* Created by [Gary Waterworth (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz25l4), last modified on [12 Jan 2023](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=2779776190&selectedPageVersions=40&selectedPageVersions=41)

This guide covers Veritas Cluster as well as Storage only Implementations

Commands to be run on Cluster and not on Storage only implementations are highlighted by : **- Cluster Only Commands**

| **SLES Version** | **InfoScale Version** | **Notes** |
| --- | --- | --- |
| SLES12 SP2 | EOL |  |
| SLES12 SP3 | EOL |  |
| SLES12 SP4 | 7.4.1 |  |
| SLES12 SP5 | 7.4.2 |  |
| SLES15 SP2 | EOL |  |
| SLES15 SP3 | 7.4.2 |  |
| SLES15 SP4 | 7.4.2 | Supported from VXVM Version 7.4.2.3400-SLES15 . All packages to be updated to latest version in repository |
| **Version Information** | **Status** | **Notes** |
| Patch Updates within same version | Working |  |
| IPU 7.4.1 → 7.4.2 | Working |  |
| IPU 7.4.2 → 8.0 | Testing |  |
| IPU SLES15SP3 → SLES15SP4 | Testing | [Prework Required for all IPU Upgrades to Cover the InfoScale Veritas Solution Stack](https://atc.bmwgroup.net/confluence/display/IAAS18/Prework+Required+for+all+IPU+Upgrades+to+Cover+the+InfoScale+Veritas+Solution+Stack)  Reference IPU Documentation : [5.1.4 SLES12 In-Place Upgrade](https://atc.bmwgroup.net/confluence/display/IAAS18/5.1.4+SLES12+In-Place+Upgrade) |

| **Rolling Upgrade Supportability** |  |
| --- | --- |
| 6.x to (7.4 or 7.4.1) | Not Supported |
| 7.4.1 to 7.4.2 | Not Supported |
| 7.4.2 to 8.0 | Supported |

**Pre Work and Notes**

* Production cluster:

Perform the activity one node at a time.

Offline the cluster packages

Unmount all vxfs file system

Freeze the node on NODE1

Set the down time

NB \*\*\* Disable Rudder as there are rules for enabling and starting services

* rudder agent disable; rudder agent stop

**Offline all Packages on Node being upgraded   - Cluster Only Commands**

You can run the following commands on the node that is being upgraded

Make sure which packages are running on the node and if any packages are running then take them offline

* hastatus -sum | grep -i online | grep -i `hostname`

You can use the command below to offline packages on the node

* hagrp -offline <package> -sys `hostname`

You can also switch packages to run on the 2nd node by using  [ Optional ]

* hagrp -switch <package> -to <partner host>

**Freeze nodes persistently to survive reboot   - Cluster Only Commands**

You can run the following commands on the node that is being upgraded

Freeze host nodes

* haconf -makerw
* hasys -freeze -persistent <current host name>
* hasys -freeze -persistent <partner host name>
* haconf -dump -makero

You can check the status and make sure both are frozen by running

* hastatus -sum

**Unmount File Systems**

Check for any mounted vxfs file systems. All package file systems should have been unmounted when the packages were offlined

All vxfs file systems need to be unmounted

Oracle:

There will be local file systems still mounted that need to be unmounted : example

itadell108:~ # mount -t vxfs  
/dev/vx/dsk/dgoracle\_itadell108/lvoracle on /lfs/oracle type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)  
/dev/vx/dsk/dgoracle\_itadell108/lvoracleaudit on /lfs/oracle\_audit type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

Stop syslog and rsyslog

* + systemctl stop syslog.socket
  + systemctl stop syslog
  + systemctl stop rsyslog.socket
  + systemctl stop rsyslog

Unmount the 2 mount points

* + lsof /lfs/oracle\_audit
  + lsof /lfs/oracle\_audit
  + umount /lfs/oracle\_audit
  + umount /lfs/oracle

Check using fuser, lsof if FS are still in use. ask application to stop them. If still in use Kill them.  
example:  
#for i in `lsof /lfs/oracle/ | awk '{print $2}' | sort -u` ; do echo $i; done

Cross verify then kill those processes - some time process getting started automatically that create problem while unmounting. in that case you only comment in fstab after killing all the process and make sure before reboot you uncomment it.

#for i in `lsof /lfs/oracle/ | awk '{print $2}' sort -u` ; do kill -9 $i; done  
#for i in `lsof /lfs/oracle\_audit/ | awk '{print $2}'` ; do kill -9 $i; done

**Stop All Veritas Infoscale process and modules**

Stop cluster management**- Cluster Only Commands**

* hastop -local -force

Stop low level daemons**- Cluster Only Commands in Red**

* vxdctl stop
* systemctl stop vcs
* systemctl stop gab
* systemctl stop vxfen
* systemctl stop llt
* systemctl stop veki
* systemctl stop vxfs.service
* systemctl stop fsdedupschd.service
* systemctl stop vxodm.service
* lltconfig -U

Unload modules**- Cluster Only Commands**

* rmmod vxfen
* rmmod gab
* rmmod llt

there may be additional modules that need to be unloaded when upgrading packages. Unload using rmmod

**Check Zypper Repository Information**

* zypper ref
* zypper lu

**Upgrade All Packages for Infoscale Storage and Cluster**

**2 stage update**

*Update LLT and GAB 1st to minimise the possibility of requiring a reboot between package installs*

*Not Required for Storage only Implementations. Only upgrade Veritas Helpers in this case*

* + zypper update BMW-SW-Veritas-Helpers
* zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

*Update rest of packages*

* zypper update `zypper se -is VRTS\* |grep BMW-Software-Veritas |grep -v VRTSllt |grep -v VRTSgab | awk '{print $3}'`

Rerun the upgrade script to check all packages were updated

*example*

*No update candidate for 'VRTSveki-7.4.2.2600-SLES15.x86\_64'. The highest available version is already installed.*

You can also manually check all Veritas Infoscale packages are upgraded fully by using :

* zypper se -s VRTS\* | grep BMW-Software-Veritas

NB \*\*\* Run Rudder agent inventory

* rudder agent inventory -f

**Reboot the server**

Once all of the updates and upgrades are completed, reboot the server.

NB \*\*\* Enable and Start Rudder, force check

* rudder agent enable; rudder agent start; rudder agent update; rudder agent run -fuqg

Check if VCS/LLT/GAB and VXVM are running, and resource are probed. **- Cluster Only Commands in Red**

* lltstat -n
* gabconfig -a
* vxdisk list
* vxprint
* hastatus -sum
* df -h

**Unfreeze node   - Cluster Only Commands**

* haconf -makerw
* hasys -unfreeze -persistent <current node>
* hasys -unfreeze -persistent <partner node>
* haconf -dump -makero

**Start packages.   - Cluster Only Commands**

Note: Start the Packages on the respective nodes (take a reference of your backup which you have taken before activity)

Server: <current host name> - Manual steps to online packages

* hagrp -online PKGNAME -sys ServerName

or

* hagrp -switch PKGNAME -to ServerName

Check with

* hastatus -sum

**Verification of LLT/GAB and Cluster Status   - Cluster Only Commands**

Veritas Cluster Logs :  /var/VRTSvcs/log

High level log : /var/VRTSvcs/log/engine\_A.log. This can be checked for a high level status of errors.

Some low level LLT and GAB Checks

[itadell148:/etc](http://itadell148/etc) # lltstat -n  
LLT node information:  
    Node                 State     Links  
   \* 0 itadell148        OPEN        3 **<---- 3 links should be open on both nodes**  
     1 itadell149        OPEN        3

[itadell148:/etc](http://itadell148/etc) # gabconfig -a  
GAB Port Memberships  
===============================================================  
Port a gen  132880d membership 01 **<---- 01 means both node 0 and 1 are fully registered**  
Port h gen  132880c membership 01 **<---- 01 means both node 0 and 1 are fully registered**

**Items to look out for when checking hastatus -sum**

[Like3 people](https://atc.bmwgroup.net/confluence/display/IAAS18/Process+to+Upgrade+all+Veritas+Storage+and+Cluster+Packages) like this

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [08 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=521131018&selectedPageVersions=1&selectedPageVersions=2)

# **Before you start**

Please check following:

* Do you have a downtime for the package?
* Are there no concurrent tasks to modify the same cluster, which are not assigned to you?
* Is the requester or a collegue from middleware / application team available? You will definitively need someone to check the application afterwards.

# **Check old values**

The first step is to identify the mounts that have to be changed. In our example we will change mount options for redo filesystems of a package from "rw, delaylog, largefiles, ioerror=mwdisable" to "rw, delaylog, largefiles, mincache=direct, convosync=direct, ioerror=mwdisable".

Please note, default mount options for oracle Veritas are:

**lvdb:** mincache=direct, convosync=direct,\_netdev

**lvbkup:** \_netdev

**redo1:** mincache=direct, convosync=direct,\_netdev

**redo2:** mincache=direct, convosync=direct,\_netdev

user@node1:~> df -hP | grep package

/dev/vx/dsk/dgpackagebkup/lvbkup 5.6T 54G 5.3T 1% /global/package/bkup

/dev/vx/dsk/dgpackagedb/lvdb 8.4T 6.2T 2.2T 75% /global/package/db

/dev/vx/dsk/dgpackageredo1/lvredo1 12G 11G 1.9G 85% /global/package/redo1

/dev/vx/dsk/dgpackageredo2/lvredo2 12G 11G 1.9G 85% /global/package/redo2

user@node1:~> mount | grep package

/dev/vx/dsk/dgpackagebkup/lvbkup on /global/package/bkup type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackagedb/lvdb on /global/package/db type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackageredo1/lvredo1 on /global/package/redo1 type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackageredo2/lvredo2 on /global/package/redo2 type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

node1:/root # hastatus -sum | grep package

B package node1 Y N ONLINE

B package node2 Y N OFFLINE

node1:/root # hares -display -group package | less

node1:/root # hares -display -group package | grep -e "mount \*MountOpt"

package\_bkup\_mount MountOpt global

package\_db\_mount MountOpt global

package\_redo1\_mount MountOpt global

package\_redo2\_mount MountOpt global

 Initial situation

# **Set the new mount options**

When we know, what to change, we can give the appropriate commands to change mount options. It is very important to double check the commands entered. Use 4-eyes principle it you are not absolutely sure.

node1:/root # hares -value package\_redo1\_mount MountOpt

node1:/root # hares -value package\_redo2\_mount MountOpt

node1:/root # haconf -makerw

node1:/root # hares -modify package\_redo1\_mount MountOpt mincache=direct,convosync=direct

node1:/root # hares -modify package\_redo2\_mount MountOpt mincache=direct,convosync=direct

node1:/root # hares -value package\_redo1\_mount MountOpt

mincache=direct,convosync=direct

node1:/root # hares -value package\_redo2\_mount MountOpt

mincache=direct,convosync=direct

node1:/root # haconf -dump -makero

 Changing mount options

At this point the new value is already set. To make it active, you need to take the package offline and then online again, alternatively you can switch the package to the other node. **Both methods involve a short downtime for the application.**

node1:/root # hagrp -offline package -sys node1

node1:/root # hastatus -sum

[...]

B package node1 Y N OFFLINE

B package node2 Y N OFFLINE

[...]

node1:/root # hagrp -online package -sys node1

node1:/root # hastatus -sum

[...]

B package node1 Y N ONLINE

B package node2 Y N OFFLINE

[...]

 Making changes effective

# **Check the results**

Now we should double check, if everything is fine.

user@node1:~> df -hP | grep package

/dev/vx/dsk/dgpackagebkup/lvbkup 5.6T 54G 5.3T 1% /global/package/bkup

/dev/vx/dsk/dgpackagedb/lvdb 8.4T 6.2T 2.2T 75% /global/package/db

/dev/vx/dsk/dgpackageredo1/lvredo1 12G 11G 1.9G 85% /global/package/redo1

/dev/vx/dsk/dgpackageredo2/lvredo2 12G 11G 1.9G 85% /global/package/redo2

user@node1:~> mount | grep package

/dev/vx/dsk/dgpackagebkup/lvbkup on /global/package/bkup type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackagedb/lvdb on /global/package/db type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackageredo1/lvredo1 on /global/package/redo1 type vxfs (rw,delaylog,largefiles,mincache=direct,convosync=direct,ioerror=mwdisable)

/dev/vx/dsk/dgpackageredo2/lvredo2 on /global/package/redo2 type vxfs (rw,delaylog,largefiles,mincache=direct,convosync=direct,ioerror=mwdisable)

 Checking the result

As we can see above, the mount options of the redo filesystems have been changed.

# **Where to look in case of problems?**

Should there be a problem, the logs in /var/VRTSvcs/log will be helpful. /var/log/messages can give additional hints.

user@node1:~> less /var/VRTSvcs/log/engine\_A.log

 Looking deeper what went wrong

Last edited by Liebl Markus, (Markus.Liebl@partner.bmw.de) , based on work by qxj5457 .  
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| VCS Disk Migration (LSAN) – Mirrored Volumes |
| --- |
| Purpose |

VCS disk migration to new SAN according to BMW standard.

PreCheck:

1. Order and verify same size LUNs from new storage.  
2. Make them visible on all cluster nodes.  
3. Run below command on cluster nodes to check if all new assigned LUNs are getting visible.  
# vxdisk -o alldgs list

Implementation:

Filesystems are the part of particular disk group and one DG having multiple disks. So we need to perform the migration one by one as per the DG.

Steps:

1. Below command list all DGs, so choose your DG which need to migrate.

2.)  Now get all disks which is associated to DG. See below example of app DG “dgpltopd01apps”.

So to migrate DG “dgpltopd01apps” we required 6 disks(3 disks from first Array and 3 disks from second Array) with same size.

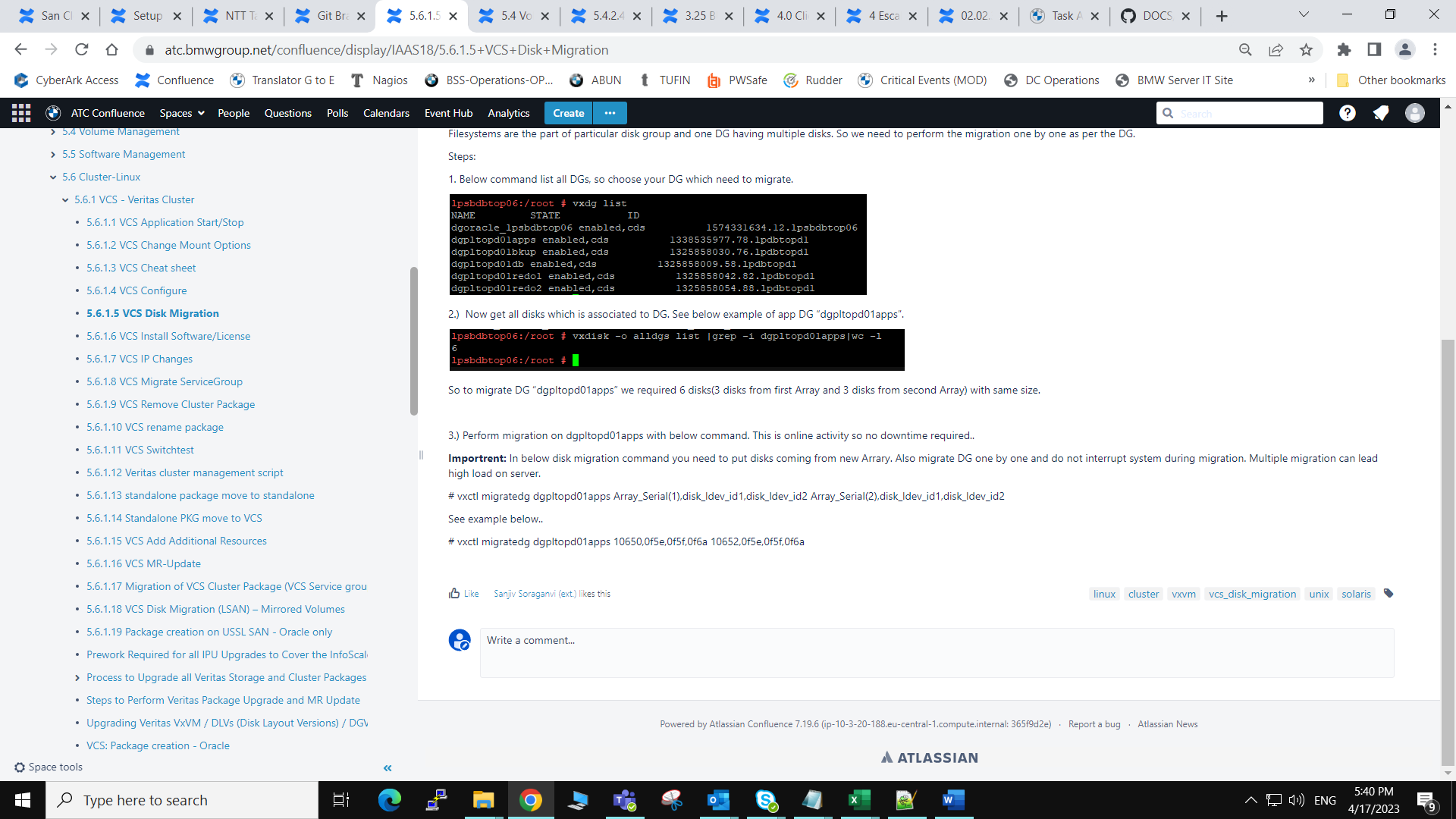
3.) Perform migration on dgpltopd01apps with below command. This is online activity so no downtime required..

**Importrent:**In below disk migration command you need to put disks coming from new Arrary.Also migrate DG one by one and do not interrupt system during migration. Multiple migration can lead high load on server.

# vxctl migratedg dgpltopd01apps Array\_Serial(1),disk\_ldev\_id1,disk\_ldev\_id2 Array\_Serial(2),disk\_ldev\_id1,disk\_ldev\_id2

See example below..

# vxctl migratedg dgpltopd01apps 10650,0f5e,0f5f,0f6a 10652,0f5e,0f5f,0f6a



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| Scope |
| --- |

..So you have got a change task to move a cluster server pair to a new IP Network. Then you have landed on the right wiki page.  
  
The procedure outlined:

1. Make a record of the Cluster Status ( hastatus -sum )
2. Make a record of all the SAN\_LUNS
3. move all cluster resource groups to node2, and freeze them persistently
4. stop cluster on node1 ( hastop -local )
5. disable autostartup of vcs on node1, make a record of all SAN Luns
6. IP Changes on node1: /etc/hosts /etc/sysconfig/network/\* /etc/VRTSvcs/conf/config/main.cf
7. halt node1, Server move to new location and subnet
8. boot node1 in new location, check ALL network interfaces, & LUNS. If there are unresolvable problems here, this is the best chance to do a fallback.
9. install updates on node1, reboot
10. unfreeze and offline all cluster resource groups on node2, and freeze them persistently
11. on node 2 stop cluster locally ( hastop -local )
12. disable autostartup of vcs on node2, make a record of all SAN Luns
13. make IP Changes in the CMDB
14. enable startup of cluster on node1
15. start cluster on node1, unfreeze resource groups
16. online resource groups on node1
17. get apps team to check the applications (maybe inform them that the DNS Sync has been started but not synced)
18. wait for DNS Changes to get synced, then check connection to resource group hostnames

if all is OK (also OK feedback from Apps Team) on node1, then we can move node 2:

1. IP Changes on node2: /etc/hosts /etc/sysconfig/network/\* /etc/VRTSvcs/conf/config/main.cf
2. halt node2, Server move to new location and subnet
3. boot node2 in new location, check ALL network interfaces, & LUNS
4. install updates on node2, reboot
5. enable cluster auto startup
6. start cluster on node2
7. switch the resource groups to the original locations, or as requested by the apps team

| Content |
| --- |

example for a few points above:

* 3) Move the Cluster Resources to Node2 and freeze them persistantly

lp01d41:/home/qxf6163 # hastatus -sum | grep lp01d41 | grep ONLINE  
B NIC lp01d41 Y N ONLINE  
B dbemilw1 lp01d41 Y N ONLINE  
B dbhiqaw1 lp01d41 Y N ONLINE  
B dboid3w1 lp01d41 Y N ONLINE  
lp01d41:/home/qxf6163 #  
lp01d41:/home/qxf6163 # hagrp -switch dbemilw1 -to lp01d42  
lp01d41:/home/qxf6163 # hagrp -switch dbhiqaw1 -to lp01d42  
lp01d41:/home/qxf6163 # hagrp -switch dboid3w1 -to lp01d42  
lp01d41:/home/qxf6163 # hastatus -sum | grep lp01d41 | grep ONLINE  
B NIC lp01d41 Y N ONLINE  
lp01d41:/home/qxf6163 # haconf -makerw  
lp01d41:/home/qxf6163 # hastatus -sum | grep ONLINE  
B NIC lp01d41 Y N ONLINE  
B NIC lp01d42 Y N ONLINE  
B dbauqaw1 lp01d42 Y N ONLINE  
B dbemilw1 lp01d42 Y N ONLINE  
B dbhiqaw1 lp01d42 Y N ONLINE  
B dbkiqaw1 lp01d42 Y N ONLINE  
B dboid3w1 lp01d42 Y N ONLINE  
lp01d41:/home/qxf6163 # hastatus -sum | grep ONLINE  
lp01d41:/home/qxf6163 # hagrp -freeze dbauqaw1 -persistent  
lp01d41:/home/qxf6163 # hagrp -freeze dbemilw1 -persistent  
lp01d41:/home/qxf6163 # hagrp -freeze dbhiqaw1 -persistent  
lp01d41:/home/qxf6163 # hagrp -freeze dbkiqaw1 -persistent  
lp01d41:/home/qxf6163 # hagrp -freeze dboid3w1 -persistent

* 4) stop cluster on node1

lp01d41:/home/qxf6163 # hastop -local  
lp01d41:/home/qxf6163 # hastatus -sum  
VCS ERROR V-16-1-10600 Cannot connect to VCS engine  
VCS WARNING V-16-1-11046 Local system not available  
lp01d41:/home/qxf6163 #

* 5) disable autostartup of vcs on node1

lp01d41:/home/qxf6163 # chkconfig vcs off  
lp01d41:/home/qxf6163 # chkconfig vxfen off  
lp01d41:/home/qxf6163 # chkconfig gab off  
lp01d41:/home/qxf6163 # chkconfig llt off

* 6) umount NFS disable in /etc/fstab

lp01d41:/home/qxf6163 # umount -a -t nfs

**If IP change=YES then Firewall Rules needs to deleted for old IP after getting confirmation from the app team,  defined CLI process can be use** → [5.13.34 Tufin CLI Commands#5.13.34TufinCLICommands-tufin\_decom\_ip](https://atc.bmwgroup.net/confluence/display/IAAS18/5.13.34+Tufin+CLI+Commands#id-5.13.34TufinCLICommands-5.13.34TufinCLICommands-tufin_decom_ip)

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This page is a brief about the steps followed for SAP-HANA cluster MR(Master Release) Upgrade. Please go through the steps and follow the same while performing the task.

