Important Notice
RAID System Monitoring on NEC ESMPRO Manager in VMware ESXi 5 or later

This document includes important notice for using NEC ESMPRO Manager for monitoring the status of RAID System on VMware ESXi.
Please read carefully and follow the instructions when you use your system.

The following symptoms occur when you monitor RAID System using NEC ESMPRO Manager with LSI SMI-S Provider on VMware ESXi.

* On this document, “VMware ESXi” means hypervisor of VMware ESXi 5 or later.

Recommended OS setting when use NEC ESMPRO Manager

1) Disabling hhrcwrapper

When NEC ESMPRO Manager manages VMware ESXi RAID System, if ESXi OS module which called "hhrcwrapper" is running, this module may crash and be cannot manage RAID System correctly.

If you would like to use NEC ESMPRO Manager and manage ESXi RAID System, NEC strongly recommends that hhrcwrapper turns off by following command.

[Less than VMware ESXi 6.5]
 # esxcfg-advcfg -s 0 /UserVars/CIMvmw_hhrcwrapperProviderEnabled
 # /etc/init.d/sfcbd-watchdog restart

[Not less than VMware ESXi 6.5]
 # esxcli system wbem provider set -e false -n vmw_hhrcwrapper
 # /etc/init.d/sfcbd-watchdog restart

If hhrcwrapper is turned off, the health status of RAID System does not displays to vSphere Client.

In this case, if you want to check RAID System status, please use NEC ESMPRO Manager.

2) Restart sfcbd service automatically on every boot VMware ESXi (only not less than VMware ESXi 6.5)

In VMware ESXi 6.5, sfcbd service starts incorrect setting and it cannot send event notification (CIM Indication) on every boot VMware ESXi. This problem is resolved by restarting sfcbd service.

For manage VMware ESXi 6.5 RAID System from NEC ESMPRO Manager, add below line at before of “exit 0” bottom line in **/etc/rc.local.d/local.sh** .

From next VMware ESXi boot, sfcbd service will restart automatically.

[Not less than VMware ESXi 6.5]
/etc/init.d/sfcbd-watchdog restart

Number information of Logical Drive in Disk Array

For “Disk Array Information” in Logical Drive Property, NEC ESMPRO Manager does not display the part “order n/m”. Therefore, if multiple logical drives are created for one disk array, you do not know what number drive a certain logical drive is in the disk array.

The display of VMware ESXi5 Server

Property/Setting	
Item	**Value**
General	
Number	4
ID	3
Disk Array Information	4
RAID Level	RAID 1
Capacity	100GB
Stripe Size	64KB
Cache Mode (Current)	Write Through
Type	Logical Drive
Status	Online

This part is not displayed.

The display of Windows/ Linux/ VMware ESX4 Server

Property/Setting	
Item	**Value**
General	
Number	4
ID	3
Disk Array Information	4 (order 1/1)
RAID Level	RAID 1
Capacity	100GB
Stripe Size	64KB
Cache Mode (Current)	Write Through
Type	Logical Drive
Status	Online

Display of Cache Mode (Current)

In Logical Drive Property, NEC ESMPRO Manager does not display “Cache Mode (Current)” with some RAID Controllers. In addition, no correct information of “Cache Mode (Current)” is registered in the RAID log when “Cache Mode (Setting)” is changed manually.

See the value of “Cache Mode (Setting)” to check the Cache Mode.

The display of VMware ESXi5 Server

Logical Drive Property

Property/Setting	
Item	**Value**
General	
Number	2
ID	1
Disk Array Information	3
RAID Level	RAID 1
Capacity	33GB
Stripe Size	64KB
Type	SSD Cache Drive
Status	Online
Option	
Cache Mode (Setting)	Write Back

These values may not be displayed depending on RAID Controller.

Check here if they are not displayed.

RAID log

Type	Date/Time	ID	Description
Information	2012/08/18 16:00:37 (+09:00)	417	<RU0417> [CTRL:1(ID=1) LD:1 (ID=0)] The Cache Mode of Logical Drive was changed.

