# Redfish Release 2025.4

DMTF Redfish Forum

January 2026

Redfish Release 2025.4

- Redfish Specification 1.23.1
  - Added a term and reference for regular expressions based on ECMA-262
  - Clarified that POST (create) operations may include a NULL property value when defined in schema
- Redfish Message Registry Bundle 2025.4
  - DSP8011 contains all released Redfish registries
  - **NEW ManagerEvent** adds messages to indicate conditions or configuration changes related to a manager
  - **Environmental** v1.4.0 adds messages for cooling unit redundancy events and fan warning events
  - **Power** v1.2.0 adds messages for power distribution redundancy events
- Redfish Interoperability Profiles Specification 1.9.0
  - Added ProfileType to provide new profile-based functionality to produce product specifications, test implementations for conformance, or validate a deployment configuration.
- Redfish Schema Bundle 2025.4
  - DSP8010 contains all released Redfish schemas, errata
- 28 Updated schemas (highlights)
  - Added NVMe personality support to **Drive** and **Storage**
  - Added port aggregation support to **NetworkAdapter** and **Port**
  - Added clarifications to **Redundancy** to differentiate the minimums needed for a group from the minimums needed for fault tolerance
  - Added UALink support to **Port**, **Processor**, and **Protocol**
- Download all published material at: http://www.dmtf.org/standards/redfish

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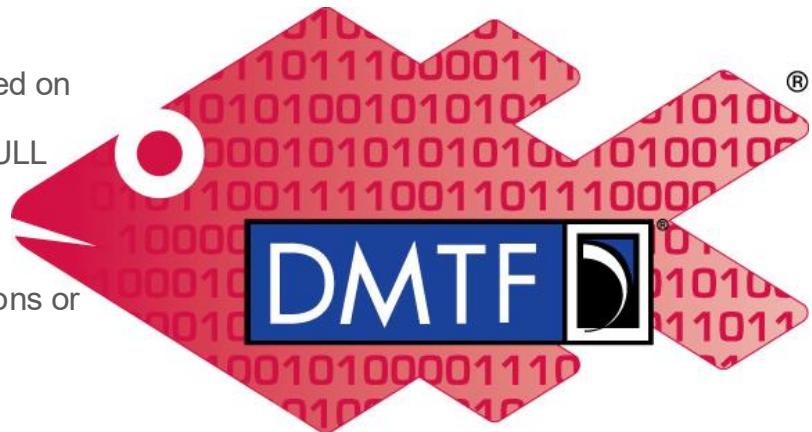
NVMe Personality Support

- NVMe defined a "Configurable Device Personality" mechanism to manage, freeze, unfreeze, and revert persistent settings on NVMe subsystems
- **NEW** properties and actions added to **Drive** and **Storage**
  - *ActivePersonalities* property added to *NVMe*
  - *SetPersonalityKey*, *FreezePersonality*, *GetPersonalityNonce*, *UnfreezePersonality*, and *RevertPersonalitiesToDefaults* actions
- The *ActivePersonalities* property contains the set of the personalities for the NVMe subsystem
  - PATCH operations are used to change settings
- The new actions are used to freeze, unfreeze, and revert personalities