Reference task # TAS000004855158

**Pre Check** :

I. Take the output of the below commands for both the cluster nodes,

1. df -hT  
2. ifconfig  
3. uname -a  
4. cat /etc/SuSE-release  
5. san\_shortinfo  
6. Console Access for both the cluster servers

II. Take the output of already available MR versions on the cluster servers,

cat /etc/rudder\_vars.lst

III. Take the output of the cluster(Pacemaker) from the below command,

crm\_mon -1 (Please make a note of number of nodes and resources configured and also check where the instance (For Ex : SBQ, SBP, etc..) are running and which is currently Master and whic is Slave)

IV. Take output of Full Check command for both the cluster server nodes and make sure all are OK.

V . Ask the SAP application person to Freeze the cluster, you can verify if the cluster is freezed with the command "crm\_mon -1", the output will be similar to below,

lpsbph01:~ # crm\_mon -1  
Stack: corosync  
Current DC: lpsbph01 (version 1.1.19+20181105.ccd6b5b10-3.10.1-1.1.19+20181105.ccd6b5b10) - partition with quorum  
Last updated: Sat Jul 25 06:15:07 2020  
Last change: Sat Jul 25 05:40:35 2020 by sbpadm via crm\_attribute on lpsbph01

2 nodes configured  
7 resources configured

\*\*\* Resource management is DISABLED \*\*\*  
The cluster will not attempt to start, stop or recover services

Online: [ lpsbph01 lpsbph51 ]

Active resources:

rsc\_SAPDatabase\_SBQ10 (ocf::heartbeat:SAPDatabase): Started lpsbph51 (unmanaged)  
sbd-fencing (stonith:external/sbd): Started lpsbph01 (unmanaged)  
Clone Set: cln\_SAPHanaTopology\_SBP00 [rsc\_SAPHanaTopology\_SBP00] (unmanaged)  
rsc\_SAPHanaTopology\_SBP00 (ocf::suse:SAPHanaTopology): Started lpsbph01 (unmanaged)  
rsc\_SAPHanaTopology\_SBP00 (ocf::suse:SAPHanaTopology): Started lpsbph51 (unmanaged)  
Master/Slave Set: msl\_SAPHana\_SBP00 [rsc\_SAPHana\_SBP00] (unmanaged)  
rsc\_SAPHana\_SBP00 (ocf::suse:SAPHana): Master lpsbph01 (unmanaged)  
rsc\_SAPHana\_SBP00 (ocf::suse:SAPHana): Slave lpsbph51 (unmanaged)  
rsc\_ip\_SBP00 (ocf::heartbeat:IPaddr2): Started lpsbph01 (unmanaged)  
lpsbph01:~ #

VI. Set Down time for both the cluster servers,

**MR Execution Step** :

Perform MR upgrade on both the cluster server nodes, once you get confirmation from SAP app team and after verifying resources are freezed. MR can be performed parallely to both the cluster nodes at once,

rudderswinst -t <Task\_NO> update <Server\_Name>

After Successful completion of MR upgrade, please make sure to have console access and then perform REBOOT of the cluster servers nodes. REBOOT also can be performed in parallel and make sure you monitor console during REBOOT process,

**Post MR and REBOOT Step** :

1. Once the servers are back online after reboot, verify all the basic necessary output which had been performed during Pre check task,  
2. Verify the output "crm\_mon -1" and the cluster should be still in freezed state,

Inform SAP app person to unfreeze the cluster and start SAP and perform validation,

**Important Info and Useful Link** :

Below is the confluence link for SAP HAE cheat sheet, for any further queries, please go through the link.

The link has all the steps for :

Cluster health Checks,  
Setting cluster maintenance mode(Basically it is performed by SAP app team),  
Removing cluster maintenance mode(Basically it is performed by SAP app team),  
Switching HANA master role between cluster nodes,  
Cleaning any Failed resources during cluster freeze/unfreeze,

<https://atc.bmwgroup.net/confluence/display/IAAS18/5.18.3+SLES+HAE+Cheat+Sheet+for+SAP+HANA>

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified by [Mohammad Afraz (ext.)](https://atc.bmwgroup.net/confluence/display/~qxy5788) on [02 Nov 2021](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=649682840&selectedPageVersions=3&selectedPageVersions=4)

| Scope |
| --- |

..So you have got a change task to move a cluster server pair to a new IP Network. Then you have landed on the right wiki page.  
  
The procedure outlined:

1. Make a record of the Cluster Status ( hastatus -sum )
2. Make a record of all the SAN\_LUNS
3. move all cluster resource groups to node2, and freeze them persistently
4. stop cluster on node1 ( hastop -local )
5. disable autostartup of vcs on node1, make a record of all SAN Luns
6. IP Changes on node1: /etc/hosts /etc/sysconfig/network/\* /etc/VRTSvcs/conf/config/main.cf
7. halt node1, Server move to new location and subnet
8. boot node1 in new location, check ALL network interfaces, & LUNS. If there are unresolvable problems here, this is the best chance to do a fallback.
9. install updates on node1, reboot
10. unfreeze and offline all cluster resource groups on node2, and freeze them persistently
11. on node 2 stop cluster locally ( hastop -local )
12. disable autostartup of vcs on node2, make a record of all SAN Luns
13. make IP Changes in the CMDB
14. enable startup of cluster on node1
15. start cluster on node1, unfreeze resource groups
16. online resource groups on node1
17. get apps team to check the applications (maybe inform them that the DNS Sync has been started but not synced)
18. wait for DNS Changes to get synced, then check connection to resource group hostnames

if all is OK (also OK feedback from Apps Team) on node1, then we can move node 2:

1. IP Changes on node2: /etc/hosts /etc/sysconfig/network/\* /etc/VRTSvcs/conf/config/main.cf
2. halt node2, Server move to new location and subnet
3. boot node2 in new location, check ALL network interfaces, & LUNS
4. install updates on node2, reboot
5. enable cluster auto startup
6. start cluster on node2
7. switch the resource groups to the original locations, or as requested by the apps team

| Content |
| --- |

example for a few points above:

* 3) Move the Cluster Resources to Node2 and freeze them persistantly

lp01d41:/home/qxf6163 # hastatus -sum | grep lp01d41 | grep ONLINE  
B NIC lp01d41 Y N ONLINE  
B dbemilw1 lp01d41 Y N ONLINE  
B dbhiqaw1 lp01d41 Y N ONLINE  
B dboid3w1 lp01d41 Y N ONLINE  
lp01d41:/home/qxf6163 #  
lp01d41:/home/qxf6163 # hagrp -switch dbemilw1 -to lp01d42  
lp01d41:/home/qxf6163 # hagrp -switch dbhiqaw1 -to lp01d42  
lp01d41:/home/qxf6163 # hagrp -switch dboid3w1 -to lp01d42  
lp01d41:/home/qxf6163 # hastatus -sum | grep lp01d41 | grep ONLINE  
B NIC lp01d41 Y N ONLINE  
lp01d41:/home/qxf6163 # haconf -makerw  
lp01d41:/home/qxf6163 # hastatus -sum | grep ONLINE  
B NIC lp01d41 Y N ONLINE  
B NIC lp01d42 Y N ONLINE  
B dbauqaw1 lp01d42 Y N ONLINE  
B dbemilw1 lp01d42 Y N ONLINE  
B dbhiqaw1 lp01d42 Y N ONLINE  
B dbkiqaw1 lp01d42 Y N ONLINE  
B dboid3w1 lp01d42 Y N ONLINE  
lp01d41:/home/qxf6163 # hastatus -sum | grep ONLINE  
lp01d41:/home/qxf6163 # hagrp -freeze dbauqaw1 -persistent  
lp01d41:/home/qxf6163 # hagrp -freeze dbemilw1 -persistent  
lp01d41:/home/qxf6163 # hagrp -freeze dbhiqaw1 -persistent  
lp01d41:/home/qxf6163 # hagrp -freeze dbkiqaw1 -persistent  
lp01d41:/home/qxf6163 # hagrp -freeze dboid3w1 -persistent

* 4) stop cluster on node1

lp01d41:/home/qxf6163 # hastop -local  
lp01d41:/home/qxf6163 # hastatus -sum  
VCS ERROR V-16-1-10600 Cannot connect to VCS engine  
VCS WARNING V-16-1-11046 Local system not available  
lp01d41:/home/qxf6163 #

* 5) disable autostartup of vcs on node1

lp01d41:/home/qxf6163 # chkconfig vcs off  
lp01d41:/home/qxf6163 # chkconfig vxfen off  
lp01d41:/home/qxf6163 # chkconfig gab off  
lp01d41:/home/qxf6163 # chkconfig llt off

* 6) umount NFS disable in /etc/fstab

lp01d41:/home/qxf6163 # umount -a -t nfs

**If IP change=YES then Firewall Rules needs to deleted for old IP after getting confirmation from the app team,  defined CLI process can be use** → [5.13.34 Tufin CLI Commands#5.13.34TufinCLICommands-tufin\_decom\_ip](https://atc.bmwgroup.net/confluence/display/IAAS18/5.13.34+Tufin+CLI+Commands#id-5.13.34TufinCLICommands-5.13.34TufinCLICommands-tufin_decom_ip)

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| Return SAN Luns or Remove Visiblity VXVM/XEN |
| --- |
| Scope |

NOTE: This HOWTO applies only to SLES11.  
  
NOTE: Only works well with Kernel > 2.6.32.49 SEE: [LINUX Kernel Bug Remove Disks](https://atc.bmwgroup.net/confluence/display/IAAS18/LINUX+Kernel+Bug+Remove+Disks)  
  
NEVER (regardless if VxVM or md/LVM) EVER delete Diskgroup/VolumeGroup/Disks which have been migrated to and are visible on other servers outside of the Standalone-Server/Cluster/Xen-Farm)!  
(Caution: check\_rid.sh <server-name> does \*NOT\* show all servers for which the SAN is visible, check either via the Request-ID or via storm tool!!!)  
  
If you need to unconfigure LUNs from a running system and you have no chance to reboot, then follow this howto.  
First you need to identify the LUNs. ALWAYS run san\_shortinfo on ALL Nodes in the cluster for the Diskgroup/Disks concerned and copy the output into your task, so you have a copy of all disk devices to be removed on the nodes!  
  
NOTE: If you do this in a clustered environment, you need to do the steps 3-8 on the other cluster node as well. NOTE: The other cluster node dosen't have the same device names, so you MUST identify the corresponding device names using SN/LDEV (the san\_shortinfo on that server which you copied into your task above) search.

| Content |
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# **HOWTO Return LUNs without reboot**

## Veritas VxVM Linux

### scriptbased (fast way)

#### Quick procedure overview

1. check filesystem on server and search LUNs
2. umount filesystems
3. cleanup fstab
4. destroy DG
5. return luns with san\_return (lpinstbss1)
6. create storm remove order
7. add work info and provision accouting to task and close

#### Detailed Step By Step procedure

1. Locally on Server

* Check FS on server (example task: TAS000000082590) and find disks to return

sudo vxdisk list |egrep -w "dgtlsfava1bkup|dgtlsfava1db" >> tlsfava1.dgs

sudo pvinfo -i |egrep -w "sdac|sdaq|sdd|sdr|sdz" >> pvinfo\_tlsfava1.txt

sudo san\_shortinfo | grep dgtlsfava1 >> san\_shortinfo\_tlsfava1.txt

* Umount FS to return

[qx83246@ltbkdb02:~ ] $ sudo umount /global/tlsfava1/bkup

[qx83246@ltbkdb02:~ ] $ sudo umount /global/tlsfava1/db

* Cleanup fstab

Edit the /etc/fstab file and remove the corresponding line(s) from the files. Please double check every change to ensure that everything is correct.

* Destroy DG from umounted FS

[qx83246@ltbkdb02:~ ] $ sudo vxdg destroy dgtlsfava1bkup

[qx83246@ltbkdb02:~ ] $ sudo vxdg destroy dgtlsfava1db

1. On installserver

* Create a file with pvinfo -i output of return Disks

eg:

[INSTSERV][qx12345][lpinstiaas01] ~ $ cat pvinfo\_return\_tlsfava1.txt

/dev/sdaq 00 00 00 CL6-A-3 12:68 OPEN-V 00078173

/dev/sdac 00 00 00 CL6-A-3 12:66 OPEN-V\*2 00078173

/dev/sdz 00 00 00 CL6-A-3 12:64 OPEN-V\*2 00078173

/dev/sdr 00 00 00 CL6-A-3 12:62 OPEN-V\*2 00078173

/dev/sdd 00 00 00 CL6-A-3 12:5e OPEN-V\*2 00078173

* run san\_return

[INSTSERV][qx12345][lpinstiaas01] ~ $ san\_return -f 'pvinfo\_return\_tlsfava1.txt' -s ltbkdb02 -t 'TAS000000082590'

# --- For a detailed log, please see: '/global/instserv/logs/san\_return/ltbkdb02\_TAS000000082590\_2013\_08\_08\_082033.log'

# --- User 'qx83246' fired command: /global/instserv/bin/san\_return -f pvinfo\_return\_tlsfava1.txt -s ltbkdb02 -t TAS000000082590

# --- Remedy ticketnumber: TAS000000082590

# --- Displaying input file 'pvinfo\_return\_tlsfava1.txt' ...:

/dev/sdaq 00 00 00 CL6-A-3 12:68 OPEN-V 00078173

/dev/sdac 00 00 00 CL6-A-3 12:66 OPEN-V\*2 00078173

/dev/sdz 00 00 00 CL6-A-3 12:64 OPEN-V\*2 00078173

/dev/sdr 00 00 00 CL6-A-3 12:62 OPEN-V\*2 00078173

/dev/sdd 00 00 00 CL6-A-3 12:5e OPEN-V\*2 00078173

... done

ltbkdb02: # - Fetching cluster partner list ...

ltbkdb02: ... done

ltbkdb02: # - Checking SLES version ...

ltbkdb02: ... done

ltbkdb02: # - Checking Veritas version ...

ltbkdb02: ... done

ltbkdb02: # - Checking availability of needed commands ...

ltbkdb02: ... done

ltbkdb02: # - Getting 'pvinfo' data ...

ltbkdb02: ... done

ltbkdb02: # - Building LUN records ...

ltbkdb02: ... done

ltbkdb02: # - Getting 'pvinfo -i' data ...

ltbkdb02: ... done

ltbkdb02: # - Getting Veritas device information ...

ltbkdb02: ... done

ltbkdb02: # - Listing LUNs before being unconfigured ...:

ltbkdb02: ENCLR-SN CU:LDEV VxDMP PHYSICAL DEVICES (PATHS) SIZE

ltbkdb02: ======== ======= ===== ======================== ========

ltbkdb02: 78173 12:5E sdd sday,sdd 28811

ltbkdb02: 78173 12:62 sdr sdaz,sdr 28811

ltbkdb02: 78173 12:64 sdz sdba,sdz 28811

ltbkdb02: 78173 12:66 sdac sdbb,sdac 28811

ltbkdb02: 78173 12:68 sdaq sdbc,sdaq 14405

ltbkdb02: ... done

ltbkdb02: # - Starting LUN removal, for a detailed log see /global/instserv/logs/san\_return/ltbkdb02\_TAS000000082590\_2013\_08\_08\_082033.log on server lpinstbss1

ltbkdb02: # - Placing '/etc/.donotrescan' file to avoid redetection of unconfigured LUNs ...

ltbkdb02: ... done

ltbkdb02: # - Wiping LUN headers ...

ltbkdb02: \*STDERR: 65536+0 records in

65536+0 records out

33554432 bytes (34 MB) copied, 1.38688 seconds, 24.2 MB/s

ltbkdb02: \*STDERR: 65536+0 records in

65536+0 records out

33554432 bytes (34 MB) copied, 1.45351 seconds, 23.1 MB/s

ltbkdb02: \*STDERR: 65536+0 records in

65536+0 records out

33554432 bytes (34 MB) copied, 1.56597 seconds, 21.4 MB/s

ltbkdb02: \*STDERR: 65536+0 records in

65536+0 records out

33554432 bytes (34 MB) copied, 1.51793 seconds, 22.1 MB/s

ltbkdb02: \*STDERR: 65536+0 records in

65536+0 records out

33554432 bytes (34 MB) copied, 1.67007 seconds, 20.1 MB/s

ltbkdb02: ... done

ltbkdb02: # - Removing selected LUNs from Veritas control ...

ltbkdb02: ... done

ltbkdb02: # - Unconfiguring LUN paths ...

ltbkdb02: ... done

ltbkdb02: # - Verifying removal of paths ...

ltbkdb02: ... done

ltbkdb02: # - Scanning devices and refreshing VxDMP device name database ...

ltbkdb02: ... done

ltbkdb02: # - Verifying removal of VxDMP devices ...

ltbkdb02: ... done

######### 'ltbkdb02' finished ##################################################################

* open a Return Ticket on storm.muc

### manual way

1. Save the information about disks to get removed

> san\_shortinfo dgtlsfdwh8db$ | tee san\_shortinfo.<task\_number>

VM | RAW CU:LDEV PORT XP-SN SIZE | RAW CU:LDEV PORT XP-SN SIZE | DG

------|---------------------------------|---------------------------------|------

sdw | sdw 25:4C 4C 78135 57622 | sdbi 25:4C 3C 78135 57622 | dgtlsfdwh8db

sdx | sdx 25:50 4C 78135 57622 | sdbj 25:50 3C 78135 57622 | dgtlsfdwh8db

sdy | sdy 25:54 4C 78135 57622 | sdbk 25:54 3C 78135 57622 | dgtlsfdwh8db

sdz | sdz 25:58 4C 78135 57622 | sdbl 25:58 3C 78135 57622 | dgtlsfdwh8db

2. Remove them from Diskgroup using vxdg -g <diskgroup> rmdisk <dmnames>  
e.g:

vxdg -g dgtlsfdwh8db rmdisk 13\_78135\_07\_254C 13\_78135\_08\_2550 13\_78135\_09\_2554 13\_78135\_10\_2558

3. Remove the header using vxdiskunsetup <veritas device name>  
e.g:

for i in sdw sdx sdy sdz;do vxdiskunsetup $i;done

4. Offline them:  
e.g:

for i in sdw sdx sdy sdz;do vxdisk offline $i;done

5. Delete them:  
e.g:

for i in sdw sdx sdy sdz;do vxdisk rm $i;done

6. Unconfigure the sub pathes from DMP using vxdmpadm -f disable path=sdxx  
e.g:

for i in sdw sdx sdy sdz sdbi sdbj sdbk sdbl;do vxdmpadm -f disable path=$i;done

7. Unconfigure them from the OS using echo 1 > /sys/block/sdxx/device/delete  
e.g:

for i in sdw sdx sdy sdz sdbi sdbj sdbk sdbl;do echo 1 > /sys/block/$i/device/delete;done

8. Use "vxdctl enable" and "vxdisk scandisks" to completely remove them from DMP  
e.g:

vxdctl enable

vxdisk scandisks

Then check the DMP configuration, if there are NO DISABLED DMP nodes  
e.g:

vxdmpadm getsubpaths | grep DISABLED

If you find any DISABLED nodes, then you forgot either to remove them from OS Level, or to execute the above 2 commands(vxdctl enable, vxdisk scandisks)  
  
9. Use "vxddladm assign names" to recreate the missing DMP node names under /dev/vx/dsk/dmp

vxddladm assign names

10. On the Server resp on all Nodes of the Cluster create a file /etc/.donotrescan so the disks are not reconfigured before they have been removed from the system. Always add the change/task number e.g.

lp34d20:/home/qxf5649 # cat /etc/.donotrescan  
SAN Rueckgabe in Progress CRQ000000039230/TAS000000077642 geoff  
lp34d20:/home/qxf5649 #

IF there is already an entry, add the additional entry (and perhaps check if the Task has been completed and someone forgot to remove the entry)  
  
NOTE: If you do this in a clustered environment, you need to do the steps 1 and 3-8 on the other cluster node as well.  
NOTE: The other cluster node dosen't have the same device names, so you MUST identify the corresponding device names  
using SN/LDEV (the san\_shortinfo on that server which you copied into your task above) search.  
  
11. Now you can return the LUNs with StorM (http://storm.muc/). Use the saved san\_shortinfo.<task\_number> file to select the LUNs in StorM. DO NOT close the task until the STORM Ticket has been completed. When completed check the Servers, run "san\_rescan -o" and check if the disks (SN + LDEV) have been removed. If OK, remove your entry from the file /etc/.donotrescan, if the file is then empty, delete it.  
  
