



Thin-Agent Service

User's Guide

Revision 1.5.2

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Manual Revision 1.5.2

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TAS Revision History

Data	Rev	Description
2018/06/22	1.5.2	<ol style="list-style-type: none"> 1. Support Intel RSTe physical drive sensor type ODh OEM SEL 2. Modify HDD event to IPMI platform message
2018/02/02	1.5.1	<ol style="list-style-type: none"> 1. Add uninstall script for Linux and FreeBSD 2. Add status in tas service 3. TAS won't send network down SEL when system reboot 4. Fix LSI slot number not correct 5. Fix TAS crush during nvme system 6. Remove BMC TAS data after uninstall TAS 7. Fix IPv6 address in lan information has N/A between colons 8. Support SLES11 SP4 9. Fix system crush critical issue
2017/10/05	1.5.0	<ol style="list-style-type: none"> 1. Add controller name, model, size, cylinder, sector, track, head and interface type for physical disk. 2. Remove file lan.temp created from lan command in Linux. 3. Fix Linux duplicate controller name issue. 4. Fix SEL report HDD slot Id not correct
2017/05/17	1.4.0	<ol style="list-style-type: none"> 1. Add description and link state in Lan for Windows and Linux 2. Add device number and firmware version in HDD information for Windows and Linux 3. Add LSI 3108 SMART in Linux and Intel RSTe information for Windows and Linux 4. Send SEL when HDD fail or Lan status change for Windows and Linux 5. Fix "remove" function cannot work on RHEL 6.8/7.2 6. Provide mass deployment script for TAS installation (Linux) 7. Fix SEL timestamp is not written to BMC in Windows OS 8. Change HDD format for backward compatibility 9. Add TAS 1.4.0 Linux feature in FreeBSD 10. Fix HDD show not recognize file system type in partition 11. Add disk type, RPM and block size in HDD information 12. Fix Lan SEL keep generate when there is no event 13. Fix TAS detect OS name "Windows 2016" fail 14. Change TAS windows install Intel RSTe descriptions and disable Intel RAID as default
2016/07/15	1.3.0	<ol style="list-style-type: none"> 1. Enhance Lan information for FreeBSD 2. Merge in FreeBSD version 3. Fix Hard disk display fail issue 4. Add NVMe support up to 48 device for Linux/Windows

2016/03/22	1.2.1	1. Enhance lan information for Linux/Windows
2016/01/05	1.2.0	1. Add NVMe support up to 24 device for Linux/Windows 2. Fix TAS issue tas exec don't work on Windows
2015/09/23	1.1.1	1. Add nvme support check
2015/08/20	1.1.0	1. Add command request and response 2. Add NVMe SMART information. 3. Add related NVMe user request function. 4. Add NVMe SMART information supported for Windows. 5. Add related NVMe user request function supported for Windows. 6. Fix TAS issue 7. Add watchtas to monitor and recover TAS
2015/06/05	1.0.1	1. Update new protocol for KCS byte limitation 2. Add TAS information-> version;build data;protocol;status;starttime 3. Fix TAS issue 4. Add arch in OS version 5. Add agent status command
2014/08/05	1.0.0	Initial version.

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2015/06/05	Document update for 1.0.1 release
2014/08/05	Initial release of document.

1 Contents

1. Overview	7
2. Prerequisite and Installation	8
2.1 Supported Operation Systems	8
2.2 System Requirements	8
2.3 Installing Thin-Agent	9
2.4 Start TAS	10
2.5 Load the NVMe driver	10
2.6 Un-install Thin-Agent	10
2. TAS Settings and Configurations	11
3. Monitor System Data	12
4. Software usage	13
Appendix A – Installing Smartmontools	16
Appendix B – Installing the nvme-cli tools	17
Appendix C – Installing NVMe vendor specific driver	18
Appendix D – Installing KB-3033929	19
Appendix E – Installing Intel RST driver	20
Contacting Supermicro	21

