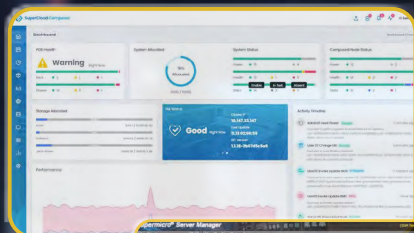




Supermicro System Management Software

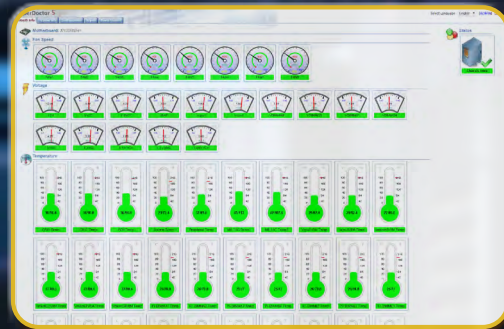
Complete Solutions to Help Organizations Optimize
IT Infrastructure Utilization and Security



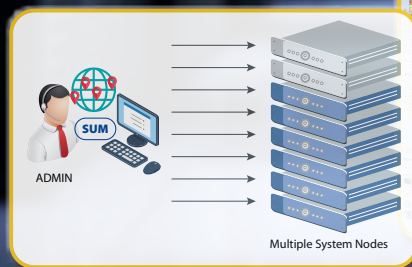
SSC



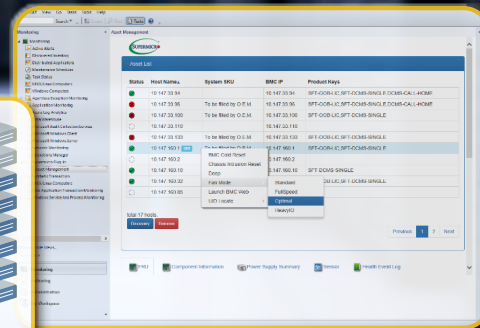
SSM



Local Host Applications



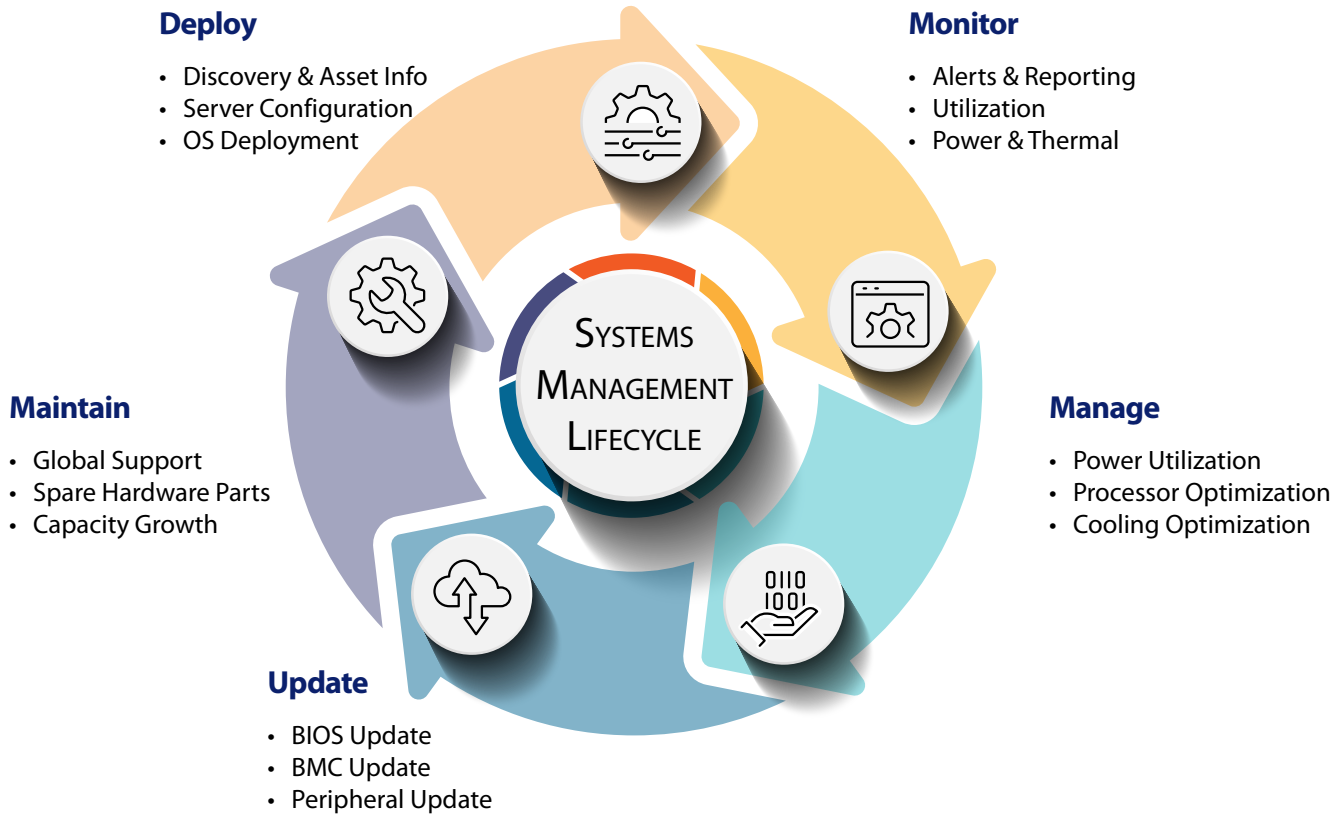
SUM



Management Plug-Ins

SYSTEM MANAGEMENT SOFTWARE

Supermicro Delivers Total Software Solution to Fulfill System Management Lifecycle Tasks



System Management Software Suite Bundles

Supermicro’s system management software suite consists of a set of specialized applications available in the following bundles.

