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	I3C Centre - Mode Opérateur	EMC ² VNXe Panic Dump Collection Procedure_EN.pdf	31 of July 2013	1

BULL INFRASTRUCTURE SERVICES & SUPPORT



EMC² VNXe Panic Dump Retrieval Procedure_EN

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1. Objectif

Verifying and collecting panic dumps on a VNXe

2. Fact

Product: VNXe Series

Product: VNXe3100

Product: VNXe3300

EMC SW: VNXe Operating Environment (OE) 2.0.0.9183 or later.

3. Symptom

There was an unexpected reboot.

An alert on Unisphere reports "Storage Processor 2 is starting now" or/and "Storage Processor 3 is starting now."

An alert on Unisphere reports "Storage Servers configured on SPA are starting now" or "Storage Servers configured on SP B are starting now" or both.

An alert on Unisphere reports "Storage Processor spa reboot complete" or "Storage Processor SP B reboot complete" or both.

An alert on Unisphere reports "Storage Processor SP A is restarting" or "Storage Processor SP B is restarting" or both

An alert on Unisphere reports "Persistent reboot has occurred."

4. Cause

When software components of a storage processor encounter an exception condition, they may be forced to restart to recover from the condition and resume normal operations. This may involve a restart of the software component or the storage processor itself. The process generates panic dumps that could be used to determine why the exception condition occurred. A hardware issue can also cause such a condition.

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5. Fix

To determine the cause of the reboot, EMC NAS Engineering must analyze the panic dumps, in addition to the standard VNXe data collects retrievable from Unisphere.

- Log in to Unisphere and browse to Settings > Service System. When you click on 'Service System', you will need to enter the service password. It will then bring you to a new page. On the page, make sure 'Enable SSH' is highlighted, then click on 'Execute service action'. e the cause of the reboot, EMC NAS Engineering must analyze the panic dumps, in addition to the standard VNXe data collects retrievable from Unisphere.
- Use Putty or any other secure shell (SSH) utility to open a secure shell to the VNXe management IP. (Putty is an SSH utility available for a free download from the Internet.)
- On the SSH session, use username "service" and the service password to log in. Once logged in, verify the storage processor (SP) that you are on.

For example:

For SP A, the prompt will look like:

```
service@spa spa:~>
```

- Any time there is a reboot, you need to verify whether a panic directory was created. This should be checked on each SP.

For example:

```
service@spa spa:~> ll /EMC/backend/service/data_collection/cores/
total 132900
drwxr-xr-x 2 root root 4096 Jun 22 00:41 kdump_NeoBP1_maint-2.2.0.17142-
MAGNUMRETAIL_CKM00XXXXXXXXXX_2012-06-22_00_37_34_dir
drwxr-xr-x 2 root root 4096 Aug 31 2011 lost+found
```

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e) You may then switch to the peer SP by typing `ssh peer` and then check any current dumps on this SP.

For example:

service@spa spa:~> ssh peer

Last login: Fri Jun 22 08:42:39 2012 from peer

service@spb spb:~> ll /EMC/backend/service/data_collection/cores/

total 40

drwxr-xr-x 2 root root 4096 Mar 20 17:09 kdump_NeoBP1_maint-2.2.0.16263-MAGNUMRETAIL_CKM00XXXXXXXXXX_2012-03-20_14_36_05_dir

drwxr-xr-x 2 root root 4096 Mar 21 17:09 kdump_NeoBP1_maint-2.2.0.17142-MAGNUMRETAIL_CKM00XXXXXXXXXX_2012-03-21_17_07_04_dir

drwxr-xr-x 2 root root 4096 Jun 5 00:21 kdump_NeoBP1_maint-2.2.0.17142-MAGNUMRETAIL_CKM00XXXXXXXXXX_2012-06-05_00_13_38_dir

drwxr-xr-x 2 root root 4096 Mar 20 13:32 lost+found

f) If a kdump is generated for that date, the entire directory must be archived and has to be analyzed.

Then type the following command to archive the dump directory:

tar -cvf /cores/service/<dump directory name>.tar

(press 'space key' and not 'return key' to join the two bits)

/EMC/backend/service/data_collection/cores/<dump directory>

Note:

Hereabove and hereunder, it is about single very long 'command lines' which are displayed on several lines because of the length.

For exemple:

Collecting the Jun 5 00:21 in the list above, type:

tar -cvf /cores/service/kdump_NeoBP1_maint-2.2.0.17142-MAGNUMRETAIL_CKM00XXXXXXXXXX_2012-06-05_00_13_38_dir.tar

(hit the 'space' key to join the bits)

/EMC/backend/service/data_collection/cores/ kdump_NeoBP1_maint-2.2.0.17142-MAGNUMRETAIL_CKM00XXXXXXXXXX_2012-06-05_00_13_38_dir/

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g) If the dump has been created on the slave, copy the dump archive to the master by typing:

```
service@spb spb:~>cd /cores/service
```

```
service@spb spb:~>scp kdump_NeoBP1_maint-2.2.0.17142-MAGNUMRETAIL_
CKM00XXXXXXXXXX_2012-06-05_00_13_38_dir.tar service@peer:/cores/service/
```

h) Log out of SSH and download the dump archive and the binary to your desktop using one FTP server.

Make sure to use the SFTP/SCP protocol and port 22.

6. Syntax naming about 'kdump' directory

Example:

kdump_NeoBP1_maint-2.2.0.17142-MAGNUM-RETAIL_CKM00XXXXXXXXXX_2012-06-05_00_13_38_dir

Dump Type : kernel dump

VNXe Code level : 2.2.0.17142

VNXe Serial number : CKM00XXXXXXXXXX

Time of dump creation : 2012-06-05_00_13_38 (June 5, 2012, 00:13:38 UTC time)