



Data Collection for Guide for IBM N series cluster-mode

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1.0 Required data for c-mode troubleshooting

1.1 PSI required!

Problem description (not all can be applicable):

- Is it a new system install in c-mode?
- Is this a System or Data migration from 7-mode to c-mode?
- Is it the first time that the problem occurs?
- If so, what could have triggered it? (Any code upgrade, config change, environment change)
- Has it already worked and when did it stop if yes?



- What are the symptoms? (hang, application not working, ...)
- When does the problem occur? (Morning, day, night...)
- What is impacted? (Peer clusters, cluster management, network, node, vserver, protocol, volume,...)
- Are Intercluster relations impacted? (snapmirror, ...), If yes, provide details.
- Are Cluster switches impacted? If yes, provide details.
- Which node ('s) are impacted?
- Which vserver/volume/LUN is impacted?
- Which protocol is impacted?
- Which users/servers are impacted? (NetBIOS names, IP addresses)
- Current status of the cluster/ node

Environment:

- Versions of ONTAP c-mode, Snap Managers, Snap Drive, Hosts (i.e. Solaris /Windows, x64 /x86, release number)?
- Which applications are running?
- Which protocols are in use?

Business impact:

- What kinds of Services are impacted?
 - * Ex: Exchange mail server down, 400 users no email access.
- How many users impacted?
 - * Ex: 350 users of DB cannot work today
- How customers business is impacted?
 - * Ex: car spare parts manufacturing: SAP system is down, cannot print stamps orders, so cannot ship any parts to customers, all shipments are in hold. Customer will have to pay 20% fine for all delayed shipments.

1.2 Base data collection

- Cluster Configuration information Machine type, S/N, sysid, DOT version,
- Autosupports and message logs, for the nodes with problems
- Where is the data: dashboard or Ecurep

USE ecurep PMH link for data upload!

- if the system is working, but no asup capturing is possible, please collect the following outputs for first problem determination.



login to the cluster interface and issue:

```
cluster show
vserver show
storage failover show
storage failover interconnect status
storage disk show -v
system node run -node {nodename|local} storage show adapter
system node run -node {nodename|local} storage show initiators
version -b
system image show
system node run -node {nodename|local} fcadmin config
storage aggregate show
storage aggregate show -fields root
system node run -node {nodename|local} sysconfig -r
system node run -node {nodename|local} sysconfig -d
system node run -node {nodename|local} sysconfig -a
storage errors show
system health status show
system node run -node {nodename|local} ls /etc/log/" (check
for the latest messages logs)
system node run -node {nodename|local} rdfile /etc/log/messages
(messages.1 ...messages.5)
```

1.3 Base data Gateway

Base data collection as for normal systems plus :

- switches data collection (if applicable)
- SAN drawing
- Backend storage firmware levels, and base data collection for the storage
- if Gateway is not booting :
 - capture all serial console commands and outputs to a file
 - capture one boot sequence, then go to maintenance mode,
 - collect outputs of:

```
Disk show -v
Storage show disk -p
Storage show adapter
```



```
Storage show initiat
Version -b
fcadmin config
aggr status -v
aggr status -r
```

2.0 DC Auto Support (ASUP)

After you have forced the ASUP to generate, please use Ecurep upload to pmh, to send the data to support.

ASUP data is stored under /etc/log/autosupport directory
It will create following directory and files.

```
yyyymmddhhmm.0.files/ : This is a directory, several files under this directory
yyyymmddhhmm         : time and date which ASUP gathers data
yyyy                 : Year, i.e. 2014
mmdd                 : Month, date, i.e 0419
hhmm                 : Hour, Minute i.e 1710
```

How to setup and trigger autosupport?

2.1 Enable manual web access to the cluster data collection logs

On Cluster Interface issue:

a) Enable 'spi' (Processor Infrastructure support Web service)

```
vserver services web modify -name spi -vserver * -enabled true
```

b)

```
vserver services web access create -name spi -role admin
-vserver <clustername>
```

c)

```
vserver services web access create -name ontapi -role admin
-vserver <clustername>
```

d) Create login access to http application:

```
security login create -username admin -application http
-authmethod password
```



e) Check the node-mgmt IP's for http asup access:

```
net int show -role node-mgmt -fields address
net int show -role cluster-mgmt -fields address
```

f) show all nodes in the cluster:

```
node show -fields node
```

g) setup web access to /etc/log for each node:

```
http://<node IP Adresse>/spi/<nodename>/etc/log/
```

(if using cluster-mgmt IP, only the logs on the node which is currently hosting this port can be accessed)

2.2 Enable autosupport for all nodes

On the cluster interface issue:

a) check if autosupport is enabled on all nodes:

```
system node autosupport show
```

b) enable autosupport:

```
"system node autosupport modify -node * -state enable"
```

c) check to determine, that the asup settings are correct (transfer protocol need to be 'https')

```
"system node autosupport show -instance"
```

d) The transfer settings can be modified with:

```
"system node autosupport modify -node * -transport https"
```

2.3 Trigger a new autosupport

a) Per node:

```
system autosupport invoke -type all -force true -node
<nodename>
```

b) For all nodes:

```
system autosupport invoke -type all -force true -node *
```



2.4 Collect a log manual and provide for analysis:

a) collect the asups and message logs in:

```
http://<node IP Adresse>/spi/<nodename>/etc/log/
```

- '/etc/log/autosupport' and '/etc/log/mlog'

b) in case of problems to send asups automatically, please collect the asup manual '/etc/log/autosupport', including '/etc/log/mlog' (messages.log) and '/etc/log/mlog' (notifyd.log).

2.5 Uploading autosupports to IBM ecurep server

2.6 Collecting and uploading core files

2.7 Generating and uploading packet traces

Note: Upload all data to the IBM EcUREP Server.
Please read the file "[Data Transfer to IBM.pdf](#)" for more details.