Suite Bundle	Standard	Basic	Advanced	Enterprise
Description	Fundamental single node monitoring and management features for system setup and maintenance.	Single node or small-scale remote system configuration, management and update features.	Medium or large-scale system management to improve performance, uptime, and management of peripheral devices.	Extended data center management for enhanced security, proactive service, software-defined infrastructure, and more.
License	No license required	SFT-OOB-LIC	SFT-DCMS-SINGLE	SFT-DCMS-SINGLE + SFT-SDDC-SINGLE SFT-DCMS-SVC-KEY
SuperCloud Composer (SCC)	N/A	N/A	N/A	Supported
Supermicro Server Manager (SSM)	N/A	N/A	Supported	Supported
Supermicro Update Manager (SUM)	Partially Supported	Partially Supported	Supported	Supported
Supermicro Power Manager (SPM)	N/A	N/A	Supported	Supported
IPMI Utilities	Partially Supported	Partially Supported	Supported	Supported
3rd Party Software Plug-ins	N/A	N/A	Supported	Supported
Local Host Diagnostics/Daemons¹	Partially Supported	Partially Supported	Supported	Supported

¹ Local Host Diagnostics/Daemons category includes SuperDoctor®5, Thin-Agent Service, and Super Diagnostics Offline software.

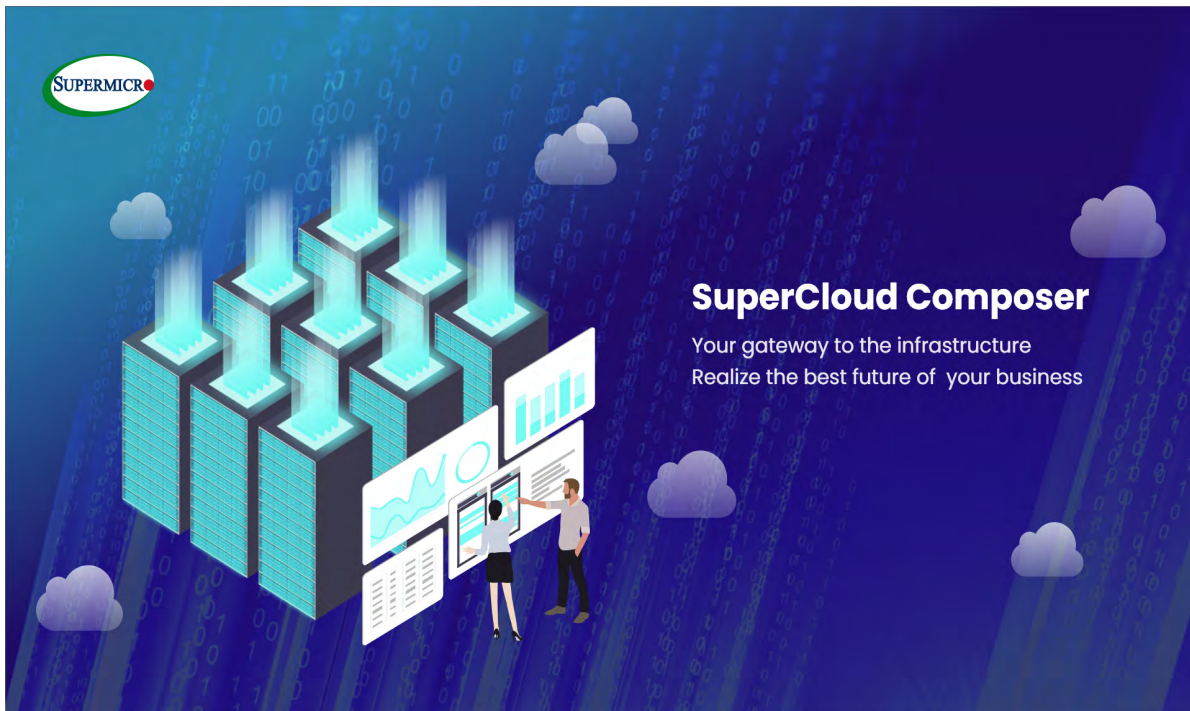
For detailed information, please check with your Supermicro sales representative or refer to Supermicro website:

<https://www.supermicro.com/en/solutions/management-software>

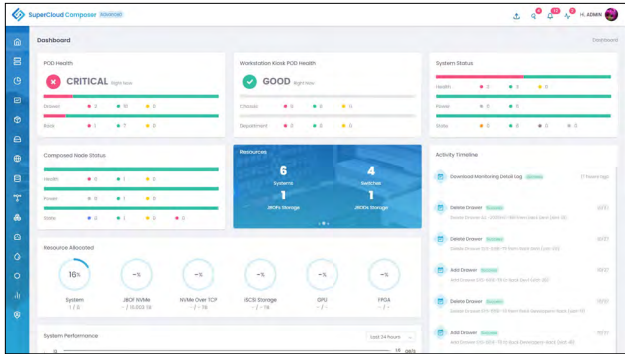
SCC – SUPERCLOUD COMPOSER

SuperCloud Composer (SCC) is a composable cloud management platform that provides a unified dashboard to administer software-defined data centers. This cloud infrastructure management product brings speed, agility, and simplicity to IT administration by integrating data center tasks into a single intelligent management solution, with a robust composer engine that can orchestrate cloud workloads through a streamlined industry-standard Redfish® API. SCC can manage a broad portfolio of multi-generation Supermicro servers and third-party systems through its data center lifecycle management feature set from a single unified console.

