MEGARAC® SP/X

System-on-Chip Remote Management Toolset

Powerful software / firmware server management solution based on industry standards like IPMI 2.0, Redfish®, SMASH and Serial over LAN, with key serviceability features like remote presence and advanced automation

MegaRAC® SP-X is a powerful management solution for responsive, high-quality remote management of server systems from anywhere in the world. With MegaRAC SP-X, administrators enjoy complete out-of-band, OS-independent server control including power management, KVM redirection and virtual media.

The latest generation of MegaRAC SP-X provides an even greater level of modularity than previous versions. Core firmware functionality, portability and ease of use are also significantly enhanced. Instead of acquiring just a monolithic software package, developers are now able to easily configure the software by selecting specific features and provide packages to their ODM partners with increased differentiation.

The new Technology Pack architecture allows developers to independently evaluate recently added or upcoming features, contained in an optional module separate from the main MegaRAC SP-X core. This empowers them to choose the best time to enable these new features in the existing management solution. Since licensing and intellectual property information can be limited to a package, this modular approach ensures intellectual property protection.

Features:

Long Term Support Model (LTS):

- Stability to be maintained at all times

- Consistent and quick Security Updates

- Agile technology support (e.g. Redfish®)

- Simplified project configurations, yielding significantly faster development time

- Select new features offered as Technology Packs

- Stable release mechanism – Fully validated (complete QA) LTS releases on server equivalent platforms or CRB

Other improvements include a new Linux® kernel base, new automated test tools and easier portability and customization within the MegaRAC Development Studio (MDS) toolset.

MegaRAC SP-X is widely used by the world's leading server OEMs and ODMs. It supports Baseboard Management Controllers (BMCs) from all major silicon manufacturers, including ASPEED® (Emulex®), as well as non-x86 server architectures such as IBM® POWER8®, Ampere® Computing eMAG™, Marvell ThunderX®, Marvell ThunderX2® and similar 64-bit Arm® processors.

Platform Management

MegaRAC SP-X sensor management is based on the Intelligent Platform Management Interface (IPMI) standard and RESTful web APIs like Redfish®. Management actions and interaction with the platform are through command-line access via the Serial over LAN (SOL) protocol.

MegaRAC SP-X IPMI modules offer enhanced features and allow OEMs to utilize standard command processing or overwrite it with selected IP versions. MegaRAC SP-X also implements support for the Data Center Manageability Interface (DCMI). DCMI focuses on the needs of High-Density Data centers, selecting a frequently utilized sub-set of IPMI technologies and adding power and cooling management capabilities to the firmware stack.

Features:

Hardware-specific Modules with Support for SoCs from Leading Manufacturers:

- ASPEED®
- Nuvoton®

Support for Key Industry Standards:

- Redfish® (RESTful API) Support
- IPMI 2.0, version 1.1 compliant
- Virtual KVM and Virtual Media
- Active Directory / LDAP / RADIUS Authentication
- Remote & Local Media
- DCMI / APML
- Power Management Support
- Web 2.0
- IPv6 Support

Remote KVM

Virtual KVM ensures full graphical console redirection over IP at any operational state of the server. AMI's compact, highly efficient KVM server conserves significant CPU cycles and supports all possible resolutions and color depths from the hardware engine. The user interacts with the KVM client via a standard HTML5 web browser; no special client software needs to be installed on the remote system.

Virtual Media

Virtual Media (vMedia) enables software installation from a remote location at any time, including a "bare-metal" hardware state. MegaRAC SP-X can redirect CD/DVD, HDD, ISO image or USB key-based storage to the managed server by emulating local storage. The vMedia server supports USB 2.0 for device redirection and includes partition-based logical drive redirection. In addition, the images on extended BMC storage can also be redirected to emulate the storage devices on the server. The extended BMC storage is supported for SD/eMMC and remote network share, accessible to the BMC.

DMTF Standards & Web Services

MegaRAC SP-X supports the latest standards from the Distributed Management Task Force (DMTF), including Redfish® and SMASH. Redfish® is a standard that uses a RESTful interface to access a schema-based data model to conduct management operations. It is suitable for stand-alone servers to large-scale cloud environments.

Technology Pack

- Broadcom® RAID
- Microchip® RAID
- VNC
- NIC
- NVMe®
- CPLD
- Telemetry
- Telco
- Intel® Memory Resilience Technology
- Intel® Autonomous Crash Dump (ACD)
- Intel® At-Scale Debug (ASD)
- NVDIMM
- Intel® PFR
- AMD® Remote Debug

Focus on Modularity and Portability

Each feature in MegaRAC SP-X is available and built as a separate package. Developers can generate customized source or binary firmware packages for their customers depending upon specific feature licensing. Each package has clearly defined, separate common and hardware-specific modules to achieve easy portability across various SoC and hardware platforms.

Technology Pack Updates

Advanced technologies like Redfish®, NVMe® are released as Technology Packs. Technology Packs work seamlessly with the core features.
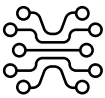
Redfish® Technology Pack

With each MegaRAC SP-X Redfish® Technology Pack update, all newly added features in the Redfish® release are validated, and released as a combined Technology Pack. Any existing features that have been part of the previous Redfish® releases are validated and released as core codebase. This gives you an advantage where newly added features, the affected packages, and the related known issues could be tracked separately from the core codebase. This will also provide a clear way for not enabling these new features, if not desirable on an existing customer project.

Having a separate Technology Pack and the main core codebase as part of Redfish® will ensure that only bug fixes and performance enhancements will be applied on top of an already active project, without risking the stack's stability. Our latest Redfish® Technology Packs include the following new updates:

- Compliance with Redfish® specification version 1.8

- Composability Service

- Telemetry Service

- Processor Metrics Support

- OOB Firmware Management Support

- Redfish® Update Service Support

- Dynamic Redfish® Extension

- Support for C-based SyncAgent
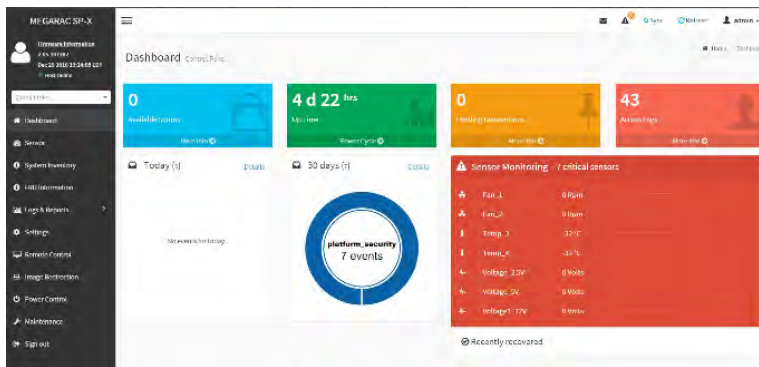
MegaRAC SP-X User Interface – Main Dashboard

For more information, please visit: ami.com/spx

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