



**Thin-Agent Service (TAS)
User's Guide
(ESXi)**

Revision 1.7.0

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Revision History

Date	Revision	Description
2022/1/19	1.7.0	<ol style="list-style-type: none">1. Expanded the LAN information to include bytes received, error packets received, bytes sent and error packets sent.2. Removed the alert in SEL triggered by IP addresses being changed.3. Added support for AOC-SAS3-9361-8i RAID/HDD SEL.4. Improved the numbering of NIC SEL index to start from 1.5. Improved the NIC SEL index to sort by MAC addresses.6. Added the temperature field to the HDD item.7. Added a switch to enable and disable the NIC status SEL.8. Changed the minimum update frequency from 5 to 1.9. Added <i>Appendix A Open Source Software Components</i>.
2020/11/20	1.6.0	<ol style="list-style-type: none">1. Initial document.

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1 Overview

The **Thin-Agent Service (TAS)** collects system hardware and OS-specific data that can be monitored through the BMC/IPMI. The types of collected OS data include:

- OS name and version
- IPv4, netmask, gateway, IPv6, FQDN, DNS, speed, MAC, LAN interface, manufacturer, model name and number, link state, and so on.
- Average loading of all CPUs
- Average loading of all memory
- Physical HDD partition loading, logical HDD information, SMART test results and temperature
- Network device loading
- NVMe partition loading
- NVMe SMART information

2 Prerequisites and Installation

2.1 System Requirements

2.1.1 Hardware Platforms

- Supermicro servers with BMC attached
- Supported Platforms
 - Intel-based platform: X10 series and later
 - AMD-based platform: H11 series and later

2.1.2 Operating System

- VMware ESXi
 - 6.5 and 6.7
 - 7.0

2.2 Installing TAS

2.2.1 Installing TAS on VMware ESXi

To install TAS on VMware ESXi, Perform the following steps:

1. Upload TAS VIB file to ESXi host.
2. Install TAS VIB.

```
# esxcli software vib install -v <Path>  
(esxcli software vib install -v /TAS_*.vib)
```

3. Install TAS VIB without certification.

```
# esxcli software vib install -v <Path> --no-sig-check  
(esxcli software vib install -v /TAS_*.vib --no-sig-check)
```

3 Starting TAS

TAS starts automatically after installation and system reboot. If you want to start TAS at any other time, perform the following steps:

3.1 Starting TAS on VMware ESXi

Run the command `/etc/init.d/tas start`.

4 Uninstalling TAS

4.1 Uninstalling TAS on VMware ESXi

To uninstall TAS on VMware ESXi, Perform the following steps:

1. Log in as a root user.
2. Uninstall TAS VIB.

```
# esxcli software vib remove -n TAS
```

5 Configuring TAS

5.1 TAS Time Settings

- The system's default update frequency is 10 seconds. Note that you can use the command `updateFreq` to modify the update frequency to suit your needs. The update frequency range is from 1 to 60 seconds.
- System listens to command requests every 5 seconds.
- System listens to BMC restart status every 1 minute.
- A timestamp is available from SEL timestamp.

5.2 Creating an .INI File

To create an .INI file, Perform the following steps:

1. Put the config value into an ini file, the file path is:

- VMware ESXi: `/opt/supermicro/`
 - **VMware ESXi**

Path:

```
{
installedPath = "/opt/supermicro";
logPath = "/opt/supermicro/tas.log";
errlogPath = "/opt/supermicro/tas.err.log"
commandlogPath = "/opt/supermicro/tas.com.log";
};
```

Config:

```
{
updateFreq = 10;
};
```

Customize:

```
{
nicStatusSel = true;
raidCard3rdParty = false;
raidCards = ""
};
```

6 Monitoring System Data

TAS provides the following OS information for BMC:

- OS name
- OS version
- LAN information
 - Mac
 - Network interface
 - IPv4
 - IPv6
 - Gateway
 - Netmask
 - FQDN
 - DNS
 - Speed
 - Network adapter description
 - Link state
- CPU average loading
- Memory average loading
- HDD partial free space, SMART test results and temperature
- LSI 3108 SMART test results
- LSI 3008-IR RAID level, consisting of device, volume health and capacity
- LSI 3008-IT consisting of device, health and capacity
- Network loading
- TAS information
- NVMe partition loading
- NVMe SMART information
- Command requests
- Command responses

7 Combined Use

The Supermicro software products such as SUM and SMCIPMITool can be used together with TAS. SUM, offering a view of how a system is utilized. You can execute NVMe functions by using TAS with SMCIPMITool.

7.1 SUM

Usage: `./sum -i<IP> -u <user name> -p <password> -c CheckSystemUtilization`

Example Output:

Supermicro Update Manager (for UEFI BIOS) 2.5.0 (2020/07/22) (x86_64)

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Time

====

Last Sample Time: 2020-11-18_14:10:29

OS

==

OS Name: VMware

OS Version: 7.0.1build-16850804

CPU

===

CPU Utilization: 1.97 %

Memory

=====

Memory Utilization: 12 %

HDD(1)

=====

HDD name: t10.ATA____ST91000640NS_____9XG13Y66

SMART Status: OK

Serial number: ST91000640NS

Slot Number: N/A

Controller name: N/A

Model: N/A

Disk size: 931.51 GB
Cylinders: 121601
Sectors: 1953520065
Tracks: 31008255
Heads: 255
Interface type: N/A
Total Partitions: 3
[Partition(1)]
 Partition Name: t10.ATA____ST91000640NS_____9XG13Y66-1
 Utilization: N/A
 Used Space: N/A
 Total Space: 186.26 GB
[Partition(2)]
 Partition Name: t10.ATA____ST91000640NS_____9XG13Y66-2
 Utilization: N/A
 Used Space: N/A
 Total Space: 59.60 GB
[Partition(3)]
 Partition Name: t10.ATA____ST91000640NS_____9XG13Y66-3
 Utilization: N/A
 Used Space: N/A
 Total Space: 639.06 GB

Network

=====

Total Devices: 4
[NIC(1)]
 Device Name: vmnic0
 Utilization: <1 %
 Status: up
 MAC Address: 0CC47AD47260
[NIC(2)]
 Device Name: vmnic1
 Utilization: 0 %
 Status: down
 MAC Address: 0CC47AD47261
[NIC(3)]
 Device Name: vmnic2

Utilization: 0 %
Status: down
MAC Address: 0CC47AD47262

[NIC(4)]

Device Name: vmnic3
Utilization: 0 %
Status: down
MAC Address: 0cc47AD47263

7.2 SMCIPMITool

Usage: SMCIPMITool.exe <IP> <user name> <password> tas info

Example Output:

Item		Value
----		-----
Version		1.6.0
Build data		201120
Protocol version		0x03
Status		Running
TAS start time		11/18/2020 07:52:27
Last Update Time		11/19/2020 08:19:59

7.2.1 Other Command Usages

With the combined use of TAS and SMCIPMITool, you can also run these commands to achieve your needs. For details, refer to the *SMCIPMITool User's Guide*.

- SMCIPMITool.exe <IP> <user name> <password> nvme list
- SMCIPMITool.exe <IP> <user name> <password> nvme smardata [nvme name]
- SMCIPMITool.exe <IP> <user name> <password> nvme locate <nvme name>
- SMCIPMITool.exe <IP> <user name> <password> nvme stoplocate <nvme name>

Appendix A Open Source Software Components

The redistributable open source components included in the Supermicro Thin-Agent Service (TAS) are listed here. Information on components versions may vary depending on actual implementation.

Name	License	Component Source URL	Note
Libconfig	LGPL	http://hyperrealm.github.io/libconfig/	

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