Benefits	Features
Cost Savings - CapEx/OpEx	<ul style="list-style-type: none"> Expands on optimized Supermicro Building Block Solutions® Third party vendor support
Intelligent Data Center Management	<ul style="list-style-type: none"> Call home management POD & rack-level management (including ToR switch) Asset management (monitoring, updates)
Frictionless Deployments	<ul style="list-style-type: none"> Zero-touch provisioning for network configuration Hardware lifecycle management for software-defined data centers Northbound Redfish APIs provide seamless integration
Dynamically Configured Servers	<ul style="list-style-type: none"> Zero-touch OS deployment in seconds
Device Scaling of Resources	<ul style="list-style-type: none"> Monitor/manage resource pools in a composable, disaggregated infrastructure Software-defined node composer Expands storage and accelerators capacities to existing compute nodes Support for third party devices expands available resource selection
Unified End User Experience Data Driven Decisions	<ul style="list-style-type: none"> Single pane of glass for data center deployment Rich analytics & telemetry
Compliance & Governance	<ul style="list-style-type: none"> Manage silicon Root of Trust (RoT) SSL security compliance User-defined role-based access control



Interface: WebUI/Redfish Northbound API
 Supported OS: Linux
 Per-Node License: Enterprise (SFT-DCMS-SINGLE + SFT-SDDC-SINGLE)

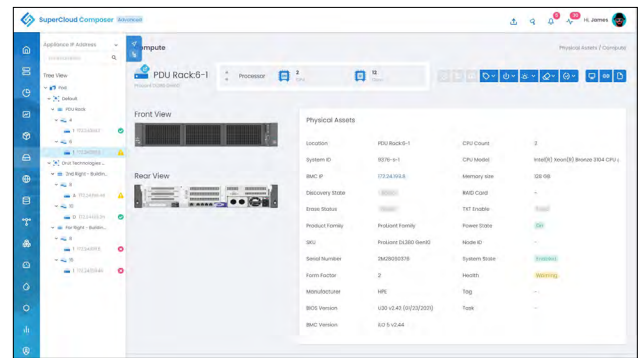


SCC Dashboard –

Displays an aggregated view of POD health, visualized system data analytics, and activity event timeline tracking, providing at-a-glance awareness of data center operations as well as detailed system status, composed node status, and allocated storage

Compute Node -

Provides an inventory of fluid pools of compute where each physical fabric resource can be managed individually without the need to use the BMC web UI directly.



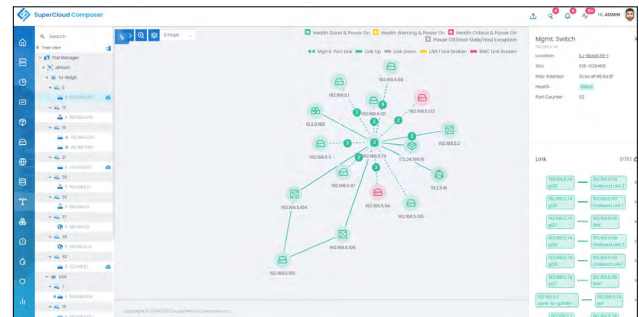
POD View Rack Management –

Offers the flexibility to organize data center requirements based on common workloads assigned to a rack deployment either at the edge or physical appliances in a remote data center.



Network Topology -

Provides different ways to visualize network requirements by clicking on any element within a plotted view. The Topology Hop view feature offers the ability to represent switches and devices that are interconnected together within a meshed framework.

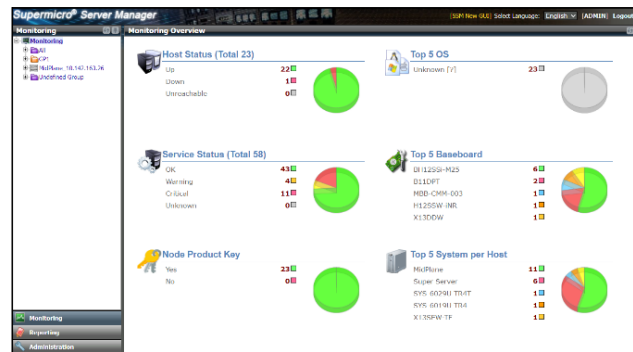


SSM – SUPERMICRO SERVER MANAGER

Supermicro Server Manager (SSM) is the all-in-one solution to manage Supermicro systems from a single console view, allowing IT data center administrators to monitor and manage a wide portfolio across multiple generations of Supermicro servers from a single console. SSM features server service and component monitoring (CPU, memory, storage controller) with alerts, power usage management, firmware update automation, OS deployment and many more features that help streamline server management.

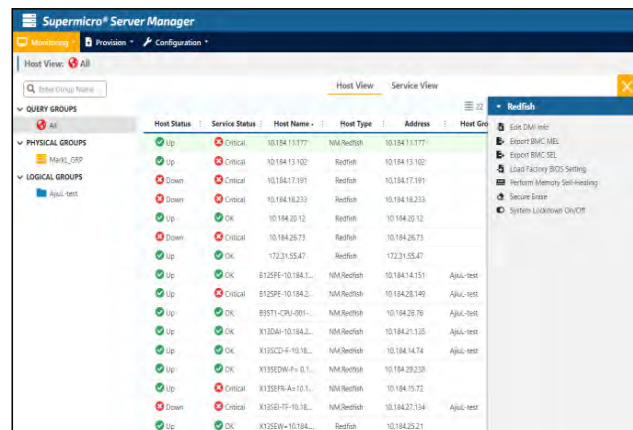
Features

- All-in-one, single pane-of-glass view console for server management
- 24/7 health monitoring and alerts
- Simultaneous multi-system operations with groups
- Firmware and OS deployment
- Power policy configuration
- Automated notifications and updates for newly available firmware