Reporting NVMe Personalities

```json
{
    "@odata.id": "/redfish/v1/Chassis/Tower/Drives/M.2-2",
    "NVMe": {
        "ActivePersonalities": [
            {
                "Identifier": 0,
                "Default": false,
                "Frozen": false,
                "Pending": false,
                "MinimumRequiredResetType": "NVMSubsystemReset",
                "ChangeAffectsUserData": true,
                "UnfreezeAuthenticationModes": [ "ProgrammedKey", "PhysicalId" ]
            },
            {
                "Identifier": 245,
                "Default": false,
                "Frozen": false,
                "Pending": false,
                "Data": "00",
                "MinimumRequiredResetType": "NoReset",
                "ChangeAffectsUserData": false,
                "UnfreezeAuthenticationModes": [ "ProgrammedKey", "PhysicalId" ]
            }
        ]
    }
}
```
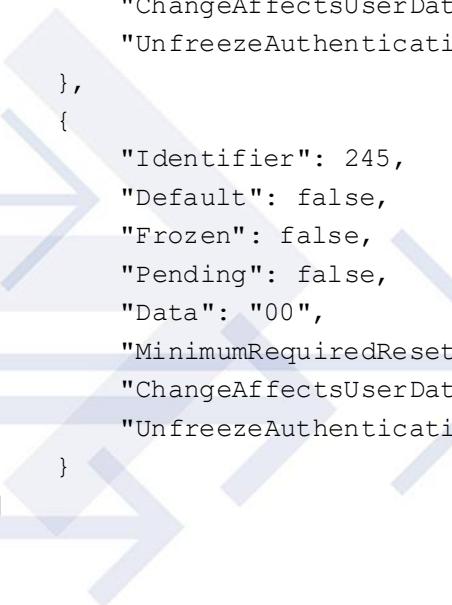
Freezing Personalities

```
POST /redfish/v1/Chassis/Tower/Drives/M.2-2/Actions/Drive.SetPersonalityKey

{
    "Algorithm": "HMAC_SHA384",
    "Key": "5365637265744B6579"
}




POST /redfish/v1/Chassis/Tower/Drives/M.2-2/Actions/Drive.FreezePersonality

{
    "Personality": 255     // 255 indicates "all personalities"
}
```
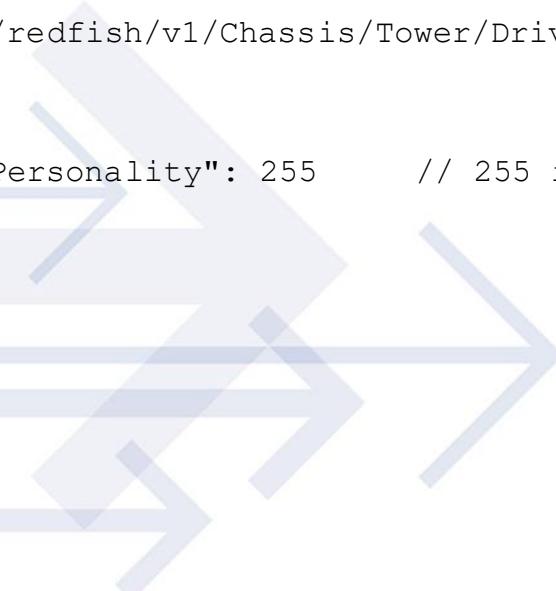
Unfreezing Personalities

```
POST /redfish/v1/Chassis/Tower/Drives/M.2-2/Actions/Drive.GetPersonalityNonce


HTTP/1.1 200 OK


{

    "Nonce": "11AA55FF"

}




POST /redfish/v1/Chassis/Tower/Drives/M.2-2/Actions/Drive.UnfreezePersonality

{

    "Personality": 1,

    "Method": "HostProgrammedKey",

    "Key": "7CE4F37A3446D21AC6B89396BF9A82B86246AEB7C71E51C35D5B20D74A9226B2",

    "Nonce": "11AA55FF"

}
```

