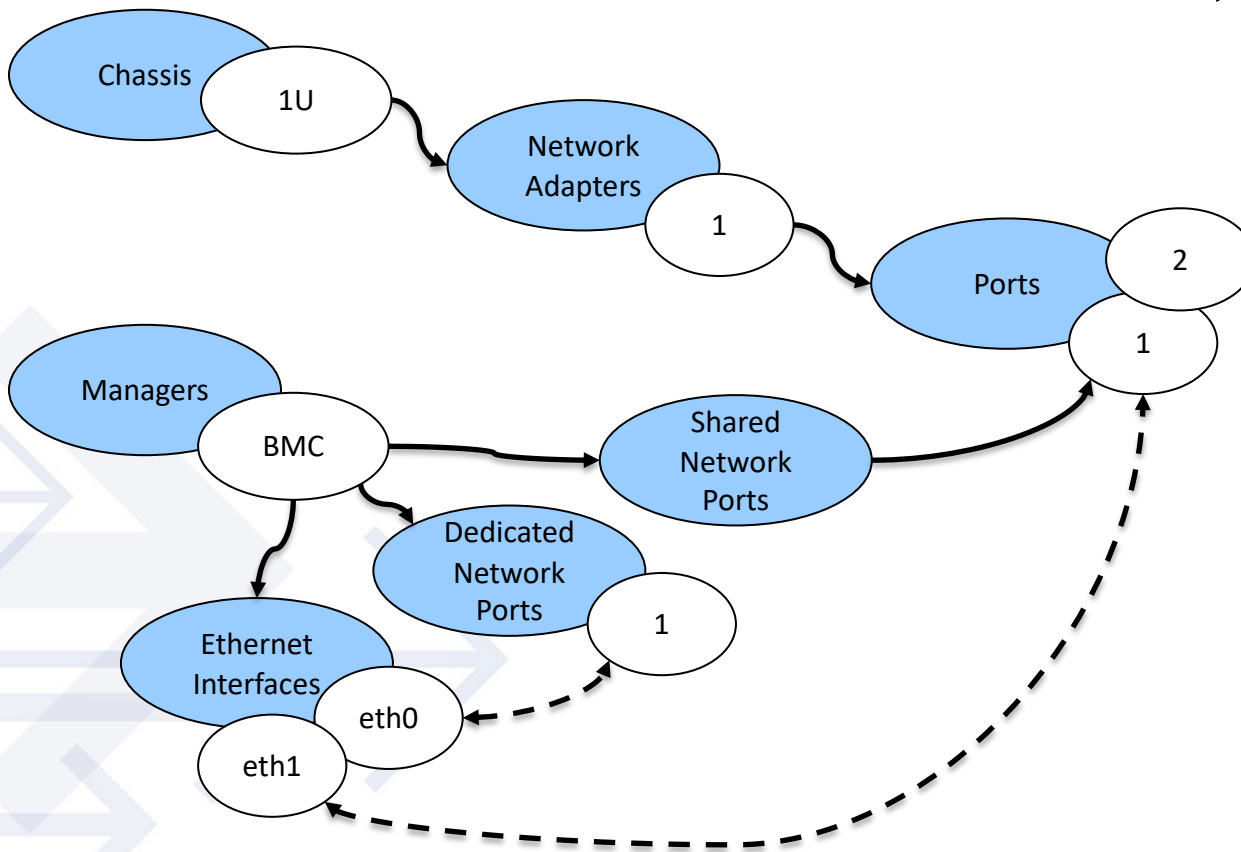
Manager Network Ports

- *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

Legend:
- Collection resource
- Singleton resource
- Subordinate resource
- Related resource

Chassis — 1U → Network Adapters — 1 → Ports — 2, 1

Managers — BMC → Shared Network Ports → 1

BMC → Dedicated Network Ports — 1

BMC → Ethernet Interfaces — eth0, eth1

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*

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Redfish Schema Minor Revisions (3 of 5)

- 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*

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- 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

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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*

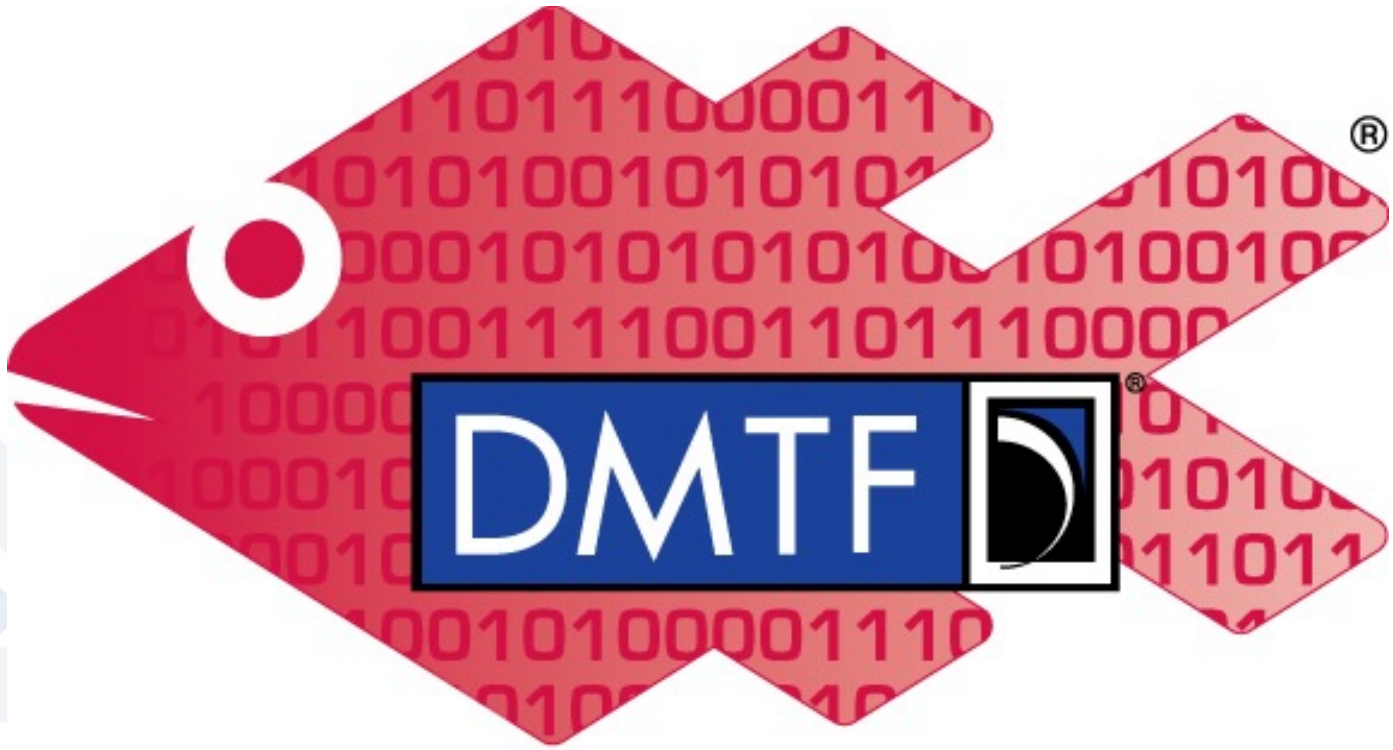# Redfish Schema Errata Revisions (2 of 3)

- ## 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

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