Supermicro Modernizes the Datacenter with DMTF Redfish

Supermicro Supports Restful Redfish APIs

The Redfish API represents a new style of programming for IT that is capable of managing systems from hyper-scale to blades to stand alone servers in a heterogeneous datacenter infrastructure. Redfish is an open industry standard specification and schema that specifies a RESTful interface and utilizes JSON and OData to help customers integrate solutions within their existing tool chains.

Supermicro is a leader to promote the Distributed Management Task Force, Inc. (DMTF) Redfish standard. Redfish and Supermicro software solution provides modern interface that builds on widely-used tools to accelerate automated development in consistent manner for emerging cloud interfaces. We believe this represents a natural evolution that brings platform management into the modern era. For software-defined approaches to data center management, Redfish offers vendor-independent interfaces based on lightweight and REST-based paradigms that allow administrators to speak one language, eliminating the need to learn new protocols or use outdated software tool chains.

Supermicro has always been a champion of open standards in the datacenter and is enthusiastic to support Redfish. Supermicro has been – and remains – a strong proponent of IPMI, the industry standard for baseband management controllers. Redfish is the natural evolution of those efforts.

What makes Redfish different?

The Server deployment landscape is rapidly changing. Systems that either put multiple systems on a traditional server or aggregate a single system out of multiple servers are becoming more prevalent. These need to be managed by the same remote management software that is managing traditional enterprise environments.

IT administrators, software development/IT operations personnel (DevOps), datacenter personnel have to incorporate their code into an automation work-flow which was not the norm during IPMI foundation. These new work-flows cannot be adequately expressed in bit-wise protocols. So, business demand from customer is to have standard management interface such as Redfish for scale-out and hyper scale platforms.
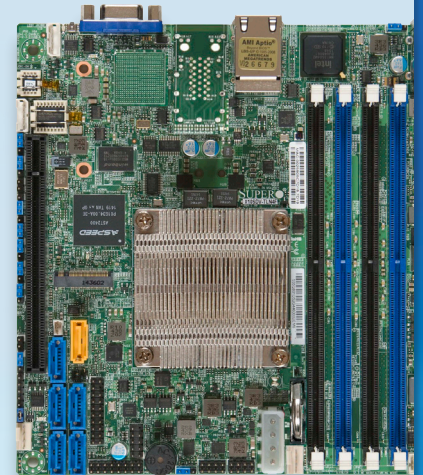
REDFISH ADVANTAGES

- **RESTful interface over HTTPS in JSON format based on OData v4**
- **Usable by client applications and browser-based GUIs**
- **A secure, multi-node capable replacement for IPMI-over-LAN**
- **Schema-backed but human-readable output**
- **Covers popular use cases and customer requirements**
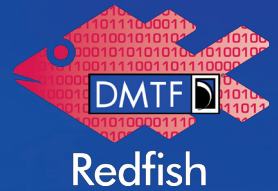- **Intended to meet OCP Remote Machine Management requirements**

SUPERMICRO REDFISH-READY SOLUTIONS

- **All servers which are X10 generation or later will support Redfish**
- **Any firmware that is 3.xx or later will support Redfish**

Redfish also dispatches the ambiguity around the security functions of the Intelligent Platform Management Interface (IPMI). Incorporating security considerations into Redfish from the start such as using HTTPS protocol for communication is an acknowledgement that persistent threats exist within modern datacenters and must be countered at all levels. The "eggshell security" model of only securing a network's perimeter is no longer adequate. This makes Redfish a first step in securing previously vulnerable components in today's datacenters.

Supermicro's Redfish supported firmware is perfect solution for these businesses, because they could still run software based on open standards and just need a call an API to program the server to respond to their own software development tools. Developers can integrate directly with bare-metal servers via a REST-based API as the control plane on a physical server without any dependencies on OEM Software tools.

Supermicro customers can get acquainted Redfish APIs into their X10 Haswell products and together they can build powerful next generation software defined datacenter.

Features & Services:

- Get inventory (CPU, memory, NIC, drives, BIOS version)
- Configure components and boot attributes
- Reboot platform
- Basic server identification and asset information
- Get system health and logs
- Get power and thermal telemetry
- Discover system (rack, chassis, server, node)
- And more…

Supermicro also supports Redfish extensions such as configuring SMTP, Mouse Mode, Fan mode, Active Directory, Radius and many more using RESTFUL APIs and will continue establishing new features as Supermicro strongly believes that Redfish has enormous adequacy for its Datacenter customer.

Real world impact

With shifting market from traditional data center to scale-out solutions, customer demands for source code of technologies to aid with integration of hardware in complex environment and many vendors are unwilling to open up their source code. This can be for commercial reasons, but it can also be because contracts that they have with large vendors/partners/customers stipulate secrecy around critical code bases. Firmware supporting Redfish are extensible and discoverable and it will allow customers to do all the integration they require without access to vendor's source code.

Redfish supporting vendors are aware that a customer lock-in approach to sales is no longer viable in today's technology market. This end result of the Redfish API is that vendors such as Supermicro are much more open to cooperation on joint management and integration projects within the server industry to help build secure modern datacenters.

"Supermicro is excited to join the DMTF to help drive the definition of Redfish standards, which will simplify and modernize the interface for scalable Data Center Infrastructure Management.

With Supermicro's expertise in system management for hyper-scale Data Center and Cloud infrastructure, we can contribute our knowledge to deliver Redfish standards based solutions across the industry. Together we will shape the technology landscape for the benefit of the expanding global computing community."

-- Tau Leng,

VP/GM of HPC at Supermicro
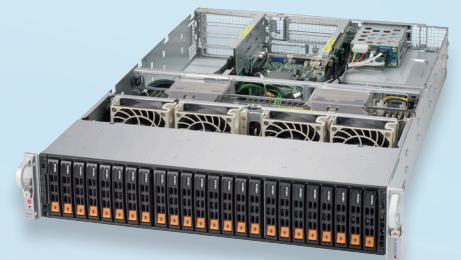
For more Information on Supermicro's Redfish Solutions - Contact a Supermicro Sales Representative or visit,
http://www.supermicro.com/products/nfo/Redfish.cfm

MKT-0005-07/2016/Rev. 01