Port Aggregation

- **NEW** *PortAggregation* property in **NetworkAdapter**
- **NEW** *IsAggregation* and *AssociatedPhysicalPorts* properties added to **Port**
- Allows a user to group physical ports together on a network adapter to create logical ports
- When ports are aggregated, a logical Port resource is instantiated to show the aggregated port and its associated metrics
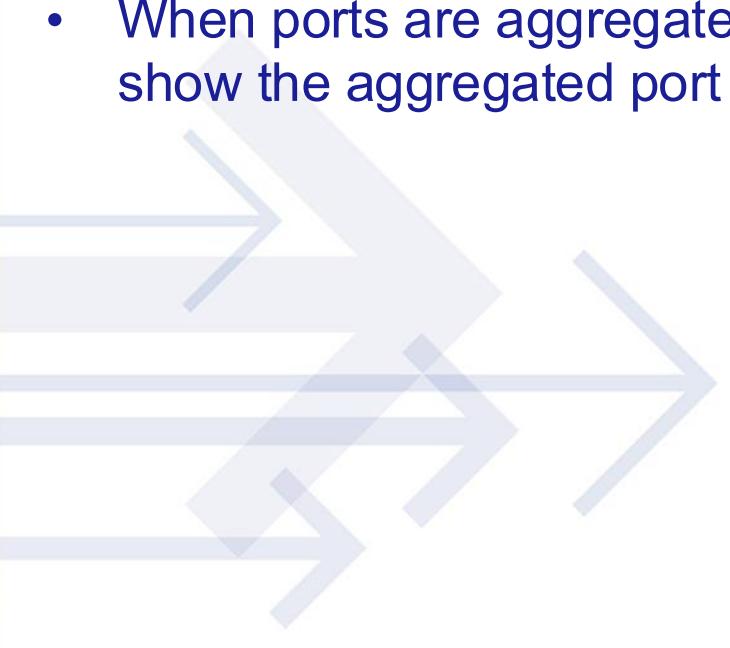
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Logical Port Representation

```
{
    "@odata.id": "/redfish/v1/Chassis/1U/NetworkAdapters/Slot4",
    ...
    "PortAggregation": {
        "TotalPhysicalPorts": 4,
        "AllowablePhysicalPortsPerAggregation": [ 2, 4 ],
        "ConfiguredPhysicalPortsPerAggregation": 4,
        "ConfiguredAggregatedPorts": 1,
        "AggregationEnabled": true
    },
    ...
}
```
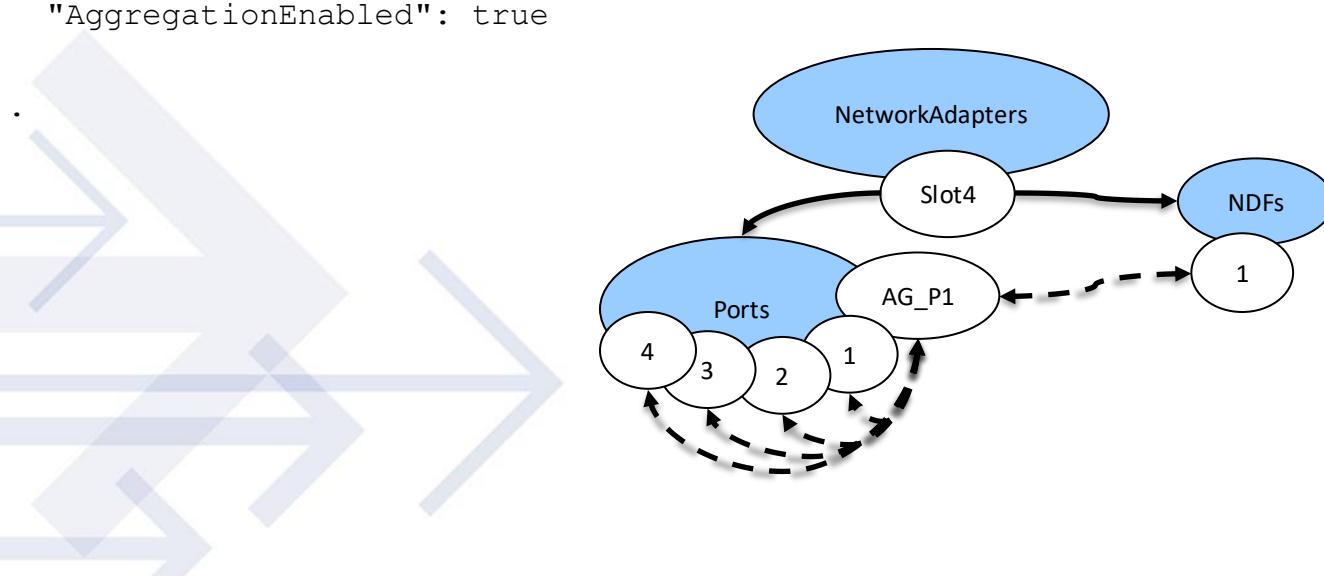
Redundancy Corrections

- Issue was raised with a discrepancy between the language between the *MinNumNeeded* and *MinNeededInGroup* properties and mockups

    - Properties stated the minimum number of members to remain fault tolerant

    - Mockups reflected the minimum number of members required in the group

- From surveying existing implementations, most responses followed the intent of the mockups

    - Example, for showing 1+1 redundancy, *MinNumNeeded* or *MinNeededInGroup* showed "1", which does not reflect the number needed for fault tolerance

- Descriptions for the *MinNumNeeded* and *MinNeededInGroup* were adjusted to reflect the intent of the mockups

- **NEW** *MinNumNeededForFaultTolerance* and *MinNeededForFaultTolerance* properties added to specifically report fault tolerance limits

Message Registry Additions (1 of 1)

- **NEW ManagerEvent** v1.0.0
    - Messages to show state changes and alerts with a manager
    - Example: *ManagerReset*
- **Environmental** v1.4.0
    - Added *FanWarning*, *CoolingUnitGroupCritical*, *CoolingUnitGroupWarning*, and *CoolingUnitGroupNormal* messages
- **LogService** v1.1.0
    - Added *LogCleared* message
- **Power** - v1.2.0
    - Added *PowerDistributionGroupCritical*, *PowerDistributionGroupWarning*, and *PowerDistributionGroupNormal* messages

Schema and Registry Guide documents

- Redfish Data Model Specification (DSP0268)
    - Document 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

Available Redfish conformance testing tools

- DMTF Redfish Forum provides open source tools for service developers to validate their conformance with the Redfish protocol, data model, and profiles
- **Redfish Protocol Validator**
  - Tests a live service for conformance to the Redfish HTTP protocol, including response headers and status codes
  - https://github.com/DMTF/Redfish-Protocol-Validator
- **Redfish Service Validator**
  - Tests a live service for conformance with Redfish schemas, ensuring the returned JSON payloads validate against the standard data models
  - Recommend that developers run this tool first, as errors in payload are more likely to cause issues for end users and interoperability
  - https://github.com/DMTF/Redfish-Service-Validator
- **Redfish Interop Validator**
  - Tests a service against a Redfish interoperability profile
  - https://github.com/DMTF/Redfish-Interop-Validator