Done

## 2. XEN LVM

At a first step, save the information about the disks to be returned on both XEN farm nodes. Be sure to remove the disks from your output, that should be kept. Check the result - twice! This info can be used later to return the disks:

vm storage <vmname>

ls -l /dev/md/<vmname>\*

pvinfo -i | grep $(vm storage <vmname> | awk 'NR>2 {print "-e " substr($3,1,2) ":" substr($3,3) ".\*" $2 "$"}') | tee pvinfo.<taskno>

The second step is to gather information about multipath devices:

multipath -ll | grep $(vm storage <vmname> | awk '/dm-/ {print "-e " $5}') | tee multipath.<taskno>

* On DomU:

umount <LV(s)>  
cleanup fstab  
vgchange -a n /dev/<VG>  
lvremove <LV(s)>  
vgremove -f<VG>  
pvremove /dev/DEV (you get from vm info VM)

* On Dom0s

Before mulipath handling below first remove disk abstractions:  
vm rmdisk <vmname> /dev/DEV  
  
Step-by-Step:

#In case you are unsure, which devices belong together

mdadm --query --detail /dev/md4

#Remove old disks from configuration

mdadm --fail /dev/md4 /dev/dm-30

mdadm --fail /dev/md4 /dev/dm-24

mdadm --remove /dev/md4 /dev/dm-30

mdadm --remove /dev/md4 /dev/dm-24

#Clear Superblock to prepare return ticket

mdadm --zero-superblock /dev/dm-30

mdadm --zero-superblock /dev/dm-24

#Show infos of raw devices

#(this information is also available in pvinfo.<taskno>)

lpxens30:/home/qqlinux # san\_shortinfo | grep -w -e dm-30 -e dm-24

dm-30 | sdk 29:56 3A 29755 57622 | sdae 29:56 4A 29755 57622 |

dm-24 | sdb 2B:BC 3A 45312 57622 | sdv 2B:BC 4A 45312 57622 |

#Delete Device from Multipathing

dmsetup remove ST29755-59-2956

dmsetup remove ST45312-59-2bbc

#Delete Device on OS Level

echo 1 > /sys/block/sdk/device/delete

echo 1 > /sys/block/sdae/device/delete

echo 1 > /sys/block/sdb/device/delete

echo 1 > /sys/block/sdv/device/delete

# **HOWTO Remove Visibility LUNs without reboot (does not remove DATA)**

## Veritas VxVM Linux

### scriptbased (fast way)

1. Locally on Server

* Check FS on Server (example Task: TAS000000082590) and find Disks to return

sudo vxdisk -o alldgs list |egrep "dgtlsfava1bkup|dgtlsfava1db" >> tlsfava1.dgs

sudo pvinfo -i |egrep -w "sdac|sdaq|sdd|sdr|sdz" >> pvinfo\_tlsfava1.txt

sudo san\_shortinfo | grep dgtlsfava1 >> san\_shortinfo\_tlsfava1.txt

* Verify that DGS and FS not active on Server

If you should only remove visibilty on Server it is important that the affected DG is not imported on requested Server/s!  
vxdisk -o alldgs list must show the DG in "()", please be carefully on Cluster Systems, if it is requested to remove visibility of a full Cluster, both nodes must be checked for the inactive DG!  
e.g.  
sdv auto:cdsdisk - (dgTEST) online thinrclm

1. On installserver

* Create a file with pvinfo -s output of return Disks

eg:

[INSTSERV][qx12345][lpinstiaas01] ~ $ cat pvinfo\_return\_tlsfava1.txt

/dev/sdaq 00 00 00 CL6-A-3 12:68 OPEN-V 00078173

/dev/sdac 00 00 00 CL6-A-3 12:66 OPEN-V\*2 00078173

/dev/sdz 00 00 00 CL6-A-3 12:64 OPEN-V\*2 00078173

/dev/sdr 00 00 00 CL6-A-3 12:62 OPEN-V\*2 00078173

/dev/sdd 00 00 00 CL6-A-3 12:5e OPEN-V\*2 00078173

* run san\_return

[INSTSERV][qx12345][lpinstiaas01] ~ $ san\_return \_\_-m\_\_ -f 'pvinfo\_return\_tlsfava1.txt' -s ltbkdb02 -t 'TAS000000082590'

# --- For a detailed log, please see: '/global/instserv/logs/san\_return/ltbkdb02\_TAS000000082590\_2013\_08\_08\_082033.log'

# --- User 'qx83246' fired command: /global/instserv/bin/san\_return -f pvinfo\_return\_tlsfava1.txt -s ltbkdb02 -t TAS000000082590

# --- Remedy ticketnumber: TAS000000082590

# --- Displaying input file 'pvinfo\_return\_tlsfava1.txt' ...:

/dev/sdaq 00 00 00 CL6-A-3 12:68 OPEN-V 00078173

/dev/sdac 00 00 00 CL6-A-3 12:66 OPEN-V\*2 00078173

/dev/sdz 00 00 00 CL6-A-3 12:64 OPEN-V\*2 00078173

/dev/sdr 00 00 00 CL6-A-3 12:62 OPEN-V\*2 00078173

/dev/sdd 00 00 00 CL6-A-3 12:5e OPEN-V\*2 00078173

* open a Remove Visibilty Ticket on storm.muc

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## ****(for standalone hosts only not for clusters!)****

## Beispiel Bestellung:

FS-extension for libkdbsf3.bmwgroup.net

Create a new mount point temporarily

Server: libkdbsf1.bmwgroup.net

Mount point: /TEMP\_SAN/db\_temp

extend by +300GB

APP-ID: APP-103027

## 1.) San bestellen

### 1.a.) san\_rescan -o

## 2.)Configure\_veritas

### 2.a) Get San information

Bsp. San Bestellung:

131036

Assigned LUNs

OrderPosID     Array Name     Array Serial   LDEV   LUN Size [GB]   Secured Server Assign Date     Remove Date

131037 MS09ST900B     78135   00:17:29       112.544 libkdbsf3       12.12.2013     -

131037 MS09ST900B     78135   00:21:BE       112.544 libkdbsf3       12.12.2013     -

131037 MS09ST900B     78135   00:21:C6       112.544 libkdbsf3       12.12.2013     -

check\_rid auf Installserver auf OrderPosID

[INSTSERV][qx12345][lpinstiaas01] ~ $ check\_rid.sh 131037

arrayName       serno   luse   capacity       requestId       storageClass   secured\_server assignDate

MS09ST900B     78135   00:17:29       115245 000131037       C2\_GS   LIBKDBSF3       2013-12-12 00:00:00

MS09ST900B     78135   00:21:BE       115245 000131037       C2\_GS   LIBKDBSF3       2013-12-12 00:00:00

MS09ST900B     78135   00:21:C6       115245 000131037       C2\_GS   LIBKDBSF3       2013-12-12 00:00:00

### 2.b) Configure\_veritas anpassen und installieren

auf Install Server:

cd /global/instserv/data/CONFIGURE\_VERITAS/INSTALL\_TEMPLATES/

cp inst\_oracle.standalone ../libkdbsf3.inst\_oracle.standalone

cd ../

cat libkdbsf3.inst\_oracle.standalone

#########################################################################

#

# With vi replace with %s/(old)/(new)/g

#

# REPLACE (host1) with the physical IP-Name of the first node e.g. lttxtdb01

# REPLACE (pkgname) with the virtual IP-Name e.g. itfqdb00

#

# !! DO NOT CONFIGURE SMALLER THAN DEFAULT VALUES WITHOUT AN OK FROM FG-941 !!!

#

#########################################################################

HOST libkdbsf3

#########################################################################

# Disk group section 1

# DG DB

dg dgdbtemptmp

# Disks:

# LDEV SN STORAGE\_TYPE

# e.g.: for B2 Mirrored

# 10:30 28275 B2\_GS

# 10:58 28270 B2\_GS

# or for Class C2 Unmirrored

# 10:31 28275 C2\_GS

17:29 78135 C2\_GS

21:BE 78135 C2\_GS

21:C6 78135 C2\_GS

lv lvtmp max

fs lvtmp 8192

mnt lvtmp /global/dbtemp/tmp owner=oracle:dba chmod=770 opts=mincache=direct,convosync=direct

Da dieses Wiki kein BUNT in CODE supportet, hier ein Diff:

diff libkdbsf3.inst\_oracle.standalone INSTALL\_TEMPLATES/inst\_oracle.standalone

12c12

< HOST libkdbsf3

---

> HOST (host1)

17c17

< dg dgdbtemptmp

---

> dg dg(pkgname)db

26,32c26,42

< 17:29 78135 C2\_GS

< 21:BE 78135 C2\_GS

< 21:C6 78135 C2\_GS

<

< lv lvtmp max

< fs lvtmp 8192

< mnt lvtmp /global/dbtemp/tmp owner=oracle:dba chmod=770 opts=mincache=direct,convosync=direct

---

>

> lv lvdb max

> fs lvdb 8192

> mnt lvdb /global/(pkgname)/db owner=oracle:dba chmod=770 opts=mincache=direct,convosync=direct

Installation:

[INSTSERV][qx12345][lpinstiaas01] /global/instserv/data/CONFIGURE\_VERITAS $ configure\_veritas.sh libkdbsf3.inst\_oracle.standalone

\_ \_ \_\_\_\_ \_\_\_\_ \_ \_\_\_ \_\_\_\_ \_\_\_\_ \_ \_ \_\_\_\_ \_ \_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_

| | |\_\_\_ |\_\_/ | | |\_\_| [\_\_ |\/| |\_\_| |\ | |\_\_| | \_\_ |\_\_\_ |\_\_/

\/ |\_\_\_ | \ | | | | \_\_\_] | | | | | \| | | |\_\_] |\_\_\_ | \

Processing file 'libkdbsf3.inst\_oracle.standalone'

-> Checking File validity [OK] file exist: libkdbsf3.inst\_oracle.standalone

-> Looking for RequestID markers [OK] none found

-> Fetching Hostlist(s) [OK] working on libkdbsf3

-> Testing Hosts [OK] root access verified

-> Fetching ServiceGroup [WARN] no 'sg'-line found

-> Fetching module for Apps [WARN] no apps in template

Running remote sanity check

-> Copy template to remote host 'libkdbsf3' [OK] copied

-> Running sanity check on 'libkdbsf3'

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Sanity check [OK] success

-> Setting Downtime for SAN Mirror Service [OK] set

-> Setting Downtime for VXVM Service [OK] set

Starting remote vxctl call

-> Initiating vxctl on libkdbsf3

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

Exec: /opt/VRTS/bin/vxdisksetup -i sdbu

Exec: /opt/VRTS/bin/vxdisksetup -i sdbt

Exec: /opt/VRTS/bin/vxdisksetup -i sdbv

Exec: /sbin/vxdg init dgdbtemptmp 13\_78135\_01\_21be=sdbu 13\_78135\_02\_1729=sdbt 13\_78135\_03\_21c6=sdbv

Exec: /usr/sbin/vxassist -g dgdbtemptmp make lvtmp 345470m

Exec: /sbin/vxedit -g dgdbtemptmp rename lvtmp-01 lvtmp-78135

Exec: /sbin/mkfs.vxfs -o bsize=8192 /dev/vx/dsk/dgdbtemptmp/lvtmp 2>&1 >/dev/null

Exec: /bin/mount -t vxfs -o mincache=direct,convosync=direct /dev/vx/dsk/dgdbtemptmp/lvtmp /global/dbtemp/tmp

Exec: /bin/chown oracle:dba /global/dbtemp/tmp

Exec: /bin/chmod 770 /global/dbtemp/tmp

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Evaluating remote script return code [OK] creation ok

cleanup...

1: 0 [INSTSERV][qx12345][lpinstiaas01] /global/instserv/data/CONFIGURE\_VERITAS $

## Ergebnis überprüfen

13.Dec 15:45 libkdbsf3:~

root ;# df -h /global/dbtemp/tmp

Filesystem Size Used Avail Use% Mounted on

/dev/vx/dsk/dgdbtemptmp/lvtmp

338G 76M 335G 1% /global/dbtemp/tmp

13.Dec 15:45 libkdbsf3:~

root ;# ls -sald /global/dbtemp/tmp

0 drwxrwx--- 3 oracle dba 96 2013-12-13 15:42 /global/dbtemp/tmp

13.Dec 15:45 libkdbsf3:~

Last edited by Liebl Markus, (Markus.Liebl@partner.bmw.de) , based on work by Maier Simon, (Simon.SM.Maier@partner.bmwgroup.com) , [qxj5457](https://bsswiki.muc/tiki-user_information.php?userId=-1) , Linden Sylvia, (Sylvia.LA.Linden@partner.bmw.de) and [system](https://bsswiki.muc/tiki-user_information.php?userId=-1) .  
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* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [08 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=547156330&selectedPageVersions=1&selectedPageVersions=2)

# **How to change volume type "gen" to "fsgen"**

* + There might be situations where one has to convert a volume from gen type to fsgen type. Before going any further on the topic lets see what really fsgen and gen mean.
  + fsgen assumes that the volume contains a filesystem while gen assumes there is no filesystem.
  + fsgen and gen volume types provide similar but not identical semantics for operations using the vxplex utility. In particular fsgen usage type attempts to flush in-memory data cached for the filesystem residing on the volume. For most file systems this is the calling of sync to attempt to flush all in-memory data to disk.
  + **vxassist uses fsgen as the default type, where as vxmake uses gen as the default type.**
  + Conversion of volume from one usage type to other cannot be done on the fly, **it requires a volume downtime**.
  + Lets take a look at this output:

# vxprint -htqg testdg

dg testdg default default 29000 1317375679.75.ltita03

dm disk1 sdh auto 65536 117819168 -

dm disk2 sdi auto 65536 117819168 -

v vol1 - ENABLED ACTIVE 235638336 ROUND - gen

pl pl1 vol1 ENABLED ACTIVE 235638336 CONCAT - RW

sd sd1 pl1 disk1 0 117819168 0 sdh ENA

sd sd2 pl1 disk2 0 117819168 117819168 sdi ENA

* As you can see from the output, we have a gen volume named vol1, we now need to convert this vol1 from gen to fsgen type.
* These are the steps that needs to be followed:

1. Save the volume layout (we will need this later):

vxprint -g testdg -rhmvps vol1 > vol1.vxout

1. Open the file vol1.vxout using your favorite editor and change the **use\_type** field **only** from gen to fsgen.
2. Save the file. Make sure you edit the use\_type field ***alone***!
3. Umount the filesystem:

umount /global/testdg/vol1

1. Stop the volume:

vxvol -g testdg stop vol1

1. Remove the volume:

vxedit -g testdg -rf rm vol1

1. Using vxmake rebuild the volume from the saved file:

vxmake -g testdg -d vol1.vxout

1. Check the vxprint output:

vxprint -htqg testdg

Check for the usage type; it should be now: **fsgen**

1. Start the volume:

vxvol -g testdg start vol1

1. Do a fsck for the volume:

fsck.vxfs -y /dev/vx/dsk/testdg/vol1

1. Mount the filesystem:

mount /global/testdg/vol1

You are ready to perform I/O for the filesystem...  
  
Source: <http://krishgyan.wordpress.com/2008/08/14/converting-a-volume-from-gen-to-fsgen/>

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified by [VijayKumarReddy Ayyaluri (ext.)](https://atc.bmwgroup.net/confluence/display/~qxy7563" \o ") on [29 Nov 2022](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=521125891&selectedPageVersions=3&selectedPageVersions=4)

| Grow Filesystem: Extend an existing VxVM Filesystem |
| --- |

### PRE CHECKS

* ALWAYS install the latest version of BMW-SW-santools on the Target Server or both Cluster Nodes
* ALWAYS do a full check and look for any Special (C)onfig regarding SAN LUN's or Disk Layouts
* ALWAYS check if the existing Disk Group system has free space (possibly enough for the extension w/out a SAN Order) (e.g. with vxassist & maxsize or growto options)
* ALWAYS check which size disks are in the existing Disk Group => When possible, always order the same size disk as in use in the Disk Group, EVEN if this means ordering more MB/GBs than requested, e.g. if a DiskGroup has 112G disks and an order for a 56G extension has been requested, you should order a 112G and extend it to "max".

e.g.: "extend the file system for /global/dbemilw1/db on lp01d41 by 56 G"

**example**

root@lp01d41:~# df -hP /global/dbemilw1/db

Filesystem Size Used Avail Use% Mounted on

/dev/vx/dsk/dgdbemilw1db/lvdb 85G 79G 5.3G 94% /global/dbemilw1/db

root@lp01d41:~# cat /etc/llthosts

0 lp01d41

1 lp01d42

root@lp01d41:~#

root@lp01d41:~# vxassist -g dgdbemilw1db maxsize

VxVM vxassist ERROR V-5-1-15809 No free space remaining in diskgroup dgdbemilw1db with given constraints

root@lp01d41:~# san\_shortinfo | egrep XP\|dgdbemilw1db

VM | RAW CU:LDEV PORT XP-SN SIZE | RAW CU:LDEV PORT XP-SN SIZE | DG

sdbg | sdbg 11:5B 1B 35787 28811 | sdes 11:5B 2B 35787 28811 | dgdbemilw1db

sdbi | sdbi 11:5D 1B 35787 28811 | sdet 11:5D 2B 35787 28811 | dgdbemilw1db

sdbj | sdbj 11:5F 1B 35787 28811 | sdeu 11:5F 2B 35787 28811 | dgdbemilw1db

sdn | sdcz 11:5B 2B 35770 28811 | sdn 11:5B 1B 35770 28811 | dgdbemilw1db

sdo | sdda 11:5D 2B 35770 28811 | sdo 11:5D 1B 35770 28811 | dgdbemilw1db

sdp | sddb 11:5F 2B 35770 28811 | sdp 11:5F 1B 35770 28811 | dgdbemilw1db

root@lp01d41:~#

root@lpinstbss1:~# check\_rid.sh lp01d41 | egrep 11:5B\|11:5D\|11:5F

MS18ST850N 35770 00:11:5B 28811 000095412 B2\_GS LP01D41 2012-05-29 14:28:20

MS18ST850N 35770 00:11:5D 28811 000095412 B2\_GS LP01D41 2012-05-29 14:28:20

MS18ST850N 35770 00:11:5F 28811 000095412 B2\_GS LP01D41 2012-05-29 14:28:20

MS17ST850A 35787 00:11:5F 28811 000095412 B2\_GS LP01D41 2012-05-29 14:28:20

MS17ST850A 35787 00:11:5B 28811 000095412 B2\_GS LP01D41 2012-05-29 14:28:20

MS17ST850A 35787 00:11:5D 28811 000095412 B2\_GS LP01D41 2012-05-29 14:28:20

root@lpinstbss1:~#

root@lpinstbss1:~# check\_rid.sh 95412 | egrep 11:5B\|11:5D\|11:5F

MS18ST850N 35770 00:11:5B 28811 000095412 B2\_GS LP01D41,LP01D42 2012-05-29 14:28:20

MS18ST850N 35770 00:11:5D 28811 000095412 B2\_GS LP01D41,LP01D42 2012-05-29 14:28:20

MS18ST850N 35770 00:11:5F 28811 000095412 B2\_GS LP01D41,LP01D42 2012-05-29 14:28:20

MS17ST850A 35787 00:11:5F 28811 000095412 B2\_GS LP01D41,LP01D42 2012-05-29 14:28:20

MS17ST850A 35787 00:11:5B 28811 000095412 B2\_GS LP01D41,LP01D42 2012-05-29 14:28:20

MS17ST850A 35787 00:11:5D 28811 000095412 B2\_GS LP01D41,LP01D42 2012-05-29 14:28:20

root@lpinstbss1:~#

-> two 28 GB B1\_GS3 LUN's need to be ordered

### Storm Order

If the DiskGroup did not have enough free space e.g. checked with "vxassist -g <dg-name> maxgrow <lv-name>", (remember the maxsize result is for raw diskspace, so for B-Class SAN divide by 2) then you have to order disks in prepriation for the task via the SOD "storm.muc".  
  
The SAN disks should be or have been ordered with **one Request ID per DiskGroup**.

### Steps

#### 1) Set Downtimes:

**More than 1TB:** Set downtimes manually (1h per TerraByte) for following Nagios services:

* os\_linux\_fs\_check\_vxvm
* os\_linux\_fs\_check\_san\_mirror

**Less than 1TB:**

* configure\_veritas.sh is taking care about downtimes

#### 2) Copy Template

Copy the appropriate "configure\_veritas" TEMPLATE (standalone or cluster) to:  
/global/instserv/data/CONFIGURE\_VERITAS/\_grow\_.all

**example**

[INSTSERV][qx12345][lpinstiaas01] /global/instserv/data/CONFIGURE\_VERITAS $ cp GROW\_ADD\_TEMPLATES/template\_grow\_TAS0000000.all pldb882\_grow\_TAS000000133837.all

#### 3) Edit Template

Replace the necessary Variables as described in the header of the template.

##### PackageName

The (package\_name) variable is not used in these templates, since existing DG/Mountpoint name may not match the BMW Standard, and need to be entered appropriately.

##### Host

FOR CLUSTERS, Replace (host1) with the name of the Node on which the Resource Group is active!!  
Do execute "san\_rescan -o" on all cluster nodes BEFORE running configure\_veritas.sh

##### DG Name

Replace the "(dgname)" on the dg line with the name of the DiskGroup with the LVol to be extended.

##### Additional Disks

If you have additional disks for the extension, you add the Request-ID on the line below the "dg" Diskgroup  
line. e.g.  
@000102963  
  
- If you have incorrectly requested SAN for multiple DGs per Request-ID, you will then need to add the new devices manual  
ly.  
- NEVER EVER use "seemingly spare" unconfigured disks not explicitly ordered in the Request-ID for the extension!  
I connot emphisize this enough, such "spare" SAN disks may be in the process of being returned, may belong to a different  
and not yet completed extension on the same server etc. I have seen more than once, data loss due to returned disks bein  
g removed from a running DiskGroup due to incorrect disks added to a DG! You may also ruin someone elses task by using di  
sks they ordered for a different extension. If it was Temp Storage or the incorrect Storage Class you get to create a new  
change to migrate the incorrect SAN to new disks. ONLY use SAN disks specifically ordered for the extension task.  
- Check the Request-ID with "check\_rid.sh <Request-ID>" for the LDEV/SNs/Type  
- Add the devices to the DG Configuration  
# LDEV SN TYPE  
10:5C 28270 B1\_GS3  
10:59 28275 B1\_GS3

##### lv & mnt

Complete the "lv" and "mnt" lines with the values  
lv <lvolname> <size to grow to>  
If you have a Diskgroup with only one Logical Volume, you may use "max", otherwise add the  
size in Megabytes e.g. 1024M or Gigabytes e.g. 1G  
e.g.  
lv lvdb max  
or  
lv lvdb 1013G  
  
  
mnt <lvolname> <mount\_path>  
e.g.  
mnt lvdb /global/plgrss01/db

#### 4) run configure\_veritas.sh

Then run the "configure\_veritas.sh" with the template you created  
  
IF YOU GET AN ERROR DUE TO A VALID DISK GROUP HEADER:  
  
This could be due to a disk, which was returned with out being removed correctly OR the SAN team made a mistake and gave you the wrong disk.

Scanning for disks, please wait...success!  
Sanity checking LUNs...  
ERROR: LDEV 11e5 on array serial 78454 is already assigned to disk group (dgtdpwplusdb), aborting

Check if the LUN 11:E5 SN: 78454 is really active in the "dgtdpwplusdb". The DG Name lets you know, where this disk group was OR is active dg(virtuellip-name)db. Login to the tdpwplus and with:

ssh tdpwplus  
sudo san\_shortinfo | egrep 11:E5 | egrep 78454

make sure that this disk is not visible on that server.  
  
a) If the disk is active STOP! DO NOT USE THIS DISK AND CONTACT THE SAN TEAM!  
b) If the disk is NOT active, then clean the header fromn the disk with "vxdiskunsetup <sdname>" . You will need to find the <sdname> for the disk:

san\_shortinfo | egrep "11:E5" | egrep 78454  
sdacp | sdacp 11:E5 3A 78454 14405 | sdadv 11:E5 4A 78454 14405 | dgtdpwplusdb  
  
vxdiskunsetup sdacp  
  
IF you get a an ERROR V-5-2-41 sdacp: Disk is tagged as imported on host li02d02  
The you wil lhave to use the "-C" option \*BE VERY SURE THAT YOUR CHECK ABOVE WAS CORRECT\*  
  
vxdiskunsetup -C sdacp

On Clustersystems run again a "san\_rescan -o" on passive node after successfully disk extension with configure\_veritas.sh .

#### 5) Check Results

Check the results on the server. Size, VxVm config for errors etc.  
e.g.  
vxprint -htg <disk\_group> | egrep DET\|DISAB\|FAIL\|NODEV\|RECOV\|NEEDSYNC

#### 6) Nagios Mirror Check

Run the NAGIOS mirror check (unless Class-C) \*AS QQNAGIO\* \*NEVER AS ROOT\*  
(many of the nagios check script create temp files, which are deleted at the next run, if they belong to  
root, the check will fail and cause HiPrio SMS tickets)  
su - qqnagio  
/lfs/opt/nagios/prod/local/lib/nagios/plugins/check\_san\_mirror

#### 7) All OK: remove downtime

When everthing ok, then remove downtime for the VxVM Nagios monitors

#### 8) Document Ticket

Make sure everything is documented in the task (e.g. Cut&Paste of the configure\_veritas.sh output and a df -hP <mountpoint>)

### Errors and Workaround :

**Problem #1** : When configure\_veritas script failed to extend the Filesystem

|  |
| --- |
| 14:16:40 Growing volume lvbkup in diskgroup dgdbrrsl10bkup to size  +115193M                                                                 VxVM vxassist ERROR V-5-1-436 Cannot allocate space to grow volume to 353828864 blocks  FAILED  14:16:40 Command failed: No output printed |

When Configure\_veritas script is unable to extend the filesystem, do follow below steps to extend the Filestem

* Login to the server
* check the size of mountpoint [ as requested in Task ]
* try executing below commands to resize the filesystem manually ,
* Example :

|  |
| --- |
| lp10db002:~ # df -hT | grep -i dgdbrrsl10bkup  /dev/vx/dsk/dgdbrrsl10bkup/lvbkup            vxfs       57G   12G   45G  21% /global/dbrrsl10/bkup  lp10db002:~ #    # Know the maximum value to extend  lp10db002:~ # vxassist -g dgdbrrsl10bkup maxgrow lvbkup  Volume lvbkup can be extended by 235964416 to: 353878016 (172792Mb)    # Resize the Filesystem to maximum available  lp10db002:~ # vxresize -g  dgdbrrsl10bkup lvbkup 172792M    # postcheck  lp10db002:~ # df -hT | grep -i dgdbrrsl10bkup  /dev/vx/dsk/dgdbrrsl10bkup/lvbkup            vxfs      169G   13G  156G   8% /global/dbrrsl10/bkup  lp10db002:~ # |

* Note : the DG name / LV name /Size of the disk values may vary , make sure you have entered the values correct

### Example: Cluster

### Example Single Server C-Storage

##### **Task Contents**

Please add 5 TB of storage to JRS - ltjrs02.bmwgroup.net

Please allocate it accross the following:

/oracle/JRS/sapdata1 - 3.3 T + 1.25 TB

/oracle/JRS/sapdata2 - 3.3 T + 1.25 TB

/oracle/JRS/sapdata3 - 3.3 T + 1.25 TB

/oracle/JRS/sapdata4 - 3.3 T + 1.25 TB

##### Check Free Space

ltjrs02:/home/qxf6163 # df -hP /oracle/JRS/sapdata\* | sort -r | uniq

Filesystem           Size Used Avail Use% Mounted on

/dev/vx/dsk/dgtjrscs20cs01/lvsapdata4 3.3T 2.7T 512G 85% /oracle/JRS/sapdata4

/dev/vx/dsk/dgtjrscs20cs01/lvsapdata3 3.3T 2.6T 641G 81% /oracle/JRS/sapdata3

/dev/vx/dsk/dgtjrscs20cs01/lvsapdata2 3.3T 2.8T 505G 85% /oracle/JRS/sapdata2

/dev/vx/dsk/dgtjrscs20cs01/lvsapdata1 3.3T 2.7T 514G 85% /oracle/JRS/sapdata1

ltjrs02:/home/qxf6163 # vxassist -g dgtjrscs20cs01 maxgrow lvsapdata1

Volume lvsapdata1 can be extended by 995518464 to: 7869765840 (3842659Mb+208 sectors)

##### Prepare Storm Order

ltjrs02:/home/qxf6163 # san\_shortinfo | grep dgtjrscs20cs01

sdaa | sdaa 26:27 8A 78061 518602 | sdbc 26:27 7A 78061 518602 | dgtjrscs20cs01

sdac | sdac 26:00 8A 78061 518602 | sdbd 26:00 7A 78061 518602 | dgtjrscs20cs01

sdaf | sdaf 26:6F 8A 78061 518602 | sdbe 26:6F 7A 78061 518602 | dgtjrscs20cs01

sdak | sdak 11:44 8A 28061 518602 | sdbf 11:44 7A 28061 518602 | dgtjrscs20cs01

sdam | sdam 29:F0 8A 28061 518602 | sdbg 29:F0 7A 28061 518602 | dgtjrscs20cs01

sdao | sdao 2A:14 8A 28061 518602 | sdbh 2A:14 7A 28061 518602 | dgtjrscs20cs01

sdaq | sdaq 2A:38 8A 28061 518602 | sdbi 2A:38 7A 28061 518602 | dgtjrscs20cs01

sdat | sdat 2A:5C 8A 28061 518602 | sdbj 2A:5C 7A 28061 518602 | dgtjrscs20cs01

sdau | sdau 2A:80 8A 28061 518602 | sdbk 2A:80 7A 28061 518602 | dgtjrscs20cs01

sdb | sdb 20:B6 8A 78061 518602 | sdt 20:B6 7A 78061 518602 | dgtjrscs20cs01

sdbl | sdbl 15:4B 8A 78061 518602 | sdbo 15:4B 7A 78061 518602 | dgtjrscs20cs01

sdbm | sdbm 24:24 8A 78061 518602 | sdbp 24:24 7A 78061 518602 | dgtjrscs20cs01

...

[INSTSERV][qx12345][lpinstiaas01] ~ $ check\_rid.sh ltjrs02| grep 78061 | egrep -i -e '26:27|26:00|20:B6'

MS08ST900D 78061 00:26:27 518602 000091535 C2\_GS LTJRS02 2012-01-20 12:16:51

MS08ST900D 78061 00:26:00 518602 000091535 C2\_GS LTJRS02 2012-01-20 12:16:51

MS08ST900D 78061 00:20:B6 518602 000091592 C2\_GS LTJRS02 2012-01-23 00:00:00

Looking at vxprint on the DG we see that the Volumes have NO Datacenter Mirrored LUNS:

ltjrs02:/home/qxf6163 # vxprint -g dgtjrscs20cs01

TY NAME ASSOC KSTATE LENGTH PLOFFS STATE TUTIL0 PUTIL0

dg dgtjrscs20cs01 dgtjrscs20cs01 - - - - - -

dm 18\_78061\_01\_1862 sdp - 1061911024 - - - -

dm 18\_78061\_02\_148F sdn - 1061911024 - - - -

dm 18\_78061\_03\_1A64 sdv - 1061911024 - - - -

dm 18\_78061\_04\_2627 sdaa - 1061911024 - - - -

dm 18\_78061\_05\_2693 sdw - 1061911024 - - - -

dm 18\_78061\_06\_1886 sdq - 1061911024 - - - -

dm 18\_78061\_07\_14DF sdo - 1061911024 - - - -

dm 18\_78061\_08\_2600 sdac - 1061911024 - - - -

dm 18\_78061\_09\_266F sdaf - 1061911024 - - - -

dm 18\_78061\_10\_26B7 sdx - 1061911024 - - - -

dm 18\_78061\_11\_18AA sdr - 1061911024 - - - -

dm 18\_78061\_12\_1A3C sds - 1061911024 - - - -

dm 18\_78061\_13\_2601 sdz - 1061911024 - - - -

dm 18\_78061\_14\_1337 sdm - 1061911024 - - - -

dm 18\_78061\_15\_20B6 sdb - 1061911024 - - - -

dm 18\_78061\_16\_16B5 sdc - 1061911024 - - - -

dm 18\_78061\_17\_16D9 sdd - 1061911024 - - - -

dm 18\_78061\_18\_1F07 sde - 1061911024 - - - -

dm 18\_78061\_19\_2B14 sdf - 1061911024 - - - -

dm 18\_78061\_20\_2B38 sdg - 1061911024 - - - -

dm 18\_78061\_21\_2B5C sdh - 1061911024 - - - -

dm 18\_78061\_22\_2B82 sdi - 1061911024 - - - -

dm 18\_78061\_23\_2BA6 sdj - 1061911024 - - - -

dm 18\_78061\_24\_2BCA sdk - 1061911024 - - - -

dm 18\_78061\_25\_2BEE sdl - 1061911024 - - - -

dm 18\_78061\_26\_154B sdbl - 1061911024 - - - -

dm 18\_78061\_27\_2424 sdbm - 1061911024 - - - -

dm 18\_78061\_28\_1606 sdbr - 1061911024 - - - -

dm 19\_28061\_01\_29F0 sdam - 1061911024 - - - -

dm 19\_28061\_02\_2A14 sdao - 1061911024 - - - -

dm 19\_28061\_03\_2A38 sdaq - 1061911024 - - - -

dm 19\_28061\_04\_2A5C sdat - 1061911024 - - - -

dm 19\_28061\_05\_2A80 sdau - 1061911024 - - - -

dm 19\_28061\_06\_1144 sdak - 1061911024 - - - -

dm 19\_28061\_07\_14A9 sdbn - 1061911024 - - - -

v lvJRS fsgen ENABLED 314572800 - ACTIVE - -

pl lvJRS-01 lvJRS ENABLED 314572800 - ACTIVE - -

sd 18\_78061\_14\_1337-01 lvJRS-01 ENABLED 140887840 0 - - -

sd 18\_78061\_26\_154B-05 lvJRS-01 ENABLED 134969840 140887840 - - -

sd 18\_78061\_27\_2424-05 lvJRS-01 ENABLED 38715120 275857680 - - -

v lvRMANBackup fsgen ENABLED 16777216 - ACTIVE - -

pl lvRMANBackup-01 lvRMANBackup ENABLED 16777216 - ACTIVE - -

sd 18\_78061\_02\_148F-01 lvRMANBackup-01 ENABLED 16777216 0 - - -

v lvarchlink fsgen ENABLED 524288 - ACTIVE - -

pl lvarchlink-01 lvarchlink ENABLED 524288 - ACTIVE - -

sd 18\_78061\_07\_14DF-01 lvarchlink-01 ENABLED 524288 0 - - -

v lvbkup fsgen ENABLED 7433377168 - ACTIVE - -

pl lvbkup-01 lvbkup ENABLED 7433377168 - ACTIVE - -

sd 19\_28061\_01\_29F0-01 lvbkup-01 ENABLED 1061911024 0 - - -

sd 19\_28061\_02\_2A14-01 lvbkup-01 ENABLED 1061911024 1061911024 - - -

sd 19\_28061\_03\_2A38-01 lvbkup-01 ENABLED 1061911024 2123822048 - - -

sd 19\_28061\_04\_2A5C-01 lvbkup-01 ENABLED 1061911024 3185733072 - - -

sd 19\_28061\_05\_2A80-01 lvbkup-01 ENABLED 1061911024 4247644096 - - -

sd 19\_28061\_06\_1144-01 lvbkup-01 ENABLED 1061911024 5309555120 - - -

sd 19\_28061\_07\_14A9-01 lvbkup-01 ENABLED 1061911024 6371466144 - - -

v lvcd fsgen ENABLED 524288 - ACTIVE - -

pl lvcd-01 lvcd ENABLED 524288 - ACTIVE - -

sd 18\_78061\_01\_1862-01 lvcd-01 ENABLED 524288 0 - - -

v lvhome fsgen ENABLED 4194304 - ACTIVE - -

pl lvhome-01 lvhome ENABLED 4194304 - ACTIVE - -

sd 18\_78061\_06\_1886-01 lvhome-01 ENABLED 4194304 0 - - -

v lvkwom fsgen ENABLED 1048576 - ACTIVE - -

pl lvkwom-01 lvkwom ENABLED 1048576 - ACTIVE - -

sd 18\_78061\_11\_18AA-01 lvkwom-01 ENABLED 1048576 0 - - -

v lvmirrlogA fsgen ENABLED 100663296 - ACTIVE - -

pl lvmirrlogA-01 lvmirrlogA ENABLED 100663296 - ACTIVE - -

sd 18\_78061\_12\_1A3C-01 lvmirrlogA-01 ENABLED 7168000 0 - - -

sd 18\_78061\_12\_1A3C-03 lvmirrlogA-01 ENABLED 3641440 7168000 - - -

sd 18\_78061\_27\_2424-06 lvmirrlogA-01 ENABLED 20971520 10809440 - - -

sd 18\_78061\_27\_2424-10 lvmirrlogA-01 ENABLED 12368640 31780960 - - -

sd 18\_78061\_26\_154B-01 lvmirrlogA-01 ENABLED 20747424 44149600 - - -

sd 18\_78061\_12\_1A3C-06 lvmirrlogA-01 ENABLED 3690560 64897024 - - -

sd 18\_78061\_12\_1A3C-07 lvmirrlogA-01 ENABLED 2259552 68587584 - - -

sd 18\_78061\_26\_154B-06 lvmirrlogA-01 ENABLED 23292768 70847136 - - -

sd 18\_78061\_28\_1606-01 lvmirrlogA-01 ENABLED 6523392 94139904 - - -

v lvmirrlogB fsgen ENABLED 100663296 - ACTIVE - -

pl lvmirrlogB-01 lvmirrlogB ENABLED 100663296 - ACTIVE - -

sd 18\_78061\_03\_1A64-01 lvmirrlogB-01 ENABLED 7168000 0 - - -

sd 18\_78061\_15\_20B6-01 lvmirrlogB-01 ENABLED 7332000 7168000 - - -

sd 18\_78061\_27\_2424-01 lvmirrlogB-01 ENABLED 44040192 14500000 - - -

sd 18\_78061\_27\_2424-07 lvmirrlogB-01 ENABLED 20971520 58540192 - - -

sd 18\_78061\_28\_1606-02 lvmirrlogB-01 ENABLED 21151584 79511712 - - -

v lvoracle fsgen ENABLED 2097152 - ACTIVE - -

pl lvoracle-01 lvoracle ENABLED 2097152 - ACTIVE - -

sd 18\_78061\_05\_2693-01 lvoracle-01 ENABLED 2097152 0 - - -

v lvoriglogA fsgen ENABLED 100663296 - ACTIVE - -

pl lvoriglogA-01 lvoriglogA ENABLED 100663296 - ACTIVE - -

sd 18\_78061\_10\_26B7-01 lvoriglogA-01 ENABLED 7168000 0 - - -

sd 18\_78061\_15\_20B6-02 lvoriglogA-01 ENABLED 7332000 7168000 - - -

sd 18\_78061\_27\_2424-02 lvoriglogA-01 ENABLED 44040192 14500000 - - -

sd 18\_78061\_27\_2424-08 lvoriglogA-01 ENABLED 20971520 58540192 - - -

sd 18\_78061\_28\_1606-03 lvoriglogA-01 ENABLED 21151584 79511712 - - -

v lvoriglogB fsgen ENABLED 100663296 - ACTIVE - -

pl lvoriglogB-01 lvoriglogB ENABLED 100663296 - ACTIVE - -

sd 18\_78061\_13\_2601-01 lvoriglogB-01 ENABLED 7168000 0 - - -

sd 18\_78061\_15\_20B6-03 lvoriglogB-01 ENABLED 7332000 7168000 - - -

sd 18\_78061\_26\_154B-02 lvoriglogB-01 ENABLED 44040192 14500000 - - -

sd 18\_78061\_27\_2424-09 lvoriglogB-01 ENABLED 20971520 58540192 - - -

sd 18\_78061\_28\_1606-04 lvoriglogB-01 ENABLED 21151584 79511712 - - -

v lvsap fsgen ENABLED 2097152 - ACTIVE - -

pl lvsap-01 lvsap ENABLED 2097152 - ACTIVE - -

sd 18\_78061\_04\_2627-01 lvsap-01 ENABLED 2097152 0 - - -

v lvsapJRS fsgen ENABLED 149276448 - ACTIVE - -

pl lvsapJRS-01 lvsapJRS ENABLED 149276448 - ACTIVE - -

sd 18\_78061\_08\_2600-01 lvsapJRS-01 ENABLED 149276448 0 - - -

v lvsapbackup fsgen ENABLED 10485760 - ACTIVE - -

pl lvsapbackup-01 lvsapbackup ENABLED 10485760 - ACTIVE - -

sd 18\_78061\_07\_14DF-02 lvsapbackup-01 ENABLED 10485760 0 - - -

v lvsapdata1 fsgen ENABLED 6874247376 - ACTIVE - -

pl lvsapdata1-01 lvsapdata1 ENABLED 6874247376 - ACTIVE - -

sd 18\_78061\_01\_1862-02 lvsapdata1-01 ENABLED 1061386736 0 - - -

sd 18\_78061\_11\_18AA-02 lvsapdata1-01 ENABLED 1060862448 1061386736 - - -

sd 18\_78061\_05\_2693-02 lvsapdata1-01 ENABLED 1059813872 2122249184 - - -

sd 18\_78061\_08\_2600-07 lvsapdata1-01 ENABLED 99812496 3182063056 - - -

sd 18\_78061\_15\_20B6-04 lvsapdata1-01 ENABLED 518163872 3281875552 - - -

sd 18\_78061\_16\_16B5-01 lvsapdata1-01 ENABLED 530955504 3800039424 - - -

sd 18\_78061\_18\_1F07-01 lvsapdata1-01 ENABLED 1061911024 4330994928 - - -

sd 18\_78061\_19\_2B14-01 lvsapdata1-01 ENABLED 1061911024 5392905952 - - -

sd 18\_78061\_26\_154B-03 lvsapdata1-01 ENABLED 419430400 6454816976 - - -

v lvsapdata2 fsgen ENABLED 6874247376 - ACTIVE - -

pl lvsapdata2-01 lvsapdata2 ENABLED 6874247376 - ACTIVE - -

sd 18\_78061\_06\_1886-02 lvsapdata2-01 ENABLED 1057716720 0 - - -

sd 18\_78061\_12\_1A3C-02 lvsapdata2-01 ENABLED 744914560 1057716720 - - -

sd 18\_78061\_04\_2627-02 lvsapdata2-01 ENABLED 1059813872 1802631280 - - -

sd 18\_78061\_09\_266F-02 lvsapdata2-01 ENABLED 783949008 2862445152 - - -

sd 18\_78061\_12\_1A3C-04 lvsapdata2-01 ENABLED 153645264 3646394160 - - -

sd 18\_78061\_16\_16B5-02 lvsapdata2-01 ENABLED 530955504 3800039424 - - -

sd 18\_78061\_20\_2B38-01 lvsapdata2-01 ENABLED 1061911024 4330994928 - - -

sd 18\_78061\_21\_2B5C-01 lvsapdata2-01 ENABLED 1061911024 5392905952 - - -

sd 18\_78061\_27\_2424-03 lvsapdata2-01 ENABLED 419430400 6454816976 - - -

v lvsapdata3 fsgen ENABLED 6874247376 - ACTIVE - -

pl lvsapdata3-01 lvsapdata3 ENABLED 6874247376 - ACTIVE - -

sd 18\_78061\_03\_1A64-02 lvsapdata3-01 ENABLED 1054743024 0 - - -

sd 18\_78061\_10\_26B7-02 lvsapdata3-01 ENABLED 1054743024 1054743024 - - -

sd 18\_78061\_13\_2601-02 lvsapdata3-01 ENABLED 1054743024 2109486048 - - -

sd 18\_78061\_08\_2600-08 lvsapdata3-01 ENABLED 117646480 3164229072 - - -

sd 18\_78061\_15\_20B6-05 lvsapdata3-01 ENABLED 518163872 3281875552 - - -

sd 18\_78061\_17\_16D9-01 lvsapdata3-01 ENABLED 530955504 3800039424 - - -

sd 18\_78061\_22\_2B82-01 lvsapdata3-01 ENABLED 1061911024 4330994928 - - -

sd 18\_78061\_23\_2BA6-01 lvsapdata3-01 ENABLED 1061911024 5392905952 - - -

sd 18\_78061\_26\_154B-04 lvsapdata3-01 ENABLED 419430400 6454816976 - - -

v lvsapdata4 fsgen ENABLED 6874247376 - ACTIVE - -

pl lvsapdata4-01 lvsapdata4 ENABLED 6874247376 - ACTIVE - -

sd 18\_78061\_14\_1337-02 lvsapdata4-01 ENABLED 766410368 0 - - -

sd 18\_78061\_02\_148F-02 lvsapdata4-01 ENABLED 1045133808 766410368 - - -

sd 18\_78061\_07\_14DF-03 lvsapdata4-01 ENABLED 1050900976 1811544176 - - -

sd 18\_78061\_08\_2600-09 lvsapdata4-01 ENABLED 636389808 2862445152 - - -

sd 18\_78061\_14\_1337-03 lvsapdata4-01 ENABLED 154612816 3498834960 - - -

sd 18\_78061\_12\_1A3C-05 lvsapdata4-01 ENABLED 146591648 3653447776 - - -

sd 18\_78061\_17\_16D9-02 lvsapdata4-01 ENABLED 530955504 3800039424 - - -

sd 18\_78061\_24\_2BCA-01 lvsapdata4-01 ENABLED 1061911024 4330994928 - - -

sd 18\_78061\_25\_2BEE-01 lvsapdata4-01 ENABLED 1061911024 5392905952 - - -

sd 18\_78061\_27\_2424-04 lvsapdata4-01 ENABLED 419430400 6454816976 - - -

v lvsapmnt fsgen ENABLED 6291456 - ACTIVE - -

pl lvsapmnt-01 lvsapmnt ENABLED 6291456 - ACTIVE - -

sd 18\_78061\_08\_2600-02 lvsapmnt-01 ENABLED 6291456 0 - - -

v lvsapreorg fsgen ENABLED 20971520 - ACTIVE - -

pl lvsapreorg-01 lvsapreorg ENABLED 20971520 - ACTIVE - -

sd 18\_78061\_08\_2600-03 lvsapreorg-01 ENABLED 20971520 0 - - -

v lvsstdata fsgen ENABLED 10485760 - ACTIVE - -

pl lvsstdata-01 lvsstdata ENABLED 10485760 - ACTIVE - -

sd 18\_78061\_08\_2600-04 lvsstdata-01 ENABLED 10485760 0 - - -

v lvtjrscs20 fsgen ENABLED 278027552 - ACTIVE - -

pl lvtjrsci20-01 lvtjrscs20 ENABLED 278027552 - ACTIVE - -

sd 18\_78061\_08\_2600-05 lvtjrsci20-01 ENABLED 65536 0 - - -

sd 18\_78061\_09\_266F-01 lvtjrsci20-01 ENABLED 277962016 65536 - - -

v lv102\_64 fsgen ENABLED 20971520 - ACTIVE - -

pl lv102\_64-01 lv102\_64 ENABLED 20971520 - ACTIVE - -

sd 18\_78061\_08\_2600-06 lv102\_64-01 ENABLED 20971520 0 - - -

so we need 10 x 500 GB C-CLASS LUNS. They are all fore the one Disk Group, so we put in just one postition for the Storm Order:

OrderPosID Storage Class LUN Size LUN Amount Total [GB] Usage Consumer Special Layout Remove ?

127279 [C2\_GS] SAN C2 GS (NORMAL PERF.) 506 GB 10 5,064.480 Filesystem APP-102383 No

The Storm Order has been completed. Here are the new LUN's:

127279 MS08ST900D 78061 00:10:09 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:10:9E 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:10:C6 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:11:28 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:11:A0 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:11:C4 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:11:E8 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:12:0C 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:12:30 506.448 ltjrs02 01.10.2013 -

127279 MS08ST900D 78061 00:12:9C 506.448 ltjrs02 01.10.2013 -

Check the LUN's with check\_rid.sh using the Order Position ID:

[INSTSERV][qx12345][lpinstiaas01] ~ $ check\_rid.sh 127279

arrayName serno luse capacity requestId storageClass secured\_server assignDate

MS08ST900D 78061 00:10:09 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:11:E8 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:10:9E 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:12:9C 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:11:A0 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:12:0C 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:10:C6 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:11:C4 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:12:30 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

MS08ST900D 78061 00:11:28 518602 000127279 C2\_GS LTJRS02 2013-10-01 12:35:11

On the Target Server rescan for new disks:

ltjrs02:/home/qxf6163 # san\_rescan -o

\*\* Device summary

- Found 20 new devices: sdck sdbx sdcl sdby sdcm sdbz sdca sdcb sdcc sdcd sdce sdcf sdcg sdbt sdch sdbu sdci sdbv sdcj sdbw

\*\* Scanning for new Veritas Disks

- New Veritas device(s):

VM | RAW CU:LDEV PORT XP-SN SIZE | RAW CU:LDEV PORT XP-SN SIZE | DG

------|---------------------------------|---------------------------------|------

sdbt | sdbt 10:09 8A 78061 518602 | sdcd 10:09 7A 78061 518602 |

sdbu | sdbu 10:9E 8A 78061 518602 | sdce 10:9E 7A 78061 518602 |

sdbv | sdbv 10:C6 8A 78061 518602 | sdcf 10:C6 7A 78061 518602 |

sdbw | sdbw 11:28 8A 78061 518602 | sdcg 11:28 7A 78061 518602 |

sdbx | sdbx 11:A0 8A 78061 518602 | sdch 11:A0 7A 78061 518602 |

sdby | sdby 11:C4 8A 78061 518602 | sdci 11:C4 7A 78061 518602 |

sdbz | sdbz 11:E8 8A 78061 518602 | sdcj 11:E8 7A 78061 518602 |

sdca | sdca 12:0C 8A 78061 518602 | sdck 12:0C 7A 78061 518602 |

sdcb | sdcb 12:30 8A 78061 518602 | sdcl 12:30 7A 78061 518602 |

sdcc | sdcc 12:9C 8A 78061 518602 | sdcm 12:9C 7A 78061 518602 |

- Found 10 new Veritas device(s): 'sdbt sdbu sdbv sdbw sdbx sdby sdbz sdca sdcb sdcc'

Checking the Disks with san\_shortinfo to see if there are any headers present:

ltjrs02:/home/qxf6163 # san\_shortinfo | grep 78061 | egrep '10:09|10:9E|10:C6|11:28|11:A0|11:C4|11:E8|12:0C|12:30|12:9C'

sdbt | sdbt 10:09 8A 78061 518602 | sdcd 10:09 7A 78061 518602 |

sdbu | sdbu 10:9E 8A 78061 518602 | sdce 10:9E 7A 78061 518602 |

sdbv | sdbv 10:C6 8A 78061 518602 | sdcf 10:C6 7A 78061 518602 |

sdbw | sdbw 11:28 8A 78061 518602 | sdcg 11:28 7A 78061 518602 |

sdbx | sdbx 11:A0 8A 78061 518602 | sdch 11:A0 7A 78061 518602 |

sdby | sdby 11:C4 8A 78061 518602 | sdci 11:C4 7A 78061 518602 |

sdbz | sdbz 11:E8 8A 78061 518602 | sdcj 11:E8 7A 78061 518602 |

sdca | sdca 12:0C 8A 78061 518602 | sdck 12:0C 7A 78061 518602 |

sdcb | sdcb 12:30 8A 78061 518602 | sdcl 12:30 7A 78061 518602 |

sdcc | sdcc 12:9C 8A 78061 518602 | sdcm 12:9C 7A 78061 518602 |

..Looks good  
  
Prepare the Template:

[INSTSERV][qx12345][lpinstiaas01] /global/instserv/data/CONFIGURE\_VERITAS $ cp GROW\_ADD\_TEMPLATES/template\_grow\_TAS0000000.all ltjrs02\_grow\_TAS000000103707.all

Check the Template:

[INSTSERV][qx12345][lpinstiaas01] /global/instserv/data/CONFIGURE\_VERITAS $ egrep -v '^$|^#' ltjrs02\_grow\_TAS000000103707.all

HOST ltjrs02

dg dgtjrscs20cs01

@127279

lv lvsapdata1 4550G

mnt lvsapdata1 /oracle/JRS/sapdata1

lv lvsapdata2 4550G

mnt lvsapdata2 /oracle/JRS/sapdata2

lv lvsapdata3 4550G

mnt lvsapdata3 /oracle/JRS/sapdata3

lv lvsapdata4 4550G

mnt lvsapdata4 /oracle/JRS/sapdata4

[INSTSERV][qx12345][lpinstiaas01] /global/instserv/data/CONFIGURE\_VERITAS $

Run the Template:

[INSTSERV][qx12345][lpinstiaas01] /global/instserv/data/CONFIGURE\_VERITAS $ configure\_veritas.sh ./ltjrs02\_grow\_TAS000000103707.all

\_ \_ \_\_\_\_ \_\_\_\_ \_ \_\_\_ \_\_\_\_ \_\_\_\_ \_ \_ \_\_\_\_ \_ \_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_

| | |\_\_\_ |\_\_/ | | |\_\_| [\_\_ |\/| |\_\_| |\ | |\_\_| | \_\_ |\_\_\_ |\_\_/

\/ |\_\_\_ | \ | | | | \_\_\_] | | | | | \| | | |\_\_] |\_\_\_ | \

Processing file './ltjrs02\_grow\_TAS000000103707.all'

-> Checking File validity [OK] file exist: ltjrs02\_grow\_TAS000000103707.all

-> Looking for RequestID markers [OK] none found

-> Fetching Hostlist(s) [OK] working on ltjrs02

-> Testing Hosts [OK] root access verified

-> Fetching ServiceGroup [WARN] no 'sg'-line found

-> Fetching module for Apps [WARN] no apps in template

Running remote sanity check

-> Copy template to remote host 'ltjrs02' [OK] copied

-> Running sanity check on 'ltjrs02'

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Sanity check [OK] success

-> Setting Downtime for SAN Mirror Service [OK] set

-> Setting Downtime for VXVM Service [OK] set

Starting remote vxctl call

-> Initiating vxctl on ltjrs02

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

No addable disks found.

Exec: /etc/vx/bin/vxresize -bx -g dgtjrscs20cs01 lvsapdata1 4550G mirrorconfine=enclr

Exec: /etc/vx/bin/vxresize -bx -g dgtjrscs20cs01 lvsapdata2 4550G mirrorconfine=enclr

Exec: /etc/vx/bin/vxresize -bx -g dgtjrscs20cs01 lvsapdata3 4550G mirrorconfine=enclr

Exec: /etc/vx/bin/vxresize -bx -g dgtjrscs20cs01 lvsapdata4 4550G mirrorconfine=enclr

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Evaluating remote script return code [OK] modification ok

cleanup...

[INSTSERV][qx12345][lpinstiaas01] /global/instserv/data/CONFIGURE\_VERITAS $

Now out Volumes look like:

ltjrs02:/tmp # df -hP /oracle/JRS/sapdata\* | sort -r | uniq

Filesystem Size Used Avail Use% Mounted on

/dev/vx/dsk/dgtjrscs20cs01/lvsapdata4 4.5T 2.7T 1.8T 61% /oracle/JRS/sapdata4

/dev/vx/dsk/dgtjrscs20cs01/lvsapdata3 4.5T 2.6T 1.9T 59% /oracle/JRS/sapdata3

/dev/vx/dsk/dgtjrscs20cs01/lvsapdata2 4.5T 2.8T 1.8T 62% /oracle/JRS/sapdata2

/dev/vx/dsk/dgtjrscs20cs01/lvsapdata1 4.5T 2.7T 1.8T 61% /oracle/JRS/sapdata1

* + [Vol did not Grow](https://bsswiki.muc/tiki-index.php?page=bss_unix_linux_volman_vxvm_grow#Vol_did_not_Grow)
  + [Lockfile Exists](https://bsswiki.muc/tiki-index.php?page=bss_unix_linux_volman_vxvm_grow#Lockfile_Exists)
  + [loglen Error](https://bsswiki.muc/tiki-index.php?page=bss_unix_linux_volman_vxvm_grow#loglen_Error)

### Problems and Solutions

###### Vol did not Grow

**PROBLEM**  
The configure\_veritas.sh sript was run, no errors reported, but the Volume still has the same size  
**SOLUTION**  
Run the template script on the target server manually, and see what errors it brings. e.g.:

lp09d05:/tmp # vxctl ./dbpsat92\_grow\_TAS000000143476.all  
Scanning for disks, please wait...success!  
Sanity checking LUNs....

###### Lockfile Exists

**Problem**  
when manually running the template script the following message appears:

lp09d05:/tmp # vxctl ./dbpsat92\_grow\_TAS000000143476.all  
Scanning for disks, please wait...success!  
Sanity checking LUNs...  
No addable disks found.  
Exec: /etc/vx/bin/vxresize -bx -g dgdbpsat92db lvdbpsat92db +115057m mirrorconfine=enclr  
VxVM vxresize ERROR V-5-1-14105 The lockfile /etc/vx/locks/dgdbpsat92db\_lvdbpsat92db exists. This means either previous resize operation may be going on the volume lvdbpsat92db in the diskgroup dgdbpsat92db or the operation may have exited incompletely. To continue with resize operation : (1) please make sure that there is no resize operation is in progress on the same volume, (2) remove /etc/vx/locks/dgdbpsat92db\_lvdbpsat92db and (3) restart the command.  
ERROR: Command "/etc/vx/bin/vxresize -bx -g dgdbpsat92db lvdbpsat92db +115057m mirrorconfine=enclr" failed, aborting!

**SOLUTION**  
Check if a Task is running:

lp09d05:/tmp # vxtask list  
TASKID PTID TYPE/STATE PCT PROGRESS  
lp09d05:/tmp #

if no Tasks are running you can remove the lock file

###### loglen Error

**PROBLEM**  
when manually running the template script the following message appears:

lp09d05:/tmp # vxctl ./dbpsat92\_grow\_TAS000000143476.all  
Scanning for disks, please wait...success!  
Sanity checking LUNs...  
No addable disks found.  
Exec: /etc/vx/bin/vxresize -bx -g dgdbpsat92db lvdbpsat92db +115057m mirrorconfine=enclr  
lp09d05:/tmp # VxVM vxassist ERROR V-5-1-10042 Subvolumes have inconsistent log lengths. Please provide the loglen for the grow operation.  
VxVM vxresize ERROR V-5-1-4703 Problem running vxassist command for volume lvdbpsat92db, in diskgroup dgdbpsat92db  
  
lp09d05:/tmp #

**SOLUTION**  
find the size of the largest log in the DG:  
vxprint -g <diskgroup> | grep -w LOG| grep <volume>

lp09d05:/home/qxf6163 # vxprint -g dgdbpsat92db| grep -w LOG | grep lvdbpsat92db

sd 58\_97013\_04\_a0af-01 lvdbpsat92db-L01\_drl-97013 ENABLED 1056 LOG - - -

sd 10\_97158\_06\_a0d2-01 lvdbpsat92db-L01\_drl-97158 ENABLED 1056 LOG - - -

sd 58\_97013\_04\_a0af-03 lvdbpsat92db-L02\_drl-97013 ENABLED 1056 LOG - - -

sd 10\_97158\_05\_a0cc-01 lvdbpsat92db-L02\_drl-97158 ENABLED 1056 LOG - - -

sd 58\_97013\_03\_a0aa-01 lvdbpsat92db-L03\_drl-97013 ENABLED 1056 LOG - - -

sd 10\_97158\_05\_a0cc-02 lvdbpsat92db-L03\_drl-97158 ENABLED 1056 LOG - - -

sd 58\_97013\_01\_a084-02 lvdbpsat92db-L08\_drl-97013 ENABLED 528 LOG - - -

sd 10\_97158\_06\_a0d2-03 lvdbpsat92db-L08\_drl-97158 ENABLED 528 LOG - - -

sd 58\_97013\_03\_a0aa-02 lvdbpsat92db-L09\_drl-97013 ENABLED 528 LOG - - -

sd 10\_97158\_03\_a0bc-02 lvdbpsat92db-L09\_drl-97158 ENABLED 528 LOG - - -

sd 58\_97013\_03\_a0aa-05 lvdbpsat92db-L12\_drl-97013 ENABLED 528 LOG - - -

sd 10\_97158\_07\_a0d6-01 lvdbpsat92db-L12\_drl-97158 ENABLED 528 LOG - - -

sd 58\_97013\_06\_a0b6-01 lvdbpsat92db-L13\_drl-97013 ENABLED 2112 LOG - - -

sd 10\_97158\_06\_a0d2-05 lvdbpsat92db-L13\_drl-97158 ENABLED 2112 LOG - - -

run the /etc/vx/bin/vxresize command you see above, adding loglen=[SIZE] to your command, and don't forget to subtract the loglen size from the grow size:  
Command before:  
/etc/vx/bin/vxresize -bx -g dgdbpsat92db lvdbpsat92db +115057m mirrorconfine=enclr  
New Command:  
/etc/vx/bin/vxresize -bx -g dgdbpsat92db lvdbpsat92db +112945m mirrorconfine=enclr loglen=2112

* + This will bring all the LOG Lengths on the Sub Volumes to same defined length

lp09d05:/tmp # vxprint -g dgdbpsat92db| grep -w LOG | grep lvdbpsat92db

sd 58\_97013\_09\_0006-03 lvdbpsat92db-P01 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-08 lvdbpsat92db-P02 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-04 lvdbpsat92db-P05 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-09 lvdbpsat92db-P06 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-05 lvdbpsat92db-P09 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-10 lvdbpsat92db-P10 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-06 lvdbpsat92db-P13 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-12 lvdbpsat92db-P14 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-07 lvdbpsat92db-P17 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-14 lvdbpsat92db-P18 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-08 lvdbpsat92db-P21 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-15 lvdbpsat92db-P22 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-09 lvdbpsat92db-P25 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-16 lvdbpsat92db-P26 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-10 lvdbpsat92db-P29 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-17 lvdbpsat92db-P30 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-11 lvdbpsat92db-P33 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-18 lvdbpsat92db-P34 ENABLED 2112 LOG - - -

sd 58\_97013\_09\_0006-13 lvdbpsat92db-P37 ENABLED 2112 LOG - - -

sd 58\_97013\_03\_a0aa-19 lvdbpsat92db-P38 ENABLED 2112 LOG - - -

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# [**5.4.5.8 Update UDID**](https://atc.bmwgroup.net/confluence/display/IAAS18/5.4.5.8+Update+UDID)

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [21 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=521114555&selectedPageVersions=2&selectedPageVersions=3)

Stop all packages, then:

# umount -a -t vxfs

# for dg in `vxdg -q list | awk '{print $1}'`; do vxdg deport $dg; done

# ./update\_udid.sh

# for dg in `vxdg -q list | awk '{print $1}'`; do vxdg import $dg; done

# mount -a -t vxfs

If successful, start all packages again.  
  
If the above fails, Be 100% sure the disk groups resp. disks are NOT active elsewhere. The following will usually work with "clearimport". See [Unable to import clone dg in version of 5.0 and 5.1SP1 and 5.1SP1RP2](http://www.symantec.com/business/support/index?page=content&id=TECH177959)

Create a file with the effected disk groups, then:

# for DG in `cat udid\_errored\_dgs`; do

vxdisk -o alldgs list | grep $DG | while read a; do

vxdisk clearimport $a

vxdisk updateudid $a

vxdisk set $a clone=off

echo $a

done

done

Last edited by Liebl Markus, (Markus.Liebl@partner.bmw.de) , based on work by Kujau Christian, (Christian.CK.Kujau@partner.bmw.de) , Noyes Geoffrey, (Geoffrey.Noyes@partner.bmw.de) , Urban Richard, (Richard.Urban@partner.bmw.de) and Groemcke Tobias, (Tobias.Groemcke@partner.bmw.de) .  
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# [**5.4.5.9 Veritas Filesystem errors**](https://atc.bmwgroup.net/confluence/display/IAAS18/5.4.5.9+Veritas+Filesystem+errors)

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [21 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=521115106&selectedPageVersions=1&selectedPageVersions=2)

When there is an issue with a Veritas filesystem, before executing fsck, please collect dd output. Thanks to this file, Symantec will be able to recreate the filesystem issue.  
Before executing fsck: Just in case, it would be better to collect it from both the raw device and the volume:

1. dd if=/dev/vx/rdsk/<dgname>/<volume name> of=/var/tmp/<volname\_dd.out> bs=1024k count=256
2. dd if=/dev/rdsk/<devicename> of=/var/tmp/<device\_dd.out> bs=1024k count=256

A Metasave can be created on an umounted and mounted FS in different ways:  
Mounted: <https://www.veritas.com/support/en_US/article.000080853>

Umounted: <https://www.veritas.com/support/en_US/article.000018073>  
As a precaution - you may also consider gathering following points, before taking any resize actions: 1. # fsadm -t vxfs -E /mount\_point 2. # df -k /mount\_point 3. # /opt/VRTS/bin/ncheck -t vxfs -oblock=- /dev/vx/dsk/<dg>/<vol> >/tmp/ncheck.out  
Afterwards, you can safely run fsck and Symantec will be able to continue the investigation via metasave.

Last edited by Schrocko Winfried, (Winfried.Schrocko@partner.bmw.de) , based on work by Mattyasovszky Janos, FG-840 and Barna Laszlo, (Laszlo.Barna@partner.bmw.de) . Page last modified on Tuesday 15 of October, 2019 18:34:00 CEST. (Version 5)

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# **VxVM Cheat Sheet**

* Please be aware
  + DG
  + diskname
  + sdxx
* have to be replaced with correct names as used on the system

## Disk and DiskGroups

|  |  |
| --- | --- |
| **Action** | **Command** |
| create diskgroup | **vxdg init**DG diskname**=**sdxx |
| delete diskgroup | **vxdg destroy** DG [DG ..] |
| import diskgroup | **vxdg import** DG [DG ..] |
| deport diskgroup | **vxdg deport** DG [DG ..] |
| show diskgroups | **vxprint** [-qQ][-a|l][-g DG ..] |
| add disk to diskgroup | **vxdg -g** DG **adddisk** diskname**=**sdxx [diskname=sdxx] |
| remove disk from diskgroup | **vxdg -g** DG **rmdisk** diskname [diskname ..] |
| initialise disk | **vxdisksetup** [-i] sdxx [privlen=ns] |
| remove disk for replacement | **vxdg -g** DG **-k rmdisk** diskname |
| insert disk for replacement | **vxdg -g** DG **-k adddisk** diskname**=**sdxx |
| reattach disk after replacement | **vxreattach** [-r] [sdxx] |
| rename disk | **vxedit rename** oldname newname |
| disable disk (offline) | **vxdisk offline** sdxx |
| enable disk (online) | **vxdisk online** sdxx |
| deinitialise disk | **vxdiskunsetup**[-C] sdxx [sdxy..] |
| show disks and diskgroups | **vxdisk** [-g DG] [-s] [-o alldgs] **list** [diskname] |
| show disks | **vxprint** [-qQ][-a|l] diskname [diskname ...] |
| show free space | **vxdg** [-g DG] **free**[diskname ...] |
| add/delete default diskgroup | **vxdctl defaultdg** {DG|**nodg**} |
| show default diskgroup | **vxdg defaultdg** |

## Subdisks

|  |  |
| --- | --- |
| **Action** | **Command** |
| create subdisk | **vxmake -g** DG **sd** sd-name **disk=**diskname **offset=**offset [-kgm] **len=**length |
| rename subdisk | **vxedit rename** oldname newname |
| move subdisk | **vxsd** [-o rm] **mv** oldname newname |
| dissociate sd from plex | **vxsd** [-o rm] **dis** sd\_name [sd\_name ...] |
| associate sd to plex | **vxsd assoc** plexname sd\_name [sd\_name ...] |
| associate log-sd to plex | **vxsd asloc** plexname sd\_name |
| delete subdisk | **vxedit rm** sd\_name [sd\_name ...] |
| show subdisks | **vxprint** -s [qQ][a|l] sd\_name [sd\_name ...] |
|  | |

## Plexes

|  |  |
| --- | --- |
| **Action** | **Command** |
| create concat plex | **vxmake -g**DG **plex**plexname **sd=**sd-list |
| create striped plex | **vxmake -g**DG **plex**plexname **layout=**layout **sdwidth=**stripeunit-width **nocolumn=**column-number **sd=**sd-list |
| create concat/striped plex | **vxmake -g** DG **plex** plexname **layout=stripe stwidth=**stripeunit-width **nocolumn=**column-number **sd=**sd-name:column/offset,.. |
| detach plex from volume | **vxplex det** plexname [plexname ...] |
| attach plex from volume (will mirror) | **vxplex att** volumename plexname [plexname ...] |
| dissociate plex from volume | **vxplex dis** plexname [plexname ...] |
| delete plex (recursive, forced) | **vxedit** [-rf] **rm** plexname [plexname ...] |
| show plexes | **vxprint** [-pqQ][a|l] plexname [plexname ...] |
| convert data plex to snapshot plex | **vxplex -g** DG **convert state=ACTIVE** plexname |
| convert snapshot plex to data plex | **vxplex -g** DG **convert state=SNAPDONE** plexname |
|  | |

## Volumes

|  |  |
| --- | --- |
| **Action** | **Command** |
| create simple volume | **vxmake -g** DG -U [fs] gen **vol** vol-name **plex=**plexname |
| create mirrored volume | **vxmake -g** DG -U [fs] gen **vol** vol-name **plex=**plex-list |
| create volume | **vxassist** [-g DG] **make** vol-name length **layout=**layout |
| calculate max volume size | **vxassist** [-g DG] **maxsize** **layout=**layout [diskname ...] |
| change volume owner | **vxedit -g** DG **set user=**username **group=**groupname **mode=**octal vol-name [vol-name...] |
| start volumes | **vxvol start** vol-name [vol-name...] |
|  | **vxrecover -sE** [vol-name...] (wihtout vol-name all are started) |
|  | **vxvol init active** vol-name |
| stop volume | **vxvol stop** vol-name [vol-name...] |
| add mirror | **vxmake -g** DG **plex** plexname **sd=**sd-list |
|  | **vxplex att** vol-name plexname |
|  | **vxassist mirror** vol-name |
| add log plex DRL | **vxassist -g** DG **addlog** vol-name **logtype=drl loglen=2112** |
| add log plex DCO | **vxassist -g** DG **addlog** vol-name **logtype=dco dcolen=2112** |
| change volume and fs size | **vxresize -F** fstype **-g** DG vol-name [+|-] size [diskname,[offset]] (shrinking only with vxfs !!) |
| change volume size (without fs) | **vxassist -g** DG **growto** vol-name size |
|  | **vxassist -g** DG **growby** vol-name diff |
|  | **vxassist -g** DG **shrinkto** vol-name size |
|  | **vxassist -g** DG **shrinkby** vol-name diff |
| change layout | **vxassist -g** DG **convert** vol-name **layout=**new\_layout |
| relayout volume | **vxassist -g** DG **relayout** vol-name new\_layout |
| remove volume (recursive, forced) | **vxedit** [-rf] **rm** vol-name [vol-name ...] |
| show volumes | **vxprint** [-vrqQ][a|l] vol-name [vol-name ...] |
|  | |

## Tasks

|  |  |
| --- | --- |
| **Action** | **Command** |
| show tasks | **vxtask [-n] list** |
| cancel task | **vxtask abort** task-id |
| pause task | **vxtask pause** task-id |
| resume task | **vxtask resume** task-id |
|  | |

## Create volumes step by step

|  |  |
| --- | --- |
| **Action** | **Command** |
| create diskgroup | **vxdg init** DG diskname=sdxx |
| create subdisk | **vxmake -g** DG **sd** sd-name **disk=**diskname **offset=**offset [-kmg] **len=**length[-kmg] |
| create plex (concat) | **vxmake -g** DG **plex** plexname **sd=**sd-list |
| create volume (simple) | **vxmake -g** DG **-U** [fs]gen **vol** vol-name **plex=**plexname |
| start volume | **vxvol -g** DG **start** vol-name |
| create filesystem | **mkfs.vxfs /dev/vx/rdsk/**DG**/**vol-name |
| mount volume | **mount -t vxfs /dev/vx/rdsk/**DG**/**vol-name /mountpoint |
|  | |

## Delete volume step by step

|  |  |
| --- | --- |
| **Action** | **Command** |
| umount volume | **umount** **/**mountpoint |
| stop volume | **vxvol -g** dg **stop** vol-name |
| dissociate plex from volume | **vxplex -g** dg **dis** plexname |
| delete volume | **vxedit -g** dg **rm** vol-name |
| dissociate sd from plex | **vxsd -g** dg **dis** sd-name |
| delete plex | **vxedit -g** dg **rm** plexname |
| delete subdisk | **vxedit -g** dg **rm** sd-list |
| delete diskgroup | **vxdg destroy** DG (only when there is no other active Volume in the DG!!!) |
| **fast way** (all in one ) | **vxedit -g** dg **-rf rm** vol-name |

## Save and restore configuration

|  |  |
| --- | --- |
| **Action** | **Command** |
| save all configuration | **vxprint -mrA >** config-file |
| save volume config of DG | **vxprint -mrvpsg** DG **>** config-file |
| create config from config file | **vxmake -g** DG **-d** config-file |
| start volumes | **vxrecover -sE** |

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| Various Veritas How Tos |
| --- |
| Scope |

small howtos of common Veritas tasks

# **Move C-Storage to B-Storage**

* new LUNs (B-Storage) needed prior this howto (strom request)
* the **migratedg** commands needs a diffrent storage box than currently used in this DG (C-Luns normally have 1 BOX allocated)
* command coul be used with -f (force) to accept each question with "yes"

## Migrate OLD C-Luns to 1 Side B-Lun on the different storage BOX

* this will migrate the C-Luns (unmirrored) from Storage 97173 to new BOX 97146

**servername**

sh#> vxctl migratedg <DGNAME> <new different serial>,<ldev>,<ldev...>

EXAMPLE:

sh#> vxctl migratedg dgikdqcs10cs01 97146,0090,0092,008f,0091

## Add the other B-LUN Side to the DiskGroup

* this will add the 2nd side needed for mirroring to the diskgroup

**servername**

sh#> vxctl adddisks <DG> <2nd Storage serial Number>,<mirror ldevs>...

EXAMPLE:

sh#> vxctl adddisks dgikdqcs10cs01 97173,0090,0092,008f,0091

## Start mirroring LUNs

* this will create a mirrored plex with the 2nd storage, and also creates the DLC/DCO LOGPLEXES

**servername**

sh#> vxctl newmirror all <2nd Storage serial number>

EXAMPLE:

sh#> vxctl newmirror all 97173

# **1. Fix Incorrectly Mirrored Volumes (for DCL/DCO Plexes see below, no extra disk needed)**

The new vxctl scripts should not allow mirrors to be set up incorrectly, however since the Nagios Mirror Check has not been running correctly due to obsolete and missing "vx-scsi" links and due to the monitor refusing to monitor certain versions of VxVM (in both cases Nagios reports "OK" ... despite existiung mirror errors!).  
  
Assuming the "vx-scsi" and VxVM Version are OK on the server, as QQNAGIO and only as QQNAGIO (otherwise temp files are created and will cause HiPrio Tickets!) run:  
  
qqnagio@lp34hhp01:~> ./core/local-plugins-1.0/locallibexec/check\_san\_mirror  
OK - mirrors are properly set up  
qqnagio@lp34hhp01:~>  
  
To check the mirror.  
  
  
**Wie baue ich ein vermurxtes Volume um, damit alle Spiegelhälften über verschiedene RZs verteilt sind?**  
  
You will need a spare disk in the correct RZ for this  
  
Ausgangssituation:

lpdbs04:/home/qqlinux # vxprint -g dgpltg031db -htq

dg dgpltg031db default default 0 1174643246.742.lpdbs03

dm 18\_23094\_1\_1710 sda auto 2048 117947136 -

dm 18\_23094\_2\_1610 sdb auto 2048 117947136 -

dm 18\_23094\_3\_150F sdc auto 2048 117947136 -

dm 18\_23094\_4\_031C sdgc auto 2048 117947136 -

dm 19\_23026\_1\_031C sdgd auto 2048 117947136 -

dm 19\_23026\_2\_1710 sdh auto 2048 117947136 -

dm 19\_23026\_3\_1610 sdi auto 2048 117947136 -

dm 19\_23026\_4\_150F sdj auto 2048 117947136 -

v lvdb - ENABLED ACTIVE 471785408 SELECT - fsgen

pl lvdb-01 lvdb ENABLED ACTIVE 471785408 CONCAT - RW

sd 19\_23026\_2\_1710-01 lvdb-01 19\_23026\_2\_1710 0 117947136 0 sdh ENA

sd 19\_23026\_3\_1610-01 lvdb-01 19\_23026\_3\_1610 0 117947136 117947136 sdi ENA

sd 19\_23026\_4\_150F-01 lvdb-01 19\_23026\_4\_150F 0 117946880 235894272 sdj ENA

sd 18\_23094\_4\_031C-01 lvdb-01 18\_23094\_4\_031C 0 117944256 353841152 sdgc ENA

pl lvdb-02 lvdb ENABLED ACTIVE 471785408 CONCAT - RW

sd 18\_23094\_1\_1710-01 lvdb-02 18\_23094\_1\_1710 0 117947136 0 sda ENA

sd 18\_23094\_2\_1610-01 lvdb-02 18\_23094\_2\_1610 0 117947136 117947136 sdb ENA

sd 18\_23094\_3\_150F-01 lvdb-02 18\_23094\_3\_150F 0 117946880 235894272 sdc ENA

sd 19\_23026\_1\_031C-01 lvdb-02 19\_23026\_1\_031C 0 117944256 353841152 sdgd ENA

pl lvdb-03 lvdb ENABLED ACTIVE LOGONLY CONCAT - RW

sd 18\_23094\_4\_031C-02 lvdb-03 18\_23094\_4\_031C 117944256 2112 LOG sdgc ENA

pl lvdb-04 lvdb ENABLED ACTIVE LOGONLY CONCAT - RW

sd 19\_23026\_1\_031C-02 lvdb-04 19\_23026\_1\_031C 117944256 2112 LOG sdgd ENA

dc lvdb\_dco lvdb lvdb\_dcl

v lvdb\_dcl - ENABLED ACTIVE 144 SELECT - gen

pl lvdb\_dcl-01 lvdb\_dcl ENABLED ACTIVE 144 CONCAT - RW

sd 18\_23094\_3\_150F-02 lvdb\_dcl-01 18\_23094\_3\_150F 117946880 144 0 sdc ENA

pl lvdb\_dcl-02 lvdb\_dcl ENABLED ACTIVE 144 CONCAT - RW

sd 19\_23026\_4\_150F-02 lvdb\_dcl-02 19\_23026\_4\_150F 117946880 144 0 sdj ENA

ToDo:

vxsd -g dgpltg031db -p lvdb-02 dis 19\_23026\_1\_031C-01

vxsd -g dgpltg031db mv 18\_23094\_4\_031C-01 19\_23026\_1\_031C-01

vxsd -g dgpltg031db assoc lvdb-02 18\_23094\_4\_031C-01

Alles wieder gut:

lpdbs04:/home/qqlinux # vxprint -g dgpltg031db -htq

dg dgpltg031db default default 0 1174643246.742.lpdbs03

dm 18\_23094\_1\_1710 sda auto 2048 117947136 -

dm 18\_23094\_2\_1610 sdb auto 2048 117947136 -

dm 18\_23094\_3\_150F sdc auto 2048 117947136 -

dm 18\_23094\_4\_031C sdgc auto 2048 117947136 -

dm 19\_23026\_1\_031C sdgd auto 2048 117947136 -

dm 19\_23026\_2\_1710 sdh auto 2048 117947136 -

dm 19\_23026\_3\_1610 sdi auto 2048 117947136 -

dm 19\_23026\_4\_150F sdj auto 2048 117947136 -

v lvdb - ENABLED ACTIVE 471785408 SELECT - fsgen

pl lvdb-01 lvdb ENABLED ACTIVE 471785408 CONCAT - RW

sd 19\_23026\_2\_1710-01 lvdb-01 19\_23026\_2\_1710 0 117947136 0 sdh ENA

sd 19\_23026\_3\_1610-01 lvdb-01 19\_23026\_3\_1610 0 117947136 117947136 sdi ENA

sd 19\_23026\_4\_150F-01 lvdb-01 19\_23026\_4\_150F 0 117946880 235894272 sdj ENA

sd 19\_23026\_1\_031C-01 lvdb-01 19\_23026\_1\_031C 0 117944256 353841152 sdgd ENA

pl lvdb-02 lvdb ENABLED ACTIVE 471785408 CONCAT - RW

sd 18\_23094\_1\_1710-01 lvdb-02 18\_23094\_1\_1710 0 117947136 0 sda ENA

sd 18\_23094\_2\_1610-01 lvdb-02 18\_23094\_2\_1610 0 117947136 117947136 sdb ENA

sd 18\_23094\_3\_150F-01 lvdb-02 18\_23094\_3\_150F 0 117946880 235894272 sdc ENA

sd 18\_23094\_4\_031C-01 lvdb-02 18\_23094\_4\_031C 0 117944256 353841152 sdgc ENA

pl lvdb-03 lvdb ENABLED ACTIVE LOGONLY CONCAT - RW

sd 18\_23094\_4\_031C-02 lvdb-03 18\_23094\_4\_031C 117944256 2112 LOG sdgc ENA

pl lvdb-04 lvdb ENABLED ACTIVE LOGONLY CONCAT - RW

sd 19\_23026\_1\_031C-02 lvdb-04 19\_23026\_1\_031C 117944256 2112 LOG sdgd ENA

dc lvdb\_dco lvdb lvdb\_dcl

v lvdb\_dcl - ENABLED ACTIVE 144 SELECT - gen

pl lvdb\_dcl-01 lvdb\_dcl ENABLED ACTIVE 144 CONCAT - RW

sd 18\_23094\_3\_150F-02 lvdb\_dcl-01 18\_23094\_3\_150F 117946880 144 0 sdc ENA

pl lvdb\_dcl-02 lvdb\_dcl ENABLED ACTIVE 144 CONCAT - RW

sd 19\_23026\_4\_150F-02 lvdb\_dcl-02 19\_23026\_4\_150F 117946880 144 0 sdj ENA

If only the DCO Volumes were setup incorrectly, it is easier to delete and recreate them:

DCL mirrored on the same SAN box %-o  
  
dc lvapps\_dco lvapps lvapps\_dcl  
v lvapps\_dcl - ENABLED ACTIVE 2112 SELECT - gen  
pl lvapps\_dcl-01 lvapps\_dcl ENABLED ACTIVE 2112 CONCAT - RW  
sd 10\_28297\_02\_10C8-01 lvapps\_dcl-01 10\_28297\_02\_10C8 0 2112 0 sdhx ENA  
pl lvapps\_dcl-02 lvapps\_dcl ENABLED ACTIVE 2112 CONCAT - RW  
sd 10\_28297\_03\_10CC-01 lvapps\_dcl-02 10\_28297\_03\_10CC 0 2112 0 sdhy ENA  
  
Remove the incorrect RZ 10 DCL plex and re-setup with an SD device in the correct 13 RZ...  
  
vxplex -g dgphhpci00ci10 det lvapps\_dcl-02  
vxplex -g dgphhpci00ci10 dis lvapps\_dcl-02  
vxedit -g dgphhpci00ci10 -rf rm lvapps\_dcl-02  
  
vxassist -g dgphhpci00ci10 mirror lvapps\_dcl layout=concat alloc=13\_28298\_02\_111D  
  
vxprint -htg dgXXX  
v lvapps\_dcl - ENABLED ACTIVE 2112 SELECT - gen  
pl lvapps\_dcl-01 lvapps\_dcl ENABLED ACTIVE 2112 CONCAT - RW  
sd 10\_28297\_02\_10C8-01 lvapps\_dcl-01 10\_28297\_02\_10C8 0 2112 0 sdhx ENA  
pl lvapps\_dcl-02 lvapps\_dcl ENABLED ACTIVE 2112 CONCAT - RW  
sd 13\_28298\_02\_111D-05 lvapps\_dcl-02 13\_28298\_02\_111D 88716224 2112 0 sdid ENA

# **2. Rename a disk group**

* A diskgroup is renamed by deporting and reimporting it with its new name, but please be aware, that

1. deporting requires that the application using the dg must be down and file systems have to be unmounted, otherwise deport will fail
2. if you plan to do that on a cluster, have a look [here](https://atc.bmwgroup.net/confluence/display/IAAS18/VCS+rename+package)

# vxdg deport <diskgroup>

# vxdg -n <newname> import <oldname>

# vxdisk -g <newname> list

# **3. Swap mixed up subdisks**

## Initial situation

* Sometimes accidentally subdisks are mixed up between plexes, meaning that in case a storage box fails the whole volume goes down.
* Taking that in consideration such a situation is critical, is detected by nagios, generates a ticket and must be sorted out!

## Error pattern

* A situation like this is shown below:

#vxprint -g dgtlxpci90db05

TY NAME ASSOC KSTATE LENGTH PLOFFS STATE TUTIL0 PUTIL0

dg dgtlxpci90db05 dgtlxpci90db05 - - - - - -

dm 13\_97718\_01\_a159 sdav - 14671616 - - - -

dm 13\_97718\_02\_a15a sdaw - 14671616 - - - -

dm 19\_97609\_01\_a112 sds - 14671616 - - - -

dm 19\_97609\_02\_a113 sdt - 14671616 - - - -

v lvsapdata4 fsgen ENABLED 29295104 - ACTIVE - -

pl lvsapdata4-97609 lvsapdata4 ENABLED 29295104 - ACTIVE - -

sd 19\_97609\_02\_a113-01 lvsapdata4-97609 ENABLED 14615040 0 - - -

sd 19\_97609\_01\_a112-01 lvsapdata4-97609 ENABLED 14671616 14615040 - - -

sd 13\_97718\_02\_a15a-04 lvsapdata4-97609 ENABLED 8448 29286656 - - - <<<<<<<<<<<<<<<< WRONG

pl lvsapdata4-97718 lvsapdata4 ENABLED 29295104 - ACTIVE - -

sd 13\_97718\_02\_a15a-01 lvsapdata4-97718 ENABLED 14615040 0 - - -

sd 13\_97718\_01\_a159-01 lvsapdata4-97718 ENABLED 14671616 14615040 - - -

sd 19\_97609\_02\_a113-04 lvsapdata4-97718 ENABLED 8448 29286656 - - - <<<<<<<<<<<<<<<< WRONG

pl lvsapdata4\_drl-97609 lvsapdata4 ENABLED LOGONLY - ACTIVE - -

sd 19\_97609\_02\_a113-03 lvsapdata4\_drl-97609 ENABLED 2112 LOG - - -

pl lvsapdata4\_drl-97718 lvsapdata4 ENABLED LOGONLY - ACTIVE - -

sd 13\_97718\_02\_a15a-03 lvsapdata4\_drl-97718 ENABLED 2112 LOG - - -

dc lvsapdata4\_dco lvsapdata4 - - - - - -

v lvsapdata4\_dcl gen ENABLED 2112 - ACTIVE - -

pl lvsapdata4\_dcl-97718 lvsapdata4\_dcl ENABLED 2112 - ACTIVE - -

sd 13\_97718\_02\_a15a-02 lvsapdata4\_dcl-97718 ENABLED 2112 0 - - -

pl lvsapdata4\_dcl-97609 lvsapdata4\_dcl ENABLED 2112 - ACTIVE - -

sd 19\_97609\_02\_a113-02 lvsapdata4\_dcl-97609 ENABLED 2112 0 - - -

#

* As you can see above 2 subdisks are mixed up, leading us to a critical situation, but this can be fixed on the fly. All we have is a short period of time where the volume is not redundant

## Tidy up

* In case the problematic volume is a 2 way mirror, we have to yuse the force option, since VxVM tells us that we run - as we are aware - in a sparse situation:
* sort out:

#vxsd -g dgtlxpci90db05 -p lvsapdata4-97718 dis 19\_97609\_02\_a113-04

Vol0 lvsapdata4: Operation would make complete plex as sparse

use -o force to force the operation

#

#vxsd -g dgtlxpci90db05 -o force -p lvsapdata4-97718 dis 19\_97609\_02\_a113-04

#vxsd -g dgtlxpci90db05 mv 13\_97718\_02\_a15a-04 19\_97609\_02\_a113-04

#vxsd -g dgtlxpci90db05 assoc lvsapdata4-97718 13\_97718\_02\_a15a-04

#

* and verify:

#vxprint -g dgtlxpci90db05

TY NAME ASSOC KSTATE LENGTH PLOFFS STATE TUTIL0 PUTIL0

dg dgtlxpci90db05 dgtlxpci90db05 - - - - - -

dm 13\_97718\_01\_a159 sdav - 14671616 - - - -

dm 13\_97718\_02\_a15a sdaw - 14671616 - - - -

dm 19\_97609\_01\_a112 sds - 14671616 - - - -

dm 19\_97609\_02\_a113 sdt - 14671616 - - - -

v lvsapdata4 fsgen ENABLED 29295104 - ACTIVE - -

pl lvsapdata4-97609 lvsapdata4 ENABLED 29295104 - ACTIVE - -

sd 19\_97609\_02\_a113-01 lvsapdata4-97609 ENABLED 14615040 0 - - -

sd 19\_97609\_01\_a112-01 lvsapdata4-97609 ENABLED 14671616 14615040 - - -

sd 19\_97609\_02\_a113-04 lvsapdata4-97609 ENABLED 8448 29286656 - - - <<<<<<<<<<<<<<<< OK

pl lvsapdata4-97718 lvsapdata4 ENABLED 29295104 - ACTIVE - -

sd 13\_97718\_02\_a15a-01 lvsapdata4-97718 ENABLED 14615040 0 - - -

sd 13\_97718\_01\_a159-01 lvsapdata4-97718 ENABLED 14671616 14615040 - - -

sd 13\_97718\_02\_a15a-04 lvsapdata4-97718 ENABLED 8448 29286656 - - - <<<<<<<<<<<<<<<< OK

pl lvsapdata4\_drl-97609 lvsapdata4 ENABLED LOGONLY - ACTIVE - -

sd 19\_97609\_02\_a113-03 lvsapdata4\_drl-97609 ENABLED 2112 LOG - - -

pl lvsapdata4\_drl-97718 lvsapdata4 ENABLED LOGONLY - ACTIVE - -

sd 13\_97718\_02\_a15a-03 lvsapdata4\_drl-97718 ENABLED 2112 LOG - - -

dc lvsapdata4\_dco lvsapdata4 - - - - - -

v lvsapdata4\_dcl gen ENABLED 2112 - ACTIVE - -

pl lvsapdata4\_dcl-97718 lvsapdata4\_dcl ENABLED 2112 - ACTIVE - -

sd 13\_97718\_02\_a15a-02 lvsapdata4\_dcl-97718 ENABLED 2112 0 - - -

pl lvsapdata4\_dcl-97609 lvsapdata4\_dcl ENABLED 2112 - ACTIVE - -

sd 19\_97609\_02\_a113-02 lvsapdata4\_dcl-97609 ENABLED 2112 0 - - -

#

* looks good, done

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| Reduce Veritas Volume |
| --- |

This document describes how to reduce a Volume and remove disks from diskgroups on a example.  
To return disks, see [returnSAN](https://atc.bmwgroup.net/confluence/x/44oPHw).

### reduce filesystem

dgtantedbl4db was accidentally extended by +691200M twice.. so we need to reduce it by -691200M .... please note,

host # df -hP | egrep dgtantedbl4db

/dev/vx/dsk/dgtantedbl4db/lvdb 2.7T 1.3T 1.4T 50% /global/tantedbl4/db

host # vxresize -F vxfs -g dgtantedbl4db lvdb -- -691200m

host # df -hP | egrep dgtantedbl4db

/dev/vx/dsk/dgtantedbl4db/lvdb 2.0T 1.3T 689G 66% /global/tantedbl4/db

### Verify disks to deconfigure

Now make sure the disks are free and remove them from the DG. **configure\_veritas.sh** used these disks:

Exec: /sbin/vxdg -g dgtantedbl4db adddisk 19\_97138\_10\_002d=sdhb

19\_97138\_11\_002b=sdgz 19\_97138\_12\_002c=sdha 18\_97229\_10\_002d=sdhk

18\_97229\_11\_002b=sdhi 18\_97229\_12\_002c=sdhj

Exec: /etc/vx/bin/vxresize -bx -g dgtantedbl4db lvdb +691200m mirrorconfine=enclr

Check it:

lpdbant2:~ # vxprint -htg dgtantedbl4db | egrep 19\_97138\_10\_002d\|19\_97138\_11\_002b\|19\_97138\_12\_002c\|18\_97229\_10\_002d\|18\_97229\_11\_002b\|18\_97229\_12\_002cdm 18\_97229\_10\_002d sdhk auto 65536 471859648 -

dm 18\_97229\_11\_002b sdhi auto 65536 471859648

dm 18\_97229\_12\_002c sdhj auto 65536 471859648

dm 19\_97138\_10\_002d sdhb auto 65536 471859648

dm 19\_97138\_11\_002b sdgz auto 65536 471859648

dm 19\_97138\_12\_002c sdha auto 65536 471859648

### Remove Disks from DG

OK ONLY "dm" entries, disks not in use NO "sd" entries! So let's get them out of our DG

lpdbant2:~ # for i in 19\_97138\_10\_002d 19\_97138\_11\_002b 19\_97138\_12\_002c 18\_97229\_10\_002d 18\_97229\_11\_002b 18\_97229\_12\_002c ;

> do

> vxdg -g dgtantedbl4db rmdisk $i

> done

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| Setting Veritas VXVM Read Policy |
| --- |

# **Background**

The two mirrors of a logical volume are located on different disk arrays, which were in turn placed in different data centers. The two servers in a Veritas cluster are also available in different data centers.  
  
For performance reasons every cluster node should use the disks at the nearest array in the same data center for read operations. It is even more important, that the read operations from one cluster node only go on one of the two arrays and that they are not divided between the two arrays.  
  
In a regular case, the configuration can be set by calling a script and then be verified with a simple command. This way is easier, faster and less error-prone than the manual way described below, and therefore it should be preferred.  
  
If a script is not available, you can manage manually also. This option is much more complicated and requires a precise and careful work. It will be also described here, so that the read policy can be checked and set in bad conditions too.

# **Set read policy using a script**

In a regular case, the read policy can be easily checked with the following call:

li02d02:/root # vxvol\_readpol.pl -l

 Checking the read policy

The above command should produce a result that the remote array is not preferred ("remote data center and not preferred") and the local array is preferred ("local and preferred"). If this is not the case, you can adjust the settings using the following command:

li02d02:/root # vxvol\_readpol.pl -c -v -f

 Adjusting the read policy

Occasionally vxvol\_readpol.pl encounters a problem, because the volumes and plexes are not named according to the standard. With the -n option you are able to force the execution of "vxctl fixnames all":

li02d02:/root # vxvol\_readpol.pl -c -v -n -f

 Fixnames und correction of the read policy

If one is unsure about the command, syntax help as usual:

li02d02:/root # vxvol\_readpol.pl -h

 Reporting supported options

Since there are sometimes problems with the recognition of the sites and since there exists a compatibility issue with older versions of this script together with Veritas version 6, it is advisable to roll out the override BMW-SW-santools:

[INSTSERV][qx12345][lpinstiaas01] ~ $ install\_override.sh li02d01 BMW-SW-santools

 Install the latest version SAN Tools

In the following, the output of the list command is shown as an example:

li02d02:/root # vxvol\_readpol.pl -l

============= List current Volume policies =============

SER : 97146

SER : 97173

[20-11-2014 15:50:32] Storage: 97146 is on remote RZ and not preferred

[20-11-2014 15:50:32] Storage: 97173 is local and preferred

STATUS: dgtdipstw2bkup lvbkup has following POLICY -> PREFER

STATUS: dgtdipstw2bkup lvbkup\_dcl has following POLICY -> SELECT

STATUS: dgtdipstw2db lvdb has following POLICY -> PREFER

STATUS: dgtdipstw2db lvdb\_dcl has following POLICY -> SELECT

STATUS: dgtdkiqaw2bkup lvbkup has following POLICY -> PREFER

STATUS: dgtdkiqaw2bkup lvbkup\_dcl has following POLICY -> SELECT

STATUS: dgtdkiqaw2db lvdb has following POLICY -> PREFER

STATUS: dgtdkiqaw2db lvdb\_dcl has following POLICY -> SELECT

STATUS: dgtdkiqaw2redo1 lvredo1 has following POLICY -> PREFER

STATUS: dgtdkiqaw2redo1 lvredo1\_dcl has following POLICY -> SELECT

STATUS: dgtdkiqaw2redo2 lvredo2 has following POLICY -> PREFER

STATUS: dgtdkiqaw2redo2 lvredo2\_dcl has following POLICY -> SELECT

STATUS: dgtdoid2w2bkup lvbkup has following POLICY -> PREFER

STATUS: dgtdoid2w2bkup lvbkup\_dcl has following POLICY -> SELECT

STATUS: dgtdoid2w2db lvdb has following POLICY -> PREFER

STATUS: dgtdoid2w2db lvdb\_dcl has following POLICY -> SELECT

STATUS: dgtdpsatw2bkup lvbkup has following POLICY -> PREFER

STATUS: dgtdpsatw2bkup lvbkup\_dcl has following POLICY -> SELECT

STATUS: dgtdpsatw2db lvdb has following POLICY -> PREFER

STATUS: dgtdpsatw2db lvdb\_dcl has following POLICY -> SELECT

STATUS: dgtdtkbaw2bkup lvbkup has following POLICY -> PREFER

STATUS: dgtdtkbaw2bkup lvbkup\_dcl has following POLICY -> SELECT

STATUS: dgtdtkbaw2db lvdb has following POLICY -> PREFER

STATUS: dgtdtkbaw2db lvdb\_dcl has following POLICY -> SELECT

STATUS: dgtdtkbow2bkup lvbkup has following POLICY -> PREFER

STATUS: dgtdtkbow2bkup lvbkup\_dcl has following POLICY -> SELECT

STATUS: dgtdtkbow2db lvdb has following POLICY -> PREFER

STATUS: dgtdtkbow2db lvdb\_dcl has following POLICY -> SELECT

STATUS: dgtdvfcw2bkup lvbkup has following POLICY -> PREFER

STATUS: dgtdvfcw2bkup lvbkup\_dcl has following POLICY -> SELECT

STATUS: dgtdvfcw2db lvdb has following POLICY -> PREFER

STATUS: dgtdvfcw2db lvdb\_dcl has following POLICY -> SELECT

STATUS: dgtdvfcw2redo1 lvredo1 has following POLICY -> PREFER

STATUS: dgtdvfcw2redo1 lvredo1\_dcl has following POLICY -> SELECT

STATUS: dgtdvfcw2redo2 lvredo2 has following POLICY -> PREFER

STATUS: dgtdvfcw2redo2 lvredo2\_dcl has following POLICY -> SELECT

 Output of the list command

# **Check and correct read policy manually**

In the above example, you see the output of "vxvol\_readpol.pl -l". Below you see the same situation in the output of vxprint. The logical volumes holding the file systems refer all to the array 97173 in with "preferred" policy, while the accompanying logs are set to "select" policy.

li02d02:/root # vxprint -tL | grep -e "^dg" -e "^v" | less

dg dgtdoid2w2bkup default default 9250 1271230170.1006.li02d07

v lvbkup - ENABLED ACTIVE 29450112 PREFER lvbkup-97173 fsgen

v lvbkup\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdipstw2bkup default default 4125 1206701227.492.li02d07

v lvbkup - ENABLED ACTIVE 190759296 PREFER lvbkup-97173 fsgen

v lvbkup\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdipstw2db default default 3125 1206701190.486.li02d07

v lvdb - ENABLED ACTIVE 943917248 PREFER lvdb-97173 fsgen

v lvdb\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdkiqaw2bkup default default 11125 1204784231.104.li02d03

v lvbkup - ENABLED ACTIVE 410799520 PREFER lvbkup-97173 fsgen

v lvbkup\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdkiqaw2db default default 24125 1204784212.98.li02d03

v lvdb - ENABLED ACTIVE 1887840480 PREFER lvdb-97173 fsgen

v lvdb\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdkiqaw2redo1 default default 19625 1204784244.110.li02d03

v lvredo1 - ENABLED ACTIVE 7350144 PREFER lvredo1-97173 fsgen

v lvredo1\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdkiqaw2redo2 default default 15125 1204784258.116.li02d03

v lvredo2 - ENABLED ACTIVE 7350144 PREFER lvredo2-97173 fsgen

v lvredo2\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdoid2w2db default default 13125 1271230122.996.li02d07

v lvdb - ENABLED ACTIVE 14722944 PREFER lvdb-97173 fsgen

v lvdb\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdpsatw2bkup default default 5000 1205937319.448.li02d07

v lvbkup - ENABLED ACTIVE 353453280 PREFER lvbkup-97173 fsgen

v lvbkup\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdpsatw2db default default 25000 1205937299.440.li02d07

v lvdb - ENABLED ACTIVE 1887434368 PREFER lvdb-97173 fsgen

v lvdb\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdtkbaw2bkup default default 16250 1413550837.1311.li02d01

v lvbkup - ENABLED ACTIVE 471941120 PREFER lvbkup-97173 fsgen

v lvbkup\_dcl - ENABLED ACTIVE 144 SELECT - gen

dg dgtdtkbaw2db default default 125 1413551314.1327.li02d01

v lvdb - ENABLED ACTIVE 2241437696 PREFER lvdb-97173 fsgen

v lvdb\_dcl - ENABLED ACTIVE 144 SELECT - gen

dg dgtdtkbow2bkup default default 6375 1412866501.1153.li02d01

v lvbkup - ENABLED ACTIVE 117919744 PREFER lvbkup-97173 fsgen

v lvbkup\_dcl - ENABLED ACTIVE 144 SELECT - gen

dg dgtdtkbow2db default default 5375 1412866572.1155.li02d01

v lvdb - ENABLED ACTIVE 471871488 PREFER lvdb-97173 fsgen

v lvdb\_dcl - ENABLED ACTIVE 144 SELECT - gen

dg dgtdvfcw2bkup default default 27125 1371124905.176.lp02d25

v lvbkup - ENABLED ACTIVE 176480128 PREFER lvbkup-97173 fsgen

v lvbkup\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdvfcw2db default default 21125 1371124877.162.lp02d25

v lvdb - ENABLED ACTIVE 647653248 PREFER lvdb-97173 fsgen

v lvdb\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdvfcw2redo1 default default 6625 1371124924.182.lp02d25

v lvredo1 - ENABLED ACTIVE 14665600 PREFER lvredo1-97173 fsgen

v lvredo1\_dcl - ENABLED ACTIVE 2112 SELECT - gen

dg dgtdvfcw2redo2 default default 29125 1371124941.188.lp02d25

v lvredo2 - ENABLED ACTIVE 14665600 PREFER lvredo2-97173 fsgen

v lvredo2\_dcl - ENABLED ACTIVE 2112 SELECT - gen

 Manual inspection of the read policy

If you want to customize the read policy for a logical volume, the command vxvol helps a lot:

# vxvol -g <dg> rdpol prefer <vol> <plex>

<dg>   disk group

<vol>   logical volume

<plex> plex

 Syntax of vxvol rdpol

li02d02:/root # vxvol -g dgtdoid2w2bkup rdpol prefer lvbkup lvbkup-97173

 Set the read policy

On the example above, you can also see that it makes sense to perform

li02d02:/root # vxctl fixnames all

 Correction of the volume and plex names

before relevant work. If the names are set correctly, you immediately recognize, on which array a plex is.  
  
The information which array and which server is loaded in each data center can be found in two files:  
  
/etc/storage\_rz and  
/etc/server\_rz.  
  
These files are distributed with the override BMW-SW-santools.

Last edited by Liebl Markus, (Markus.Liebl@partner.bmw.de) , based on work by qxj5457 , Pamuk Edin, (Edin.Pamuk@partner.bmw.de) and Kirchberger Marco, (Marco.Kirchberger@partner.bmw.de) .  
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# **Grow mirrored Volume manually**

* Please be aware: Use way below only and only if you have no other possibility!
* First of all the disks should be mapped to the server(s) in question
  + if this is a cluster, verify on both nodes that you can see all LUNS!

## Initialize Disks

* Initialize disks so that they can be used by VxVM

# vxdisksetup -i DISK1

# vxdisksetup -i DISK2

...

## Add disks to DG

* As soon as the disks are initialized we can add them to the DG

vxdg -g DG adddisk DISK1

vxdg -g DG adddisk DISK2

...

* After that verify that the disks have been added :

# vxprint -g DG

* check that every plex has subdisks from only and only one box or side id multiple storage boxes are involved

## Create subdisks

* Subdisks names are : boxname-number (e.g. 13\_97718\_01\_a15c-01), starting with -01 as number and continuing with higher numbers if disk is not allocated in one step completely. As we want to allocate complete disks as subdisks, just use -1:

# vxmake -g DG sd DISK1-01 len=LENGHT disk=DISK1

# vxmake -g DG sd DISK2-01 len=LENGHT disk=DISK2

..

## Associate subdisks to plex

* As we have now subdisks, we can associate them to the plexes.
* Mind that you should add subdisks from one storage box only and only to that plex that has already disks/subdisks from that box, **do not mix up different sites!!**

vxsd -g DG assoc PLEX1 DISK1-01

vxsd -g DG assoc PLEX2 DISK2-01

..

* After that verify that the subdisks have been added correctly to plexes:

# vxprint -g DG

## Grow Volume and FS

* The last step is to grow the volume and filesystem in one step:

# vxresize -g DG vol-name +size

sample:

# vxresize -g dgivdqci10ci01 lvoriglogB +5G

#

Last edited by Liebl Markus, (Markus.Liebl@partner.bmw.de) , based on work by Venzke Horst, (Horst.Venzke@partner.bmw.de) , [qxc0474](https://bsswiki.muc/tiki-user_information.php?userId=-1) and [system](https://bsswiki.muc/tiki-user_information.php?userId=-1) .  
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| How to resolve- failed LUNs on DB Servers related with DRL logs |
| --- |

**Steps  to follow for: How to back failed LUNs on DB servers hosted on Veritas Cluster node**

**Modify DG name and LVname before running PROCEDURE on DB servers –if failed disks (VxVM) found on Veritas DB server.**

**For example DG Name and LV Name Are;**

DG Name =dgoracle\_lpgssdb03

LV Name =lvoracle and lvoracleaudit

→ remove the failing flag after you make sure that the luns are visible correctly

#san\_rescan -r

→ check the current status

#vxprint -htg  dgoracle\_lpgssdb03

→ remove the incorrect drl and dco logs

#vxassist -g dgoracle\_lpgssdb03 remove log lvoracle logtype=drl #( Need to run twice)

→ Example:

→ #vxassist -g dgoracle\_lpgssdb03 remove log lvoracleaudit logtype=drl #For Audit logs

#vxassist -g dgoracle\_lpgssdb03 remove log lvoracle logtype=drl

→ check the current status

#vxprint -htg  dgoracle\_lpgssdb03

→ check if we have enough free space in the DG also you will need the disks for the log creation later:

#vxdg -g dgoracle\_lpgssdb03 free

→ create the drl logs

#vxassist -g dgoracle\_lpgssdb03 addlog lvoracleaudit logtype=drl loglen=2112 nlog=2 alloc=disk1,disk2 #(loglen size as per BMW Standard )

→ create the dco logs

#vxassist -g dgoracle\_lpgssdb03 addlog lvoracle logtype=dco dcolen=2112 alloc=disk1,disk2

→ check if the add was successful

#vxprint -htg  dgoracle\_lpgssdb03

→ rename the new logs according to the bmw standard

#vxctl fixnames

| ****Example:****Nagios alert : **"bad mirror: dgplsfmed1bkup/lvdb\_dcl"**check where/what  is the issue on the DG**#vxprint -htqg dgplsfmed1bkup**dg dgplsfmed1bkup default    default  19000    1309869631.116.lpbkdb23v  lvbkup       -            ENABLED  ACTIVE   1238478720 PREFER  lvbkup-98061 fsgenpl lvbkup-98049 lvbkup       ENABLED  ACTIVE   1238478720 CONCAT  -        RWsd 13\_98049\_a794-02 lvbkup-98049 13\_98049\_a794 0 29327232 0       hitachi\_vsp0\_a794 ENAsd 13\_98049\_07af-01 lvbkup-98049 13\_98049\_07af 0 29435792 29327232 hitachi\_vsp0\_07af ENAsd 13\_98049\_07b0-01 lvbkup-98049 13\_98049\_07b0 0 29435792 58763024 hitachi\_vsp0\_07b0 ENAsd 13\_98049\_07b1-01 lvbkup-98049 13\_98049\_07b1 0 29435792 88198816 hitachi\_vsp0\_07b1 ENAsd 13\_98049\_07b2-01 lvbkup-98049 13\_98049\_07b2 0 29435792 117634608 hitachi\_vsp0\_07b2 ENAsd 13\_98049\_07b3-01 lvbkup-98049 13\_98049\_07b3 0 29435792 147070400 hitachi\_vsp0\_07b3 ENAsd 13\_98049\_03c6-01 lvbkup-98049 13\_98049\_03c6 0 1061972528 176506192 hitachi\_vsp0\_03c6 ENApl lvbkup-98061 lvbkup       ENABLED  ACTIVE   1238478720 CONCAT  -        RWsd 1\_98061\_a82f-01 lvbkup-98061 1\_98061\_a82f 0 29327232 0         hitachi\_vsp1\_a82f ENAsd 1\_98061\_07af-01 lvbkup-98061 1\_98061\_07af 0 29435792 29327232  hitachi\_vsp1\_07af ENAsd 1\_98061\_07b0-01 lvbkup-98061 1\_98061\_07b0 0 29435792 58763024  hitachi\_vsp1\_07b0 ENAsd 1\_98061\_07b1-01 lvbkup-98061 1\_98061\_07b1 0 29435792 88198816  hitachi\_vsp1\_07b1 ENAsd 1\_98061\_07b2-01 lvbkup-98061 1\_98061\_07b2 0 29435792 117634608 hitachi\_vsp1\_07b2 ENAsd 1\_98061\_07b3-01 lvbkup-98061 1\_98061\_07b3 0 29435792 147070400 hitachi\_vsp1\_07b3 ENAsd 1\_98061\_03c6-01 lvbkup-98061 1\_98061\_03c6 0 1061972528 176506192 hitachi\_vsp1\_03c6 ENApl lvbkup\_drl-98049 lvbkup   ENABLED  ACTIVE   LOGONLY  CONCAT    -        RWsd 13\_98049\_a794-01 lvbkup\_drl-98049 13\_98049\_a794 29329344 2112 LOG hitachi\_vsp0\_a794 ENApl lvbkup\_drl-98061 lvbkup   ENABLED  ACTIVE   LOGONLY  CONCAT    -        RWsd 1\_98061\_a82f-03 lvbkup\_drl-98061 1\_98061\_a82f 29329344 2112 LOG hitachi\_vsp1\_a82f ENAdc lvbkup\_dco   lvbkup       lvbkup\_dclv  lvbkup\_dcl   -            ENABLED  ACTIVE   2112     SELECT    -        genpl lvbkup\_dcl-98061 lvbkup\_dcl ENABLED ACTIVE  2112     CONCAT    -        RW**sd 1\_98061\_a82f-02 lvbkup\_dcl-98061 1\_98061\_a82f 29327232 2112 0  hitachi\_vsp1\_a82f ENA ==>here we see subdisk are from same array 98061 also the LUN is diff (a82f,03c6)**pl lvbkup\_dcl-98049 lvbkup\_dcl ENABLED ACTIVE  2112     CONCAT    -        RW**sd 1\_98061\_03c6-02 lvbkup\_dcl-98049 1\_98061\_03c6 1061972528 2112 0 hitachi\_vsp1\_03c6 ENA ==>here we see subdisk are from same array 98061 also the LUN is diff (a82f,03c6)**Check the free space in disk group and also check witch disk have free space**# vxdg -g dgplsfmed1bkup free**Now remove the DCL logs**#vxassist -g dgplsfmed1bkup remove log lvbkup logtype=dco**Now check the DCL log details will be removed**# vxprint -htqg dgplsfmed1bkup**dg dgplsfmed1bkup default    default  19000    1309869631.116.lpbkdb23<removed some content>pl lvbkup\_drl-98049 lvbkup   ENABLED  ACTIVE   LOGONLY  CONCAT    -        RWsd 13\_98049\_a794-01 lvbkup\_drl-98049 13\_98049\_a794 29329344 2112 LOG hitachi\_vsp0\_a794 ENApl lvbkup\_drl-98061 lvbkup   ENABLED  ACTIVE   LOGONLY  CONCAT    -        RWsd 1\_98061\_a82f-03 lvbkup\_drl-98061 1\_98061\_a82f 29329344 2112 LOG hitachi\_vsp1\_a82f ENA#**# vxdg -g dgplsfmed1bkup free**DISK         DEVICE       TAG          OFFSET    LENGTH    FLAGS1\_98061\_a82f hitachi\_vsp1\_a82f hitachi\_vsp1\_a82f 29331456  1696      -**1\_98061\_03c6 hitachi\_vsp1\_03c6 hitachi\_vsp1\_03c6 1061974640 21184**    -**==>we can use this disk because it has its partner array disk as show Lun number (03c6)**13\_98049\_a794 hitachi\_vsp0\_a794 hitachi\_vsp0\_a794 29327232  2112      -13\_98049\_a794 hitachi\_vsp0\_a794 hitachi\_vsp0\_a794 29331456  1696      -**13\_98049\_03c6 hitachi\_vsp0\_03c6 hitachi\_vsp0\_03c6 1061972528 23296**     - **==>Partner Array disk with same LUN number (03c6)**Add the DCL log using correct disk (SAN Lun from both array - NOTE ensure this disk have sufficient space available(i,e more than 2112))**#vxassist -g dgplsfmed1bkup addlog lvbkup logtype=dco dcolen=2112 alloc=1\_98061\_03c6,13\_98049\_03c6**Verify the DCL logs added and run fixnames to have standard names**#vxprint -htqg dgplsfmed1bkup****# vxctl fixnames**16:06:52 Renaming plex lvbkup\_dcl-02 in diskgroup dgplsfmed1bkup to lvbkup\_dcl-98061   OK16:06:52 Renaming plex lvbkup\_dcl-01 in diskgroup dgplsfmed1bkup to lvbkup\_dcl-98049   OKCheck Nagios alert**qqnagio@lpbkdbtde62:~> ./prod//local/lib/nagios/plugins/check\_san\_mirror**OK - mirrors are properly set upqqnagio@lpbkdbtde62:~> |
| --- |

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**How to Resolve**

**Failing disks and Failed Disks Issues:**

If I/O errors are intermittent rather than persistent, Veritas Volume Manager sets the **failing** flag on a disk, rather than detaching the disk. Such errors can occur due to the temporary removal of a cable, controller faults, a partially faulty LUN in a disk array, or a disk with a few bad sectors or tracks.

status of a disk as "failing" in response to errors that are detected while reading or writing to a disk.

Since it is possible for a disk to be flagged as "failing" in response to an isolated event, this status does not necessarily mean that the disks have a hardware problem.

**Failing Disks Issues:**

**#san\_rescan -r**   (To restore devices / disks from storage box)

**#vxdisk scandisks** ( To re-scan all devices / disks)

**Failed Disks Issues:**

There are several scenarios for replacing a failed disk.

case-1 Disk failed but came back online after some time.

case 2- Disk failed, corrupt, needs to be replaced, and spare Disk is already available in the configuration.

**#vxdisk list | grep failed**  ( To check  failed disk status )

#**vxdisk clearimport** **hitachi\_vspg1k0\_0932** ( disk name)

**#vxreattach -c hitachi\_vspg1k0\_0932** ( disk name)

(Disk is now back online, but still showing as failed.

All we need to do is run vxreattach ​to check if we can reattach the disk.)

#**vxreattach -rb hitachi\_vspg1k0\_0932** ( failed disks re-attached with plex)

If disk count is high , use for loop with correct syntax. if disk is in STALE sta

#vxrecover -bsE -g dg\_name

#vxtask list ( To check Status)

========================END==========================================

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**Please find below steps to perform VERITAS package update (or) Along with MR**

**2 stage update**

* zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

*Update LLT and GAB 1st to stop other packages locking and causing other problems, otherwise a reboot will be required and update LLT and GAB after reboot*

* zypper update `zypper se -is VRTS\* |grep BMW-Software-Veritas |grep -v VRTSllt |grep -v VRTSgab | awk '{print $3}'`

Check all packages are upgraded fully and rerun the upgrade script above until there are no packages to be upgraded

*example*

*No update candidate for 'VRTSveki-7.4.2.2600-SLES15.x86\_64'. The highest available version is already installed.*

You can check all Veritas Infoscale packages are upgraded fully by using :

* zypper se -s VRTS\* | grep BMW-Software-Veritas

NOTE -In some cases, If VRTSvxvm package not upgraded through repository then we have to upgrade manually, copy rpm on server from install server 01 (/var/tmp)  (output pasted below) and run

example: #rpm -Uvh VRTSvxvm-7.4.1.2100-SLES12.x86\_64-201002090334.rpm

[INSTSERV][qxz12n2][lpinstiaas01] /var/tmp $ ls -l VRTSvxvm-7.4.1.2100-SLES12.x86\_64-201002090334.rpm  
-rwxr-xr-x 1 qqinstserv qqbmw 67822329 Oct 12 16:48 VRTSvxvm-7.4.1.2100-SLES12.x86\_64-201002090334.rpm  
[INSTSERV][qxz12n2][lpinstiaas01] /var/tmp $

7. Master Release upgrade using Install server:

Server: <current host name>

#rudderswinst -t <TTASK NO.> update <current host name with domain name, example: ltd34.w3)

------------------------------------------------------------------  
8. Reboot the server .

Check if VCS is running, and resource are probed.  
#hastatus -sum  
#df -h

Unfreeze node

#haconf -makerw  
#hasys -unfreeze -persistent lp02d60  
#hasys -unfreeze -persistent lp02d59  
#haconf -dump -makero

9. Start packages.

Note: Start the Packages on the respective nodes (take a reference of your backup which you have taken before activity)

Example: #for i in PKGName do; hagrp -online $i -sys <current host name>; done

Server: <current host name> - Manual steps to online packages

hagrp -online PKGNAME -sys ServerName  
hagrp -online PKGNAME -sys ServerName

or

#hagrp -switch PName -to SName  
#hagrp -switch PName -to SName  
#hagrp -switch PName -to SName

10. Do Verification /logs of VCS cluster if any issue.

11. Application Status:  confirm with Oracle / App

-------------------------------------------------------------------------------------  
Below commands outputs need to take as a backup on one file and copy the same on to install server

[lp02d60:/root](http://lp02d60/root) # cat /etc/SuSE-release  
SUSE Linux Enterprise Server 12 (x86\_64)  
VERSION = 12  
PATCHLEVEL = 4  
# This file is deprecated and will be removed in a future service pack or release.  
# Please check /etc/os-release for details about this release.

[lp02d60:/root](http://lp02d60/root) # uptime  
17:34pm up 3 days 22:13, 1 user, load average: 0.12, 0.22, 0.20  
[lp02d60:/root](http://lp02d60/root) #

[lp02d60:/root](http://lp02d60/root) # df -Th

[lp02d60:/root](http://lp02d60/root) # df -Th | wc -l  
28  
[lp02d60:/root](http://lp02d60/root) # df -Th | grep -i tmpfs | wc -l  
10  
[lp02d60:/root](http://lp02d60/root) #  
[lp02d60:/root](http://lp02d60/root) # cat /etc/fstab

[lp02d60:/root](http://lp02d60/root) #

[lp02d60:/root](http://lp02d60/root) # ifconfig

[lp02d60:/root](http://lp02d60/root) # netstat -nr

[lp02d60:/root](http://lp02d60/root) # vxdisk list

[lp02d60:/root](http://lp02d60/root) # vxdg list

[lp02d60:/root](http://lp02d60/root) # vxprint -htq

========================================================================================================================  
Switch Testings:  
================  
#On approval from the DB/app team for package switching follow the below steps (for NODE1)  
#hagrp -switch PName -to NODE2  
once all packagea of node1 are switched to ndoe2 DB team will validate.  
Once the validation is over please do swicth back NODE1 package  
#hagrp -switch PName -to NODE1  
========================================END=====================================

Created By Sanjeev Arora, NTT DATA INC.

If you have an any Issue, Please feel free to contact any time.

* Created by Unknown User (qxz13gk), last modified by [Gary Waterworth (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz25l4) on [08 Nov 2022](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=1189116547&selectedPageVersions=10&selectedPageVersions=11)

**7.1 => 7.4.1This documentation is for upgrading Veritas VxVM / DLVs (Disk Layout Versions) DGVs (Disk Group Versions). Please read the document carefully before starting the execution**

**Template:**server-unix-std:global|06|Post-SLES12-Veritas-Upgrade-Cleanup

**This is for the following scenarios:**

**1.  Veritas Patch Release or Master Release Upgrade  (with Server/Cluster Downtime).**

       During every MR and IPU update, all Veritas packages need to be updated to the latest versions available in the zypper respositories.

**2.  PRE IPU Upgrades or a Veritas Version Upgrade (when a newer Version of Veritas is installed e.g. VxVM 7.4.1 => 7.4.2 or 7.3.1 => 7.4.1):**

       - BEFORE the IPU or Veritas new Version install, upgrade to the highest DGV and DLV level supported with the \*old\* Veritas Version \*before\* the IPU upgrade

**CAUTION**: Do not upgrade to a higher version, a fall-back will not be possible since the DGs and LVOLS will not function with the older version!

**3.  PRE SAN Import Migrations and SLES12 Re-Installations:**

- BEFORE a SAN Import Migration or SLES12 Re-Install, upgrade to the highest DGV and DLV level supported by Veritas \*before\* the SAN Import Migration or Re-Install

**CAUTION**: Do not upgrade to a higher version, a fall-back will not be possible since the DGs and LVOLS will not function with the older version!

**4.  POST a SLES11=> SLES12 SAN Migration or Re-Installation: Task Template  server-unix-std:global|06|Post-SLES12-Veritas-Upgrade-Cleanup**

  - Since there is no Veritas DLV Version which is compatible between SLES11 Veritas 6.x and SLES12-SP4 Veritas 7.4.1+, this is for a POST SAN/Re-Install action to be done one week after the Migration/Re-Install.

                  The template can also be used for systems which were previously Migrated or Re-Installed, where the necessary DLV and GDV actions were not executed in the past.

                   In this task, no fall back is required and the DLV and DGV should be updated to the highest supported Version.

**How To check the current DLV and DGV Versions on a system:**

1. **Check the Veritas Support Matrix Table at the end of this document**
2. **Use the Script /global/instserv/bin/check\_dlv\_dgv.sh**

**To run a check with the script on e.g.** [**lpgip14.bmwgroup.net**](http://lpgip14.bmwgroup.net/)**:**

[lpinstiaas01]  $  rootscp **/global/instserv/bin/check\_dlv\_dgv.sh**  lpgip14.bmwgroup.[net:/var/tmp/](http://net/var/tmp/)

[lpinstiaas01]  $  rootssh [lpgip14.bmwgroup.net](http://lpgip14.bmwgroup.net/)

**The script will inform you which actions are necessary on the system:**

Checking host lpgip14 SLES Release 12-SP4 VxVM Version 7.4.1 PL: 1409

Supported VxVM Version 7.4.1 PL 1409 on lpgip14

VxVM 7.4.1 supports: DLV 11-15

VxVM 7.4.1 supports: DGV MAX 280

Checking DiskLayout DLVs .. 7.4.1 Max supported DLV is 15

LV /dev/vx/dsk/dgpgipcs0001/lvapps has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0001/lvsapGIP has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0002/lvbkup has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0003/lvmirrlogB has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0003/lvoriglogA has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0004/lvmirrlogA has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0004/lvoriglogB has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0005/lvGIP has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0006/lvsapdata1 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0007/lvsapdata2 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0008/lvsapdata3 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0009/lvsapdata4 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0010/lvsapdata5 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0011/lvsapdata6 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0012/lvsapdata7 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0013/lvsapdata8 has max DLV 15 OK

Checking DiskGroup DGVs .. 7.4.1 Max supported DGV is 280

DG dgpgipcs0001 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0002 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0003 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0004 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0005 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0006 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0007 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0008 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0009 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0010 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0011 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0012 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0013 has max DGV 280 OK

**Extra Patch Level Check for all versions**

Although a version check is done all IPU's and MR updates need to have ALL installed veritas packages updated to the latest available with the Zypper repositories.

This can be checked separately by running "zypper lu"

**So for the lpgip14 the following actions would be necessary:**

* Patch All Veritas Packages to the latest packages available in the Zypper repositories
* Upgrade all LVOLs to DLV 15 except the one LVOL which already is (lvsapdata8)
* Upgrade all DGs to DGV 280 except for the one DG which already is (dgpgipcs0013)

* **How to Perform the Upgrades:**
* **A) Check the VXVM patch level DLV and DGV version's before upgrading them on the server (check\_dlv\_dgv.sh)**
* **B) Always Set downtime for the server(s) when the servers or resource groups are to be offlined**
* **C) Make sure SAP or Oracle is stopped and confirmation is received from SAP team to proceed ahead. If a cluster offline the resource Groups.**
* **D) Upgrade the Veritas Packages available on the Zypper repository to the latest version available.**

IAAS instructions: [**Steps to Perform Veritas Package Upgrade and MR Update**](https://atc.bmwgroup.net/confluence/display/IAAS18/Steps+to+Perform+Veritas+Package+Upgrade+and+MR+Update)

**E) Upgrade the DGV Versions of the Disk Groups if required in the check above:**

           a) Manually import the DGs which require a DGV (or DVL) upgrade:

         # vxdg import <DG\_NAME>

         Then check with

         # vxdg -q list <DG\_NAME> | egrep -i ^version:| awk '{print $NF}'

         b) Upgrade the DGV version to the highest supported level supported by this Veritas Version (as in the output form  (check\_dlv\_dgv.sh)

**IMPORTANT**: this is done on the Veritas Version BEFORE a IPU, SAN IMPORT or SLES12 Re-Install. Without the -T option, it will upgrade the DGs to the highest supported level of that Veritas version.

         # vxdg upgrade <DG\_NAME>

         Then check with

         # vxdg -q list <DG\_NAME> | egrep -i ^version:| awk '{print $NF}'

If you have many DGs to update, you can use a “for” statement and check at the same time, all should have the highest supported version:

# for DG in dgptupcs00cs02 dgptupcs00cs10 dgptupcs00db02 dgptupcs00db03 dgptupcs00db04 dgptupcs00db05 dgptupcs00db06 dgptupcs00db07 dgptupcs00db10 ; do

   echo "Upgrading $DG"

             vxdg upgrade $DG && sleep 1 && vxdg -q list $DG | egrep -i ^version:| awk '{print "Version: "$NF}'

       done

**F) Upgrade the DLV Version (the Disk Groups must be imported for this):**

1. Create a temporary directory  e.g. # mkdir  /DLVUPGRADE
2. Mount the first vxfs FS in the temporary directory   e.g. # mount /dev/vx/dsk/dgpgipcs0001/lvapps   /DLVUPGRADE )
3. Now upgrade the DLV Version for the vxfs you just mounted. This can \***only**\* be done sequentially .

In the example above lvapps is DLV 10 and must be upgraded to DLV 15:

LV /dev/vx/dsk/dgpgipcs0001/lvapps has DLV 13 ERROR NOK: UPDATE TO DLV 15

This can be done with a “for” statement to save time:

# for DLV in 11 12 13 14 15 ; do

vxupgrade -n $DLV /DLVUPGRADE  &&  sleep 1 && sync -f  /DLVUPGRADE

done

Check that the LVOL is now at the required level and umount when OK:

# /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgpgipcs0001/lvapps | egrep version

# umount  /DLVUPGRADE

**Important:** Do this for each LVOL which requires an Upgrade (make sure to start with the correct version, some systems have a mix of different DLV versions).

**G)  Continue with the Next step in the Task**

1. If this is an IPU Upgrade, commence with the IPU upgrade here.
2. If this is a SAN Migration start the SAN migration
3. If this is a SLES12 Re-install, commence with the SLES12 Re-install task
4. If no other actions were planned (i.e. TASK server-unix-std:global|06|Post-SLES12-Veritas-Upgrade-Cleanup):
   * If a Standalone, remount the Filesystems (mount -a -t vxfs )
   * If a VCS Cluster, Restart the Resource Groups (hagrp -online)

**H)  Details about the required Veritas VxVM Patchlevel, DLV and DGV Versions:**

**1. Update All Veritas Packages as per the procedure in**

[**Steps to Perform Veritas Package Upgrade and MR Update**](https://atc.bmwgroup.net/confluence/display/IAAS18/Steps+to+Perform+Veritas+Package+Upgrade+and+MR+Update)

**2. Veritas Support Matrix for Disk Layout (DLV )Versions:**

############################################################################################

# DLV Support Installed VxVM Version: Source <https://sort.veritas.com/dgfs_matrix/fs_matrix>

# 5.1 (lpcaps3/4) supprts up to DLV 7? No longer documented @ Semantec

# 6.0 supports DLV 7-9 & Supports Mount only for vxupgrade minimum DLV 6

**# 6.1 supports DLV 7-10 & Supports Mount only for vxupgrade minimum DLV 6  (BMW SLES11-SP4 default, has a max DLV 10!)**

# 6.2 supports DLV 7-10 & Supports Mount only for vxupgrade minimum DLV 6

# 7.0 supports DLV 7-10 & Supports Mount only for vxupgrade minimum DLV 6

# 7.1 supports DLV 7-11 & Supports Mount only for vxupgrade minimum DLV 6

# 7.2 supports DLV 9-12 & Supports Mount only for vxupgrade  DLVs 6-8

# 7.3 supports DLV 9-12 & Supports Mount only for vxupgrade  DLVs 6-8

**# 7.3.1+ supports DLV 9-13 & Supports Mount only for for vxupgrade DLVs 6-8    (BMW SLES12-SP2 default)**

# 7.4.0 supports DLV 10-14 (not used @ BMW) & Supports Mount only for vxupgrade DLVs 6-9

**# 7.4.1 supports DLV 11-15 & Supports Mount only for vxupgrade DLVs 6-10          (BMW SLES12-SP4 default, DLV 10 from SLES11 is not officially supported)**

# 7.4.2 supports DLV 12-16 & Supports Mount only for vxupgrade DLVs 6-11

# 7.4.3 supports DLV 12-16 & Supports Mount only for vxupgrade DLVs 6-11

#

############################################################################################

**3.  Veritas Support Matrix for Disk Group DGV) Versions:**

############################################################################################

# DGV Support Installed VxVM Version: Source <https://sort.veritas.com/dgfs_matrix/dg_matrix>

# NOTE: VxVM 7.4.1 (and possibly lower) cannot modify/extend DGVs less than DG Version 160!

#       All VxVM Versions fully support the use of (but not modification of) all previous

#       DGV versions.

#       NOTE: Some VxVM Version infos are missing in the Veritas link, known deviations have been

#             added below.

#

# 4.0     Supports DGVs up to max      110

# 4.1     Supports DGVs up to max      120

# 5.0     Supports DGVs up to max      130

# 5.0     Supports DGVs up to max      140

# 5.1     Supports DGVs up to max      150   NOTE: Versions 150 and earlier cannot be extended with new disks on VxVM 7.x systems until updated!

# 5.1SP1  Supports DGVs up to max      160

# 6.0     Supports DGVs up to max      170  [DCO version 30 CAUTION larger DCO LOG SPACE REQUIRED]

# 6.0.1   Supports DGVs up to max      180

**# 6.1     Supports DGVs up to max      190**

# 6.2     Supports DGVs up to max      200

# 7.0     Supports DGVs up to max      200

# 7.1     Supports DGVs up to max      220

# 7.2     Supports DGVs up to max      230

# 7.3     Supports DGVs up to max      230

**# 7.3.1   Supports DGVs up to max      240**

# 7.4     Supports DGVs up to max      260

**# 7.4.1   Supports DGVs up to max      280**

# 7.4.2   Supports DGVs up to max      290

# 7.4.3   Supports DGVs up to max      300

#

############################################################################################

* Created by [VijayKumarReddy Ayyaluri (ext.)](https://atc.bmwgroup.net/confluence/display/~qxy7563" \o "), last modified by [Vaibhav Bist (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz1emv) on [21 Oct 2022](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=2529991401&selectedPageVersions=3&selectedPageVersions=4)

This Document instructs for Package creation **only**in **Oracle Module** , Do not follow below for any other Module Package creation request

## Preparation :

### Storage

As usual, the storage is ordered via the StorM tool. Since the storage must always be ordered from a cluster for all nodes of the cluster, but the users often provide only one node or a package name, please always make sure that all servers are really taken into account in the order. A detailed guide can be found on the SAN Order page via [SAN Order via StorM](https://atc.bmwgroup.net/confluence/display/IAAS18/5.4.4+SAN+Storage+Request).

### IP Address Reservation

* Use the node1/node2 CN network details < NET\_ID , SUBNET Mask >
* Go to CMDB and reserve IP Address

### [5.2.12 How to reserve an IP in the CMDB](https://atc.bmwgroup.net/confluence/display/IAAS18/5.2.12+How+to+reserve+an+IP+in+the+CMDB)

### Prepare the file system

Before it continues at this point, the storage must have been provided.  Kindly check the ordered Storage is available at server

A san \_ rescan must be performed on all nodes of the cluster and checked whether the LUNs provided are actually visible on all systems.

node1 # san\_rescan -o

[...]

node2 # san\_rescan -o

[...]

### Template

First of all, a template for the new file system must be applied to the instaser-server (lpinstiaas02,lp10instiaas02 ...) in the directory **/global/instserv/data/CONFIGURE\_VERITAS** . For this purpose, one of the standalone variants from the directory **/global/instserv/data/CONFIGURE\_VERITAS/INSTALL\_TEMPLATES** can be copied and edited as a template. The copy must be simplified in such a way that only the new file system to be installed in the template is still to be installed. So there is exactly one HOST entry, exactly one g-entry, the list of LUNs or a @OrderPos entry, exactly one lv entry, exactly one fs entry and exactly one mnt entry.

The use of the templates simplifies the creation of the appropriate arguments, especially for the fs entry (which controls the generation of the file system) and the mount entry (which contains the appropriate mountain options). The host is the node of the cluster on which the affected package runs at the time of file system generation.

It's a good idea to actually delete the unneeded parts of the configuration log, not just comment them out. Otherwise, since the templates are relatively large, the risk is quite high that additional entries will accidentally remain in the file and that other file systems will be modified or destroyed as a result.

##### Available Templates :

Path : /global/instserv/data/CONFIGURE\_VERITAS/INSTALL\_TEMPLATES

inst\_oracle.cluster [ For DB and BKUP Filesystems ]  
inst\_oracle\_redo.cluster [ For DB /BKUP/REDO1/REDO2 Filesystems ]  
inst\_oracle\_redo.standalone  
inst\_oracle.standalone

Ex:  inst\_oracle\_redo.cluster [ For DB /BKUP/REDO1/REDO2 Filesystems ]

NOTE :  Kindly replace variables with "%s/(variable)/new\_value/g" in VI/VIM Editor

|  |
| --- |
| #########################################################################  #  # With vi replace with %s/(variable)/new\_value/g  #  # REPLACE (host1) with the physical IP-Name of the first node e.g. lttxtdb01  # REPLACE (host2) with the physical IP-Name of the second node e.g. lttxtdb02  # REPLACE (pkgname) with the virtual IP-Name e.g. itfqdb00  # REPLACE (pkgname\_ip) with the virtual IP e.g. 10.145.92.61 or 2a03:1e80:a01:56c::1:36  # => If the SG does not have a dedicated Backup IP-Name, comment out the "ip"  #    **for** the **interface**  below!  # CURRENTLY NOT \*\*USUALLY\*\*\* NEEDED!! REPLACE (pkgbu\_ip) