

News from the DMTF

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## December 2021

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## 2021 Year-in-Review

*From the desk of DMTF President Jeff Hilland*

Each December, we take the opportunity to pause and reflect on the last twelve months. 2021 continued to be a year full of ups and downs but as it comes to an end, I'm pleased to highlight the significant accomplishments the organization has achieved.

### Technical Milestones

#### Redfish

Technical work on the [Redfish®](#) standard takes place in the [Redfish Forum](#). The Forum has made significant progress this year, including:

- Kicking off 2021, [Redfish Release 2020.4](#) was released in January. This release included 7 new schemas, 29 schema updates and additional developer resources. The release also incorporated the migration to new resource definitions to improve the representation of **Power and Thermal** characteristics through the additions of PowerSubsystem, ThermalSubsystem, Fan, PowerSupply, PowerSupplyMetrics as well as EnvironmentMetrics for device-level reporting of environmental data. Additional **AccountTypes** were included thus expanding functionality of AccountTypes in ManagerAccount allowing management of accounts for non-Redfish services or other functions. The Redfish Forum also hosted a [webinar](#) providing an in-depth look at the 2020.4 specification followed by a live QA session.
- [Redfish version 2021.1](#) was released in May. This release extended the **composability** model to add multi-client support. In addition, the release included 6 new schemas, 37 schema updates and additional developer resources. [The 2021.1 webinar](#) provided additional information about the release and allowed attendees to ask

questions during the QA session.

- In June, Redfish created a new educational white paper, “[Redfish Firmware Update White Paper](#)” designed to help implementers and clients understand the Redfish **Firmware Update** data model and how it is used to update firmware images on a system.
- Continuing its aggressive development of Redfish, DMTF released [2021.2](#) with 8 new schemas and 42 schema updates in September. This release featured several new additions to the support modeling use cases for **SmartNICs** including the AllowDenyCollection, which was added to NetworkDeviceFunction to show firewalling configurations; the ProcessorCollection was added to NetworkAdapter to show offload processors dedicated to a SmartNIC; and a DPU Value was added to SystemType in ComputerSystem to showcase a system-view of an SoC on a SmartNIC. Additionally, support for **OAuth 2.0** Authorization Framework was added, allowing authorization to be performed by an external entity – no usernames or passwords need to be provided by the client. Key provisioning via Redfish was also added to support **NVMe-oF** boot use cases where UEFI and the OS need key information to connect to remote NVMe-oF targets. For additional information regarding the Redfish 2021.2 release, you can view the [2021.2 webinar](#) and QA here.
- In November, the Forum released **Redfish 2021.3**. It is available for public download [here](#). The release includes 3 new schemas, 20 schema updates and additional developer resources. In addition, this release includes **support for Licenses and License Management** allowing for inventory and installation of licenses, as obtained by the end user, or otherwise included in a product implementation. The release supports Service-level, Device-centric or Capacity-limited license types to allow for a variety of licensing models. This support allows for either binary (file-based) or text-based licenses in a unified fashion to provide a single, interoperable method for client software to implement. The 2021.3 release also includes support for **electrical buses and related products** added to the PowerDistribution schema with added properties to Outlet, Circuit, Chassis, and PowerSupply to show electrical connectivity between devices. These latest enhancements are driven by the growth of Redfish and interoperability feedback received from implementers.
- **Redfish version 2021.4** is slated to be released early next year. Stay tuned!

#### PMCI Working Group Standards

The [Platform Management Communications Infrastructure \(PMCI\) Working Group](#) defines standards to address “inside the box” communication interfaces between the components of the platform management subsystem. Among the notable technical milestones in 2021:

- PMCI kicked off 2021 with the release of its [Secured Messages using SPDM Specification \(DSP0277\)](#) as well as the [Secured Messages using SPDM over MCTP Binding Specification \(DSP0276\)](#) as DMTF standards. These specifications enable the same data encryption mechanism whether it is for data in flight or management of traffic and incorporates crucial input from the organization’s [Alliance Partners](#) thus benefiting the industry at large.
- In August, PMCI announced that its **Platform Level Data Model (PLDM) specifications** have garnered [industry-wide support](#) and are actively helping to solve end-user concerns in a common, standardized way. By using solutions based on PMCI standards, customers can anticipate reduced downtime, a secure and reliable platform, lower total cost of ownership, and interoperability at both the system and component levels. These widely

used standards include PLDM for **Firmware Update** and PLDM for Redfish® Device Enablement (**RDE**).

- In September, the **PMCI Security Task Force** announced the release of a work in progress for the upcoming [Security Protocol and Data Model \(SPDM\) Specification version 1.2](#). Designed to be referenced by other standards organizations and developers, DMTF invited both public comment and comments from our alliance partners on the SPDM WIP specification.
- In November, PMCI announced the publication of an [overview presentation](#), which provided detailed requirements regarding its forthcoming update to the **Management Component Transport Protocol (MCTP) specifications**. This presentation, [available for download](#), is a work in progress that lists a set of planned features and describes the issues leading to the requirements contained in the document. Designed to be referenced by other standards organizations and developers, DMTF invites public comment on the MCTP specifications and activities before they are finalized. Feedback may be submitted on our website at <https://www.dmtf.org/standards/feedback/>.
- A **PMCI Tech Note** is currently in the works! Be on the lookout for this in the new year.

## SMBIOS

[System Management BIOS \(SMBIOS\)](#) is one of the most widely used IT standards in the world, simplifying the management of more than two billion client and server systems since its release in 1995.

- In October, the SMBIOS Working Group released [Version 3.5 of the SMBIOS Reference Specification](#). **Version 3.5 of SMBIOS** adds support or updates for current technologies, including: a new Firmware Inventory Information structure, allowing SMBIOS to report device firmware information for use by Redfish or other agents; reporting manufacturing mode status; reporting manufacturing mode status; and updates to pointing device interfaces, onboard device types, and processor sockets.

## Common Information Model (CIM)

- The CIM Forum anticipates the release of **CIM 2.55** in the first quarter of 2022.

## Desktop and mobile Architecture for System Hardware (DASH)

- Make sure to check back in early next year for the latest release of the **DASH Conformance Test Suite**.

## **Alliances**

Our [Alliance Partner](#) program continues to benefit the industry overall.

- DMTF Alliance Partner, [MIPI Alliance](#), formed its **MIPI Security Investigation Group (Security IG)** in 2019. The Security IG was developed to provide recommendations for a scalable, uniform MIPI security framework and ongoing support model. In March, the Security IG evaluation confirmed that DMTF's SPDM architecture meets MIPI's requirements for this use case and is an acceptable foundation for aspects of MIPI security specification development going forward.
- In June, the [OpenFabrics Alliance \(OFA\)](#) and [DMTF](#) agreed to a new work register, outlining areas of technical collaboration between the two organizations. As part of its agreement with DMTF, OFA is launching an effort to design and develop an **OpenFabric**

**Management Framework (OFMF)** consisting of common APIs and methods to deliver security, provide route management, and maintain optimized performance by adopting Redfish as the interface.

- In July, DMTF held its annual summer event, the [2021 Alliance Partner Technical Symposium \(APTS\)](#), virtually via Zoom for the second year in a row. While we certainly missed the face-to-face interaction at **APTS**, the virtual event was productive. Led by DMTF's Vice President of Alliances John Leung, the annual event featured collaborative working group meetings and focused on technical topics of interest to DMTF's Alliance Partners, as well as [keynote addresses](#) from the [PCI Industrial Computer Manufacturer Group \(PICMG\)](#), [Storage Networking Industry Alliance \(SNIA\)](#), and the [OpenFabrics Alliance \(OFA\)](#).
- In August, DMTF and the [Trusted Computing Group \(TCG\)](#) agreed to a new work register outlining areas of technical collaboration between the two organizations. As part of the agreement, the **TCG** and DMTF's [Platform Management Communications Infrastructure \(PMCI\)](#) Work Group will align the work of both bodies at an unprecedented level of cooperation. This will benefit not only DMTF's **Security Protocol and Data Model (SPDM)** Specifications but also implementers of standards developed by both organizations.

### Education and Events

DMTF continued its dedication to industry outreach and education.

- The organization's "[Redfish School](#)" [YouTube series](#) continues to be popular with viewers. In March, we published a new mini-tutorial video focused on [BIOS Configuration in Redfish](#). Stay tuned for more videos in 2022!
- DMTF executives, technology representatives and standards were highlighted at several events:
  - [MIPI Dev Con 2021](#)
  - [2021 Virtual Storage Developer Conference](#)
  - [Open Compute Project Global Summit 2021](#)
- To assist implementors of the Redfish standard, the Redfish Forum kicked off a **webinar series** that is timed with each release of the standard. Attendees are invited to join a live webinar, hosted via Zoom, where the Forum chairs present the contents of the latest release followed by a Q&A session. Each webinar is then added to our [YouTube channel](#) for those that can't attend or would like to revisit the information.

### International Activity

As part of its global outreach and standardization work, DMTF provides resources and information for users and developers worldwide.

- Our [Regional Task Force in Japan](#) offers a website where visitors can access translated DMTF documents and specifications, and for our Chinese visitors, information can be found [here](#). Both sites are currently being updated.

### Final Thoughts

Even with the ongoing challenges of 2021, together we continued to focus on the work of creating meaningful standards that address industry needs and solve challenges for the end user. We are proud of our valued volunteers and hope each of them takes a moment to reflect on what we've accomplished - without their hard work, none of it would be possible.

Looking ahead to **2022**, we want to thank our member companies, volunteers, as well as our alliance and industry partners for their ongoing commitment to the organization. I look forward to the future and the new challenges we will tackle together. **As always, thank you for the continued hard work and dedication.**

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## Start Planning Now for Membership Renewal

As DMTF's new fiscal year approaches, our membership renewal period is right around the corner - please take steps today to ensure your organization is prepared to renew! The upcoming membership year runs April 1 to March 31.

Your company's billing contact will receive the invoice in early January so be sure to give them the heads up! If you would like to receive the invoice now please email [admin@dmf.org](mailto:admin@dmf.org).

DMTF membership offers front-line access to our standards along with the opportunity to participate in the process of defining standards and programs. This important work is funded through membership dues that are among the most cost-effective in the industry. DMTF remains the ideal forum for industry-leading companies to come together in a neutral, non-competitive environment to collaborate on interoperable management standards.

To learn more about the benefits of membership, or to join or renew, please visit the DMTF website at [www.dmf.org/join](http://www.dmf.org/join). Have questions? Get answers from the DMTF membership team at [admin@dmf.org](mailto:admin@dmf.org).

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### In Case You Missed It

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## Welcome to Our New VP of Membership

Donnie Sturgeon of [Vertiv](#) has been appointed to serve as DMTF's vice president of membership. Donnie will play an important role in the organization as DMTF continues its commitment of providing value to its members.

Donnie will oversee the organization's membership initiatives while striving to grow

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## Upcoming DMTF Meetings

12/16 Board Meeting  
1/20 Board Meeting  
2/17 Board Meeting

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## New Members

### Participation

[Meta](#)

[Pensando Systems](#)

[Western Digital Technologies, Inc](#)

its domestic and global presence. Please join us as we welcome Donnie in his new leadership role with DMTF!

We would also like to thank Willie Nathan (outgoing) for his dedication and efforts in advancing DMTF's membership, standards, and initiatives.

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## Need a DMTF Logo for your Marketing Materials?

We've got you covered!  
Email [press@dmf.org](mailto:press@dmf.org) for the DMTF and/or Redfish logo files as well as the most current Logo Usage Guidelines and Graphic Standards.

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## DMTF on YouTube

Check out the latest videos and be sure to subscribe to the [DMTF YouTube Channel](#) to stay up-to-date with our current and upcoming webinars.

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Information about DMTF's leadership, technologies, and how to participate can be found at [www.dmf.org](http://www.dmf.org).

Contact us online or reach us at <http://www.dmf.org/contact>.

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[ZT Systems](#)

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## Recent DMTF Specifications

[DSP0218 1.1.1 - Platform Level Data Model \(PLDM\) for Redfish Device Enablement](#)

[DSP0266 1.14.1 - Redfish Specification](#)

[DSP0268 2021.3 - Redfish Schema Supplement](#)

[DSP0272 1.4.1 - Redfish Interoperability Profiles Specification](#)

[DSP8010 2021.3 - Redfish Schema Bundle](#)

[DSP8011 2021.3 - Redfish Standard Messages Bundle](#)

[DSP8013 2021.3 - Redfish Interoperability Profiles Bundle](#)

[DSP2046 2021.3 - Redfish Resource and Schema Bundle](#)

[DSP2053 2021.3 - Redfish Property Guide](#)

[DSP2043 2021.3 - Redfish Mockups Bundle](#)

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## Newsletter Feedback

We welcome your input on what you'd like to see included here – just [Contact Us](#) online and share your suggestions!

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# About DMTF

The DMTF creates open manageability standards spanning diverse emerging and traditional IT infrastructures including cloud, virtualization, network, servers and storage. Member companies and alliance partners worldwide collaborate on standards to improve the interoperable management of information technologies. The organization is led by a diverse board of directors from Broadcom Inc.; Cisco; Dell Technologies; Hewlett Packard Enterprise; Intel Corporation; Lenovo; NetApp; Positivo Tecnologia S.A; and Verizon.

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