Dashboard Overview

Interface: WebUI/REST APIs
Supported OS: Windows, Linux
Per-Node License: Advanced (SFT-DCMS-SINGLE)



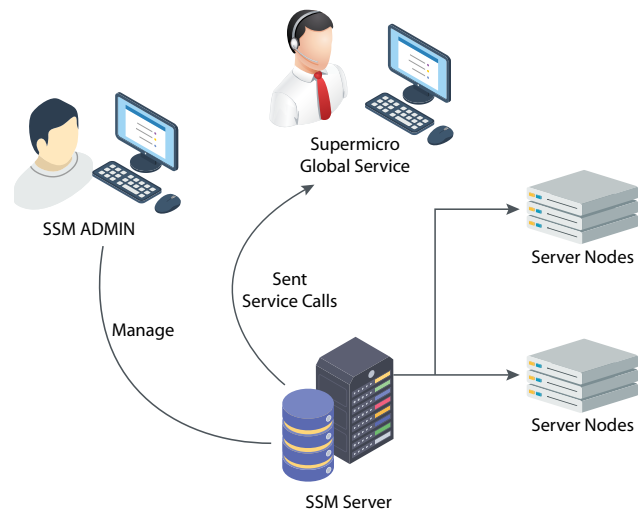
Host Monitoring View

SSM SERVICE CALLS (CALL HOME)

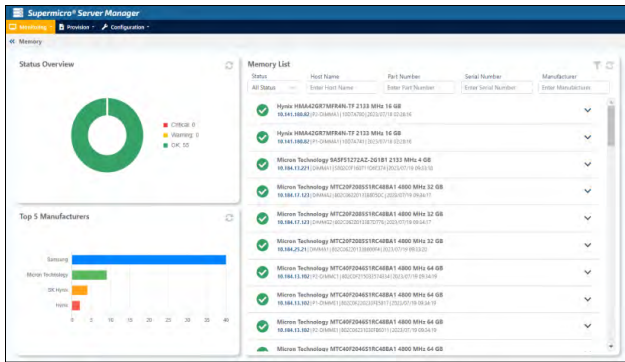
Features

- Automated report and ticket generation from Supermicro Global Service Team (Supermicro service agreement required)
- Multi-level service call notifications
- Monitor pre-defined critical hardware failures of fully built systems by Supermicro
- Customer-defined sensor monitoring
- Enhanced relay SSM server via HTTPS service

Per-Node License: Enterprise: (SFT-DCMS-SVC-KEY)
Others: Service contract with SMCI™ Global Services & Support



Service Calls Architecture

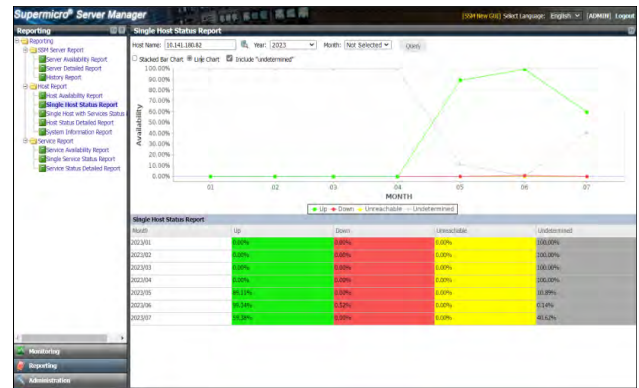


Component Status Overview –

Provides a single console view of the components' status including health, model and host; supporting CPU, memory and storage adapters

System Host Report –

View reports on system host availability, system information and Service availability/status.



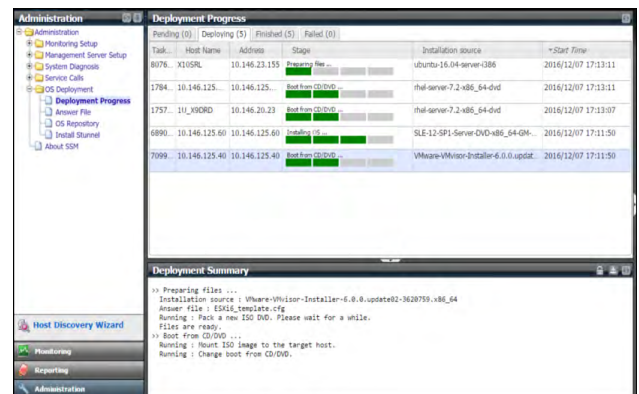
Plan Name	Compliance	Next Upd	Host Name	Host Group	MB Model Name	SYS Model Name	Available FWs	Last Check
DKCm	Not Compliant		10.184.13.102	X13DOW	Super Server		BIOSFW A.11.50M54.01	8 hours ago
	Not Compliant		10.184.21.133	X13DAU-7	X13DAU-7		BIOS FW	8 hours ago
	OK		10.141.174.97	X12DPH-6-09-N022	Super Server			8 hours ago
	OK		10.184.13.221	X13STD	SYS-8029U-T5AT			8 hours ago
	OK		10.184.14.131	8125PE-CPU-235	SBE-4101			8 hours ago
	OK		10.124.17.123	H13ESF	Super Server			8 hours ago
FW Net...	Not Compliant		10.141.180.82	X12DR-N6	SYS-620P-T8T		BIOSFW M7B.54B.0510	8 hours ago
	OK		10.141.174.37	X12DPH-6-09-N022	Super Server			8 hours ago
	OK		10.141.83.39	H12559-INV	Super Server			8 hours ago