1. Overview

The Thin-Agent is installed to collect the hardware and OS-specific data. The collected OS data includes:

- OS name and version
- IPv4, Net mask, Gateway, IPv6, FQDN,DNS, Speed, MAC, LAN interface, Description, Link state
- Average loading of total CPU
- Average loading of total Memory
- Physical HDD Partition loading , logical HDD information and SMART test results
- Network Device loading
- NVME Partition loading
- NVMe SMART information

2. Prerequisite and Installation

2.1 Supported Operation Systems

- Windows
 1. Windows Server 2k8 R2 SP1
 2. Windows Server 2012 R2
- Linux
 1. RHEL 6.5
 2. RHEL 6.6
 3. RHEL 7.0
 4. RHEL 7.1
 5. SLES 11 SP4
 6. Ubuntu 14.04 LTS
 7. CentOS 6.5
- FreeBSD x86_64
 1. 10.3 release

2.2 System Requirements

- Windows
 1. .Net framework 3.5
 2. [smartmontools](#) 6.5-1
 3. NVMe vendor specific driver (only required for using **nvme** function)
 4. Windows patch "[KB3033929](#)" (only required for Windows Server 2k8 R2 SP1)
 5. Intel RST [CLI](#) tool 13.2.0.1016 and 13.2.x.xxxx RSTe driver (specify tool version for specify RSTe driver version)
- Linux
 1. ethtool package 2.6.33
 2. openlpmi driver
 3. smartmontools 6.5
 4. glibc 2.12
 5. [storcli](#) 1.20.15 (for Linux LSI)
 6. mdadm 4.0 (for RAID)
 7. nmcli 0.8.1

-
- 8. net-tools 1.60-110.el6-2
 - 9. lsscsi 0.23-2.el6
 - 10. lsblk 2.17.2
 - FreeBSD x86_64
 - 1. smartmontools 6.5
 - 2. libc 7
 - 3. [storcli](#) 1.20.15 (for LSI 3108)
 - 4. [graid](#) (starting with FreeBSD 9.1 for RAID) and geom_raid.ko
 - 5. pciutils 3.5.2
 - 6. [mfip.ko](#)(for LSI MegaRAID SMART)

2.3 Installing Thin-Agent

- Windows
 - 1. Log in as an administrator.
 - 2. The system must be installed with ThinAgentServiceSetup.msi and setup.bat.
 - 3. Run setup.bat to start installation.
 - 4. Install the smartmontools.
 - 5. To use **nvme** function, install NVMe vendor specific driver.
 - 6. For Windows 2008, install patch KB-3033929
 - 7. Install Intel RSTe tool and confirm RSTe function to support intel RSTe
 - 8. Please reboot the Windows if uninstall old version TAS then install new version TAS incompletely, because Windows uninstaller program might unsuccessfully uninstall TAS.
- Linux
 - 1. Log in as a root user.
 - 2. Make sure the executable permission is acquired to run tas, install.sh and IPMITAS.
 - 3. Run install.sh to install the Thin-Agent Service.
 - 4. Install the smartmontools.
- FreeBSD x86_64
 - 1. Log in as a root user.
 - 2. Make sure the executable permission is acquired to run tas, watch, watch_exe, install and IPMITAS.
 - 3. Run install to install the Thin-Agent Service.

-
4. Install the smartmontools.

2.4 Start TAS

TAS will start automatically after install and system reboot. If you want to start the service after service stop, below are the steps:

- Windows
 1. Find “ThinAgentService” in windows service
 2. Right click on “ThinAgentService” and start service
- Linux
 1. `/etc/init.d/tas start` or `service tas start`
- FreeBSD x86_64
 1. `/etc/rc.d/tas start` or `service tas start`

2.5 Load the NVMe driver

If FreeBSD doesn't load NVMe driver at the beginning, you need to load the driver manually:

- Edit loader.conf file

```
# vi /boot/defaults/loader.conf
```
- Place **nvme_load="YES"** in loader.conf and then reboot system

2.6 Un-install Thin-Agent

- Windows
 1. Log in as an administrator.
 2. Go to **Control Panel > Uninstall a program.**
 3. Find and select **ThinAgentService**, then click **Uninstall** and press OK.
- Linux
 1. Log in as a root user.
 2. Find **uninstall.sh** in install package and execute the script.
 3. **Don't put uninstall script into installed path /etc/supermicro.**
- FreeBSD x86_64
 1. Log in as a root user.
 2. Find **uninstall** in install package and execute the script.
 3. **Don't put uninstall script into installed path /etc/supermicro.**

2. TAS Settings and Configurations

1. System default update frequency is 10 seconds.
2. System update frequency range is 5 – 60 seconds.
3. System listens to command request every 5 seconds.
4. System listens to BMC restart status every 1 minute.
5. We offer timestamp from SEL timestamp.
6. We put config value into ini file , and the file path is:
 - a. Windows: Installed folder
 - b. Linux and FreeBSD: /etc/supermicro/
 - c. Windows ini file format

```
[Path]
installedPath=C:\Program Files\SUPERMICRO\ThinAgentService\
logPath=C:\Program Files\SUPERMICRO\ThinAgentService\tas.log
errLogPath=C:\Program Files\SUPERMICRO\ThinAgentService\tas.err.log
smartPath=C:\Program Files\smartmontools\bin\smartctl.exe (modify the value to match
the smartctl installed path when installed in Windows) (Note: Windows only)
rstcliPath=C:\Program Files\SUPERMICRO\ThinAgentService\rstcli.exe (Note: Windows
only)
commandLogPath=C:\Program Files\SUPERMICRO\ThinAgentService\tas.com.log
[config]
updateFreq=10000
raid=false (Note: Windows only)
```
7. TAS will auto detect Linux and FreeBSD systems whether it use RAID or not by graid command in FreeBSD and cat /proc/mdstat active in Linux.

3. Monitor System Data

Thin-Agent Service provides these OS information for BMC:

- OS name
- OS version
- Lan information
 - Mac
 - Network interface
 - IPv4
 - IPv6
 - Gateway
 - Net mask
 - FQDN
 - DNS
 - Speed
 - Network adapter description
 - Link state
- CPU average loading
- Memory average loading
- HDD partial free space and SMART test result
- Intel RSTe and SMART test result
- LSI SMART test result (Linux and FreeBSD only)
- Network loading
- User request
- TAS information
- NVME partition loading
- NVMe SMART information
- Command request
- Command response

4. Software usage

Supermicro software has included Thin-Agent Service in their products, like SUM and SMCIPMITool.

SUM shows the system utilization and SMCIPMITool can execute NVMe functions:

- SUM

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

Example Output:

```
Supermicro Update Manager (for UEFI BIOS) 1.6.0 (2015/07/30) (x86_64)
Copyright©2015 Super Micro Computer, Inc. All rights reserved
```

Time

====

Last Sample Time: 2015-08-26_01:10:29

OS

==

OS Name: RedHatEnterpriseServer

OS Version: 6.6 x86_64

CPU

===

CPU Utilization: 0.97 %

Memory

=====

Memory Utilization: 12 %

HDD(1)

=====

HDD name: /dev/sdb

SMART Status: Ok

Total Partitions: 2

[Partition(1)]

Partition Name:

/dev/mapper/ddf1_4c534920202020201000005b15d9069047114711ee7a8353p1

Utilization: N/A

Used Space: N/A

Total Space: 38.31 GB

[Partition(2)]

```
Partition Name:
/dev/mapper/ddfl_4c534920202020201000005b15d9069047114711ee7a8353p2
Utilization: N/A
Used Space: N/A
Total Space: 64.47 GB
```

HDD(2)