The display of Windows/ Linux/ VMware ESX4 Server

Logical Drive Property

Property/Setting	
Item	**Value**
General	
Number	2
ID	1
Disk Array Information	3
RAID Level	RAID 1
Capacity	33GB
Stripe Size	64KB
Cache Mode (Current)	Write Back
Type	Logical Drive
Status	Online
Option	
Cache Mode (Setting)	Write Back

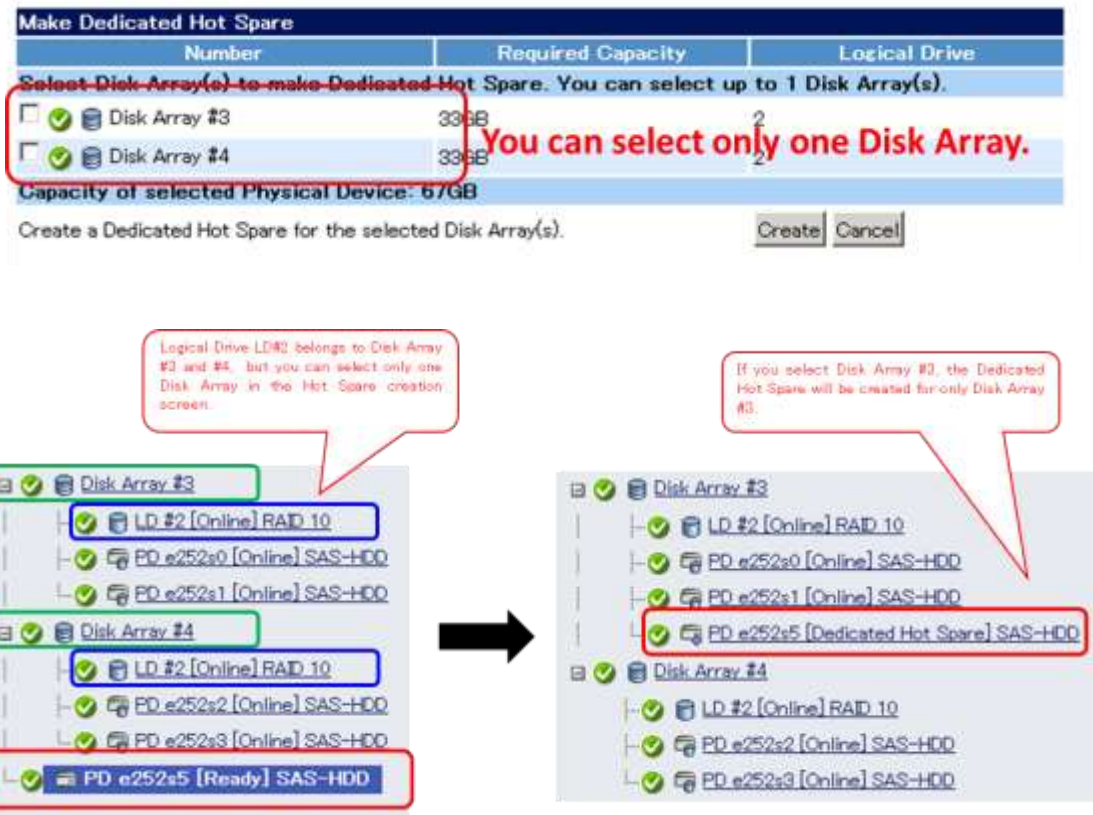
RAID log

Type	Date/Time	ID	Description
Information	2012/08/18 16:00:37 (+09:00)	417	<RU0417> [CTRL:1(ID=1) LD:1 (ID=0)] The Cache Mode of Logical Drive was changed. Value : Write Through

The number of Disk Arrays which you can select for a Dedicated Hot Spare

You can select only one Disk Array for a Dedicated Hot Spare.

For the Logical Drive which belongs to more than one Disk Arrays, you can also select only one Disk Array in the Hot Spare creation screen.
If you want to create Hot Spare which belongs to more than one Disk Array, please use Global Hot Spare or create Dedicated Hot Spare from offline utility.



Event notification about HDD Power Status change

From VMware ESXi to NEC ESMPRO Manager, event notification may delay in the event of HDD Power Status change (Power Saving/ Transitioning/ On).
As a result, NEC ESMPRO Manager may delay in reflecting HDD Power Status to the WebGUI and RAID log.
If you want to get most recent HDD Power Status, please rescan RAID System.

Connection between NEC ESMPRO Manager and VMware ESXi

VMware ESXi may fail to send information to NEC ESMPRO Manager if the RAID System configuration changes frequently in a short period of time, for example, if a physical device is removed and inserted at intervals of approximately 90 seconds. In this case, please wait for 10 minutes to recover from the communication failure or restart the VMware ESXi Management Agents. You can restart the Management Agents in the following procedure.

[How to restart the Management Agents]

1. Press F2 on the console of VMware ESXi and log in to the management window.
2. Select Troubleshooting Options and press Enter.
3. Select Restart Management Agents and press Enter.
4. Press F1 on the confirmation windows to restart Management Agents.