System Firmware Provisioning –

Automated notifications and updates for newly available firmware helps to keep system firmware up to date with customized intervals and scheduling

OS Deployment –

Built-in Linux-based OS deployment for operating system provisioning with customized Kickstart configuration file

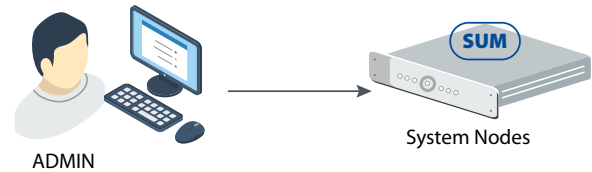


SUM – SUPERMICRO UPDATE MANAGER

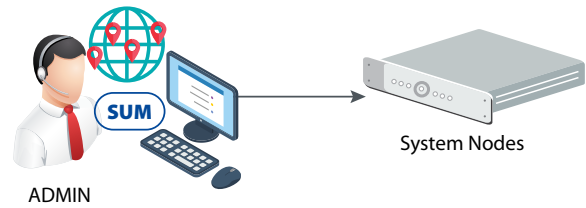
Supermicro Update Manager (SUM) is best suited for mass system deployment, configuration and update, with a feature scope ranging from the basic BIOS/BMC to peripheral device firmware update and configuration. As a CLI (Command Line Interface) utility, SUM can execute commands in parallel from a centralized management server, with two channels available for management: the in-band channel for communication through the local system interfaces and the out-of-band (OOB) channel for communication through the system BMC. Through the OOB channel, most management commands can be executed independently of the host OS on the managed system and even without the OS being installed.

Features

- In-band/out-of-band, single/multiple nodes operation
- BIOS, BMC, CMM, storage, PSU, MB CPLD and other peripheral firmware management capabilities
- Parallel management and configuration on multiple systems
- Extended features of asset management, system utilization, sensor info, BIOS/BMC event logs, and TPM provisioning
- CLI interface for ease of integration into users' software stack and script



Local Host Single Node In-Band

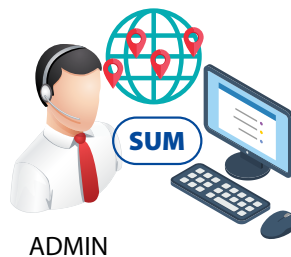


Remote Single Node Out-of-Band

Supermicro Update Manager (SUM) Function Group

Key Management	System Checks	BIOS Management
BMC Management	System Event Log	CMM Management
Storage Management	PSU Management	PCIE Switch Management
CDU Management	CPLD Management	NIC Management
AIP Management	Twin Pro Management	VM Management

Interface: Command line (CLI)
 Supported OS: Windows, Linux, FreeBSD, UEFI*
 License: Basic (SFT-OOB-LIC) /
 Advanced (SFT-DCMS-SINGLE)
 (*) Limited in-band usage for UEFI version



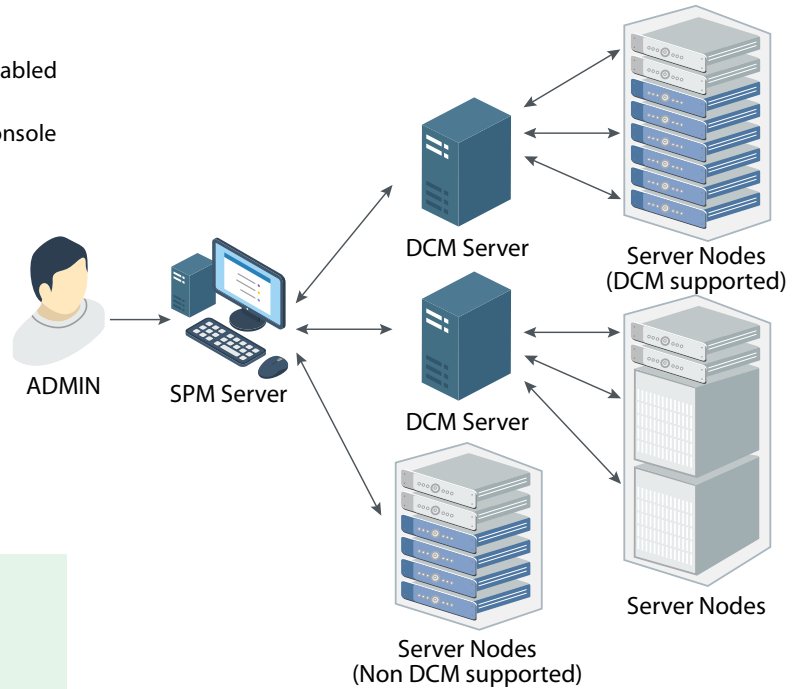
Remote Multi-Node Out-of-Band

SPM – SUPERMICRO POWER MANAGER

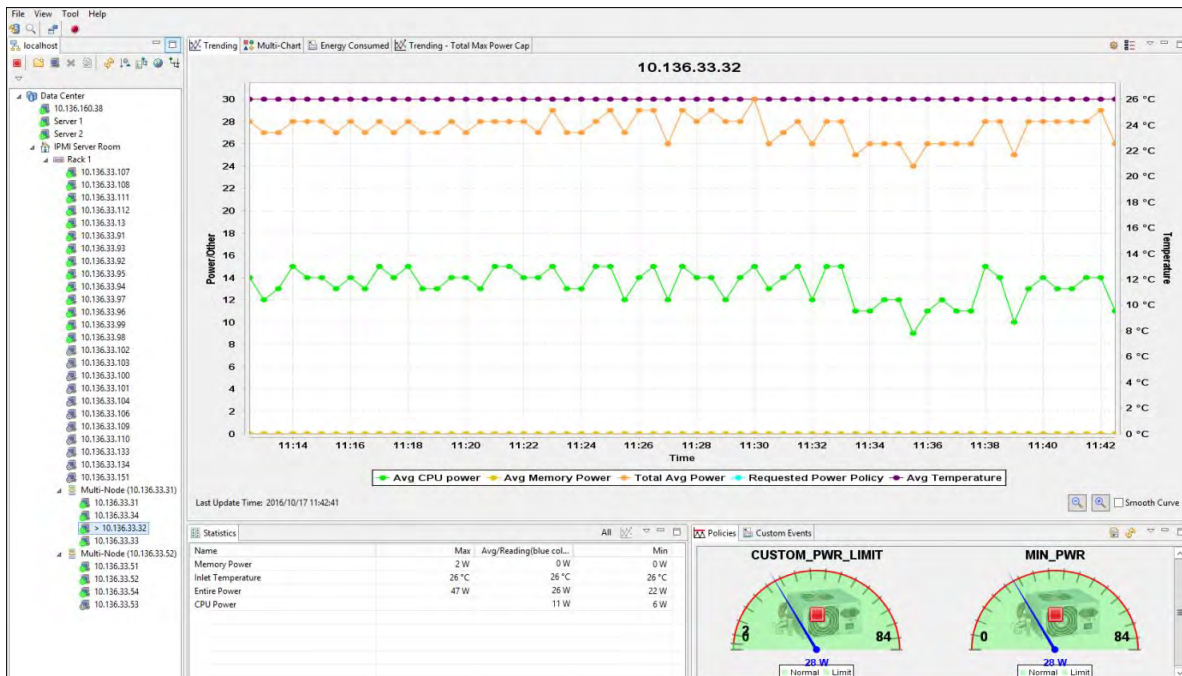
Supermicro Power Manager (SPM) provides real-time power monitoring and management, helping IT managers optimize energy efficiency, from single servers to full-scale data centers. The agentless and out-of-band policy-based energy management is customizable to set optimized data center power consumption depending on the workload demand.

Features

- Real-time power monitoring and management
- Agentless management via BMC with Intel® NM-enabled servers
- Centralized management on a single dashboard console
- Notification through email and SNMP
- Supports report exporting in CSV and PDF formats
- Supports AMD EPYC™ series platform



Interface: GUI/CLI/REST APIs
 Supported OS: Windows, Linux
 License: Advanced (SFT-DCMS-SINGLE)



System Power Trend View

IPMI UTILITIES – SUPERMICRO IPMI TOOLS SUITE

The Supermicro IPMI Tools Suite is a collection of simplified utilities for basic system configuration via IPMI protocol, allowing users to manage the Supermicro BMC and update system settings via in-band and remote out-of-band with Command Line Interface (CLI) and Graphical User Interface (GUI).

IPMICFG

- Local host in-band single node BMC management
- Supports Supermicro proprietary IPMI functionality
- Supports a range of operating systems

Interface: Command line (CLI)
Supported OS: Windows, Linux, FreeBSD, VMware ESXi, DOS, UEFI

```
Copyright (c) 2021 Super Micro Computer, Inc.
Usage: IPMICFG params (Example: IPMICFG -m 192.168.1.123)
-help Display a list of commands
-m Shows IPv4 address and MAC
-m <ip> Sets IPv4 address (format: ###.###.###.###)
-a <mac> Sets MAC (format: ##:##:##:##:##:##)
-k Shows Subnet Mask
-k <mask> Sets Subnet Mask (format: ###.###.###.###)
-dhcp Gets the DHCP status
-dhcp on Enables the DHCP
-dhcp off Disables the DHCP
-g Shows a Gateway IP
-g <gateway> Sets a Gateway IP (format: ###.###.###.###)
-garp on Enables the Gratuitous ARP
-garp off Disables the Gratuitous ARP
-r Performs a BMC cold reset
-r Detects if a BMC reset was successfully performed
  on the IPMI device, use -d after -r.
-fd <option> Resets to the factory defaults without preserving
  configurations
  option: 1 | Preserves User configurations
  option: 2 | Restores to factory default and
  default password
  option: 3 | Sets user defaults to ADMIN/ADMIN
-fdl Resets IPMI to the factory default. (Clean LAN)
-fde Resets IPMI to the factory default. (Clean FRU &
  LAN)
-d Detects if a BMC reset was successfully performed
```

SMCIPMITool

- Remote out-of-band single node BMC management
- Supports Supermicro proprietary IPMI functionality

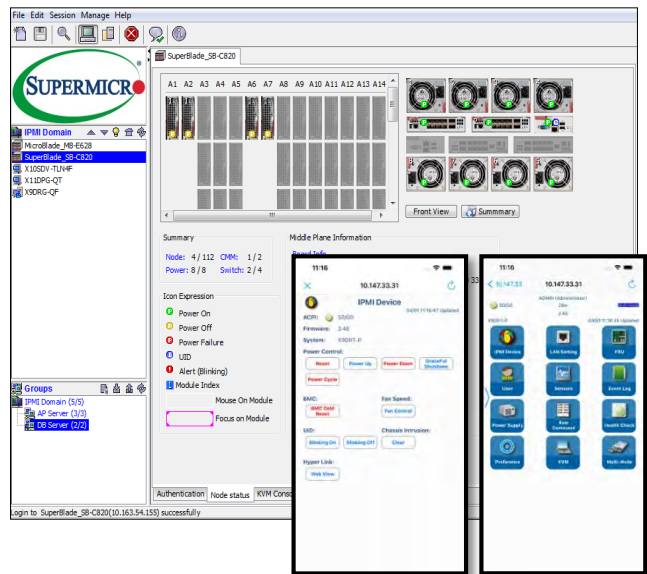
Interface: Command line (CLI)
Supported OS: Windows, Linux

```
SMC IPMI Tool V2.27.0 (Build 220531) - Super Micro Computer, Inc.
Press Ctrl+D or "exit" to exit
Press "?" or "help" for help
Press TAB for command completion
Press UP and DOWN key for command history
Trap Receiver Started
10/14/18 02:12:01 (S0/00) 17:03 X12 AST2600RoT1?ipmi sensor
Getting SDR records ...
Status (S) Sensor Reading Low Limit High Limit
OK (4) CPU1 Temp 39C/102F 5C/41F 98C/208F
OK (71) CPU2 Temp 53C/127F 5C/41F 98C/208F
OK (138) Inlet Temp N/A N/A N/A
OK (205) PCH Temp 32C/90F 5C/41F 90C/194F
OK (272) System Temp 26C/79F 5C/41F 85C/185F
OK (339) Peripheral Temp 30C/86F 5C/41F 85C/185F
OK (406) CPU1_VRM1N Temp 42C/106F 5C/41F 100C/212F
OK (473) CPU1_VRM1D Temp 54C/129F 5C/41F 100C/212F
OK (540) CPU2_VRM1N Temp 50C/122F 5C/41F 100C/212F
OK (607) CPU2_VRM1D Temp 53C/127F 5C/41F 100C/212F
OK (674) P1_VRMABSD Temp 44C/111F 5C/41F 100C/212F
OK (741) P1_VRMFBGH Temp 37C/99F 5C/41F 100C/212F
OK (808) P2_VRMABCD Temp 43C/109F 5C/41F 100C/212F
OK (875) P2_VRMFBGH Temp 53C/127F 5C/41F 100C/212F
OK (942) FAN1 3640 RPM 420 RPM 35560 RPM
OK (1009) FAN2 3500 RPM 420 RPM 35560 RPM
OK (1076) FAN3 N/A 420 RPM 35560 RPM
OK (1143) FAN4 N/A 420 RPM 35560 RPM
OK (1210) FAN5 N/A 420 RPM 35560 RPM
OK (1277) FAN6 N/A 420 RPM 35560 RPM
OK (1344) FANA N/A 420 RPM 35560 RPM
OK (1411) FANB N/A 420 RPM 35560 RPM
OK (1478) P1_DIMMA^D Temp 29C/84F 5C/41F 85C/185F
OK (1545) P1_DIMME^H Temp N/A N/A N/A
OK (1612) P2_DIMMA^D Temp 30C/86F 5C/41F 85C/185F
OK (1679) P2_DIMME^H Temp N/A N/A N/A
OK (1746) P1_PMEMA^D Temp N/A N/A N/A
OK (1813) P1_PMEME^H Temp N/A N/A N/A
OK (1880) P2_PMEMA^D Temp N/A N/A N/A
OK (1947) P2_PMEME^H Temp N/A N/A N/A
```

IPMIView

- Remote out-of-band single node basic BMC management with GUI
- Quick system status access and check via mobile app

Interface: GUI
Supported OS: Windows, Linux, Android, iOS



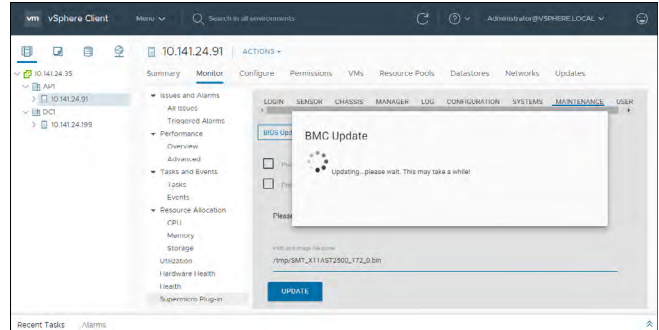
MANAGEMENT PLUG-INS – THIRD PARTY SOFTWARE COMPLIANCE

Supermicro Management Plug-ins allow users to take advantage of Supermicro proprietary features in third party management software, simplifying denata center administrators' system management across heterogenous hardware providers.

Plug-in for VMware vCenter

- Supports HTML5-based web clients
- Manage and monitor via BMC Redfish® API including system firmware updates

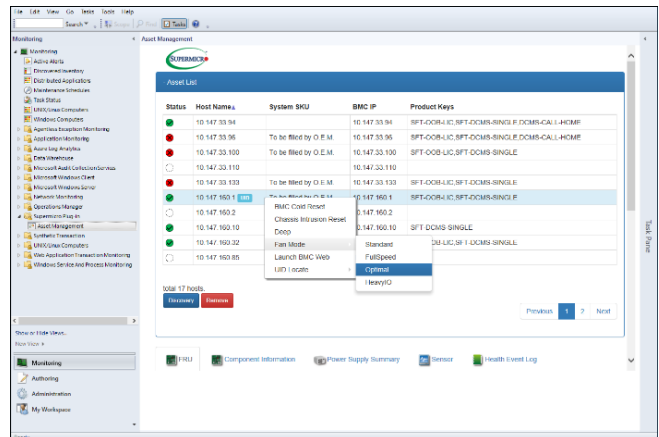
Interface: Web UI
 Supported OS: VMware vCenter
 License: Advanced (SFT-DCMS-SINGLE)



Plug-in for Microsoft SCOM

- Centralized management on a single dashboard console
- Manage and monitor via BMC Redfish® API

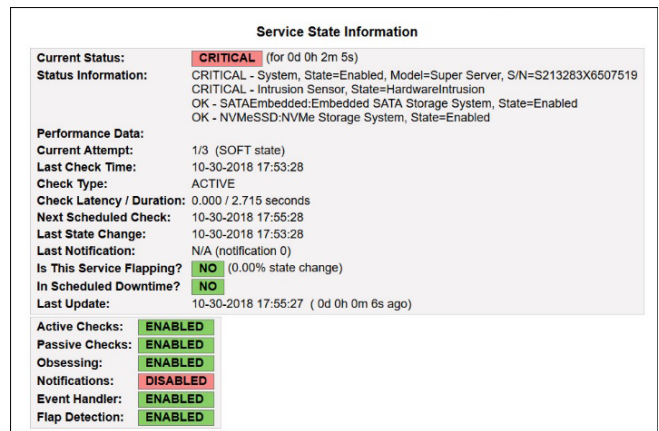
Interface: GUI
 Supported OS: Windows
 License: Advanced (SFT-DCMS-SINGLE)



Plug-in for Nagios

- Essential system sensor monitoring features with event subscriptions
- Supports firmware updates and configuration

Interface: CLI
 Supported OS: Linux
 License: Advanced (SFT-DCMS-SINGLE)



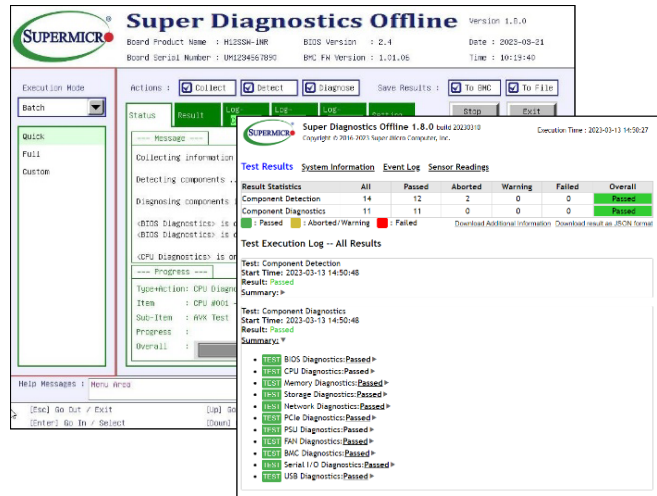
LOCAL HOST APPLICATIONS – DIAGNOSTICS & SOFTWARE DAEMON

For local host OS-level management and maintenance, Supermicro offers software applications for asset collection and monitoring at the system level. The hardware diagnostics application further assists troubleshooting and remediation of the system to minimize overall downtime.

Super Diagnostics Offline (SDO)

- Lightweight and OS independent
- Local/remote system hardware diagnostics
- Comprehensive test report to aid with troubleshooting

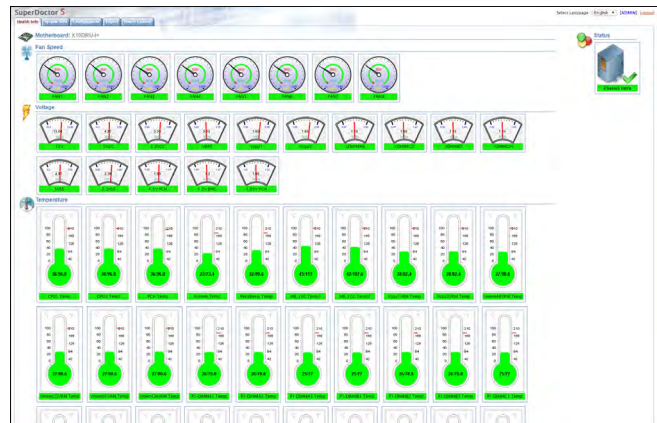
Interface: GUI/CLI
Supported OS: N/A; only UEFI Shell required



SuperDoctor® 5 (SD5)

- Remote system monitoring and management for non-BMC supported systems
- Monitors components with alert notifications

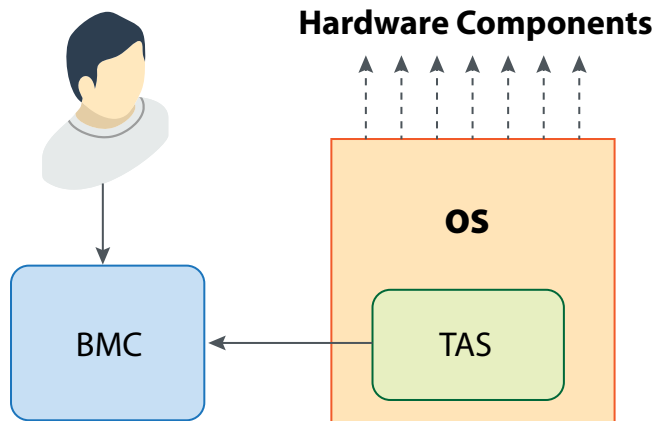
Interface: Web UI/CLI
Supported OS: Windows, Linux



Thin-Agent Service (TAS)

- Monitors system utilization under the running OS
- BMC state event log generation when device failure occurs

Interface: OS Daemon
Supported OS: Windows, Linux, FreeBSD, VMware ESXi



Better

Better Performance
Per Watt and Per Dollar



Faster

First-to-Market Innovation with the
Highest Performance Server Designs



Greener

Reduced Environmental
Impact and Lower TCO



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MIKT-0002-12/2023-R9