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Redfish-Publications repository

- Public GitHub repository contains an official read-only copy of the Redfish schemas and standard message registries
  - https://github.com/DMTF/Redfish-Publications
  - Creates public, durable locations for referencing specific schema or registry items in issue reports, forum postings, or other online references
  - Allows developers to automatically synchronize with new Redfish releases using normal GitHub tools and processes
- Repository will be updated as each Redfish release become public
- Contains materials published as DSP8010 and DSP8011
  - **/csdl** – Redfish schemas in OData CSDL XML format
  - **/json-schema** – Redfish schemas in JSON Schema format
  - **/openapi** – Redfish schemas in OpenAPI YAML format
  - **/dictionaries** – RDE dictionaries
  - **/registries** – Redfish standard message registries

Redfish Schema

MINOR REVISION DETAILS

- ## Circuit v1.9.0
  - Added "DC400V" and "DC800V" values to *NominalVoltageType*
- ## ComputerSystem v1.27.0
  - Added *KMIPClientCertificates* to *KeyManagement*
- ## CoolingUnit v1.5.0
  - Added *CoolingUnitRedundancy*
- ## Drive v1.22.0
  - Added *SecurityIDOwned*
  - Added *ActivePersonalities* to *NVMe*
  - Added *SetPersonalityKey*, *FreezePersonality*, *GetPersonalityNonce*, *UnfreezePersonality*, and *RevertPersonalitiesToDefaults* actions
- ## Event v1.13.0
  - Added *OriginAddress*
- ## EventDestination v1.16.0
  - Added *HideCommunityStrings* to *SNMPSetting*

Redfish Schema Minor Revisions (2 of 5)

- EventService v1.12.0
  - Added *OriginResourcesSupported* property
- LeakDetection v1.2.0
  - Corrected the deprecation of the *LeakDetectors* property in favor of link in **Chassis**
- LeakDetector v1.6.0
  - Added *Voltage* and *CurrentAmps*
- LogEntry v1.21.0
  - Added *OriginAddress*
- LogService v1.9.0
  - Added *DownloadRawLog* action
- Manager v1.24.0
  - Added *ServiceUseNotification*
- Memory v1.23.0
  - Added *ProductionDate*

# Redfish Schema Minor Revisions (3 of 5)

- NetworkAdapter v1.14.0
  - Added *PortAggregation*
- PCIeDevice v1.21.0
  - Added *FlowControlTimeoutErrors* to *PCIeErrors*
- PCIeFunction v1.7.0
  - Added *ARIModeEnabled* and *ARIFunctionNumber*
- Port v1.18.0
  - Added "CDFP" to *SFPType*
  - Added *ManagementInterfaceType* to *SFP*
  - Added *AdditionalManagementAddressesIPv4* and *AdditionalManagementAddressesIPv6* to *LLDPReceive* and *LLDPTransmit*
  - Added *IsAggregation* and *UALink*
  - Added *AssociatedPhysicalPorts* to *Links*
- PowerDistribution v1.6.0
  - Added *PowerDistributionRedundancy*

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Redfish Schema Minor Revisions (4 of 5)

- ## PowerSupplyMetrics v1.2.0
  - Added *PolyPhaseVoltage*, *PolyPhaseCurrentAmps*, *PolyPhasePowerWatts*, and *PolyPhaseEnergykWh*

- ## Processor v1.22.0
  - Added *UALink*

- ## Protocol
  - Added "UALink" protocol

- ## Redundancy v1.7.0
  - Added *MinNeededForFaultTolerance* to *RedundantGroup*
  - Added *MinNumNeededForFaultTolerance* to *Redundancy*

- ## Sensor v1.12.0
  - Added *PeakIntervalReading* and *LowestIntervalReading*

- ## ServiceRoot v1.20.0
  - Added *ServiceUseNotification*

Redfish Schema Minor Revisions (5 of 5)

- Storage v1.21.0
  - Added *ActivePersonalities* to *NVMeSubsystemProperties*
  - Added *SetPersonalityKey*, *FreezePersonality*, *GetPersonalityNonce*, *UnfreezePersonality*, and *RevertPersonalitiesToDefaults* actions
- StorageController - v1.11.0
  - Added *Reset* action
- Switch - v1.11.0
  - Added *MaxSupportedPIDs* and *PIDTargetList* to *CXL*
- TaskService - v1.3.0
  - Added *DeleteAllCompletedTasks* action
  - Added *TaskMonitorAutoExpirySeconds*

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