=====

```
HDD name: /dev/sda
SMART Status: Ok
Total Partitions: 5
[Partition(1)]
Partition Name: /dev/sda1
Utilization: 11.62 %
Used Space: 52.55 MB
Total Space: 476.22 MB
```

```
[Partition(2)]
Partition Name: /dev/sda2
Utilization: N/A
Used Space: N/A
Total Space: 465.27 GB
```

```
[Partition(3)]
Partition Name: /dev/mapper/VolGroup-lv_root
Utilization: 45.92 %
Used Space: 21.42 GB
Total Space: 49.09 GB
```

```
[Partition(4)]
Partition Name: /dev/mapper/VolGroup-lv_swap
Utilization: 0.00 %
Used Space: 0.00 MB
Total Space: 1.37 GB
```

```
[Partition(5)]
Partition Name: /dev/mapper/VolGroup-lv_home
Utilization: 0.02 %
Used Space: 70.65 MB
Total Space: 395.19 GB
```

Network

=====

```
Total Devices: 4
[NIC(1)]
Device Name: eth0
Utilization: <1 %
```

```
Status: up
[NIC(2)]
Device Name: eth1
Utilization: 0 %
Status: down
[NIC(3)]
Device Name: eth2
Utilization: 0 %
Status: down
[NIC(4)]
Device Name: eth3
Utilization: 0 %
Status: down
```

- **SMCIPMITool**

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

Example Output:

Item		Value
----		-----
Version		1.1.0
Build data		150820
Protocol version		0x01
Status		Running
TAS start time		08/26/2015 07:52:27
Last Update Time		08/26/2015 08:19:59

Usage: **SMCIPMITool.exe <IP> <user name> <password> nvme list**

Usage: **SMCIPMITool.exe <IP> <user name> <password> nvme smardata [nvme name]**

Usage: **SMCIPMITool.exe <IP> <user name> <password> nvme locate <nvme name>**

Usage: **SMCIPMITool.exe <IP> <user name> <password> nvme stoplocate <nvme name>**

Appendix A – Installing Smartmontools

- Windows
 1. Go to <http://sourceforge.net/projects/smartmontools/files/smartmontools/>
 2. Download smartmontools-6.5-1.win32-setup.exe
 3. Double click on .exe file and install to the directory as .ini smart path.
- Linux
 1. `sudo -s`
 2. `yum install smartmontools -y` or `apt-get install smartmontools* -y`
 3. `service smartd start`
`chkconfig smartd on`
- FreeBSD x86_64
 - 1、 `su`
 - 2、 `pkg install smartmontools`
 - 3、 edit `/etc/rc.conf` and put `smartd_enable="YES"`
 - 4、 `service smartd start`

Appendix B – Installing the nvme-cli tools

- Linux
 1. Go to <https://github.com/linux-nvme/nvme-cli>
 2. Click the “Download ZIP” button in the bottom right page
 3. Uncompress the file, open the terminal and switch catalog to nvme-cli-master
 4. `./make && make install`
 5. `nvme smart-log deviceID (ex: /dev/nvme0n1)`

Appendix C – Installing NVMe vendor specific driver

- Windows
 1. Download the specific driver from your NVMe device vendor. For example,
 - [Intel](#)
 - [Samsung](#)
 2. Follow vendor driver's instruction to install the driver.

Appendix D – Installing KB-3033929

- Windows Server 2K8 R2 SP1
 1. Go to <https://www.microsoft.com/en-us/download/details.aspx?id=46083&wa=wsignin1.0>
 2. Click the “Download” button on the page
 3. Install the patch file **Windows6.1-KB3033929-x64.msu**

Appendix E – Installing Intel RST driver

- Windows Server
 1. Go to <https://downloadcenter.intel.com/zh-tw/product/55005/Intel-Intel-RST->
 2. Choose a specify version of RST RAID driver and tool.
 3. Click **setuprst.exe** and install RSTe driver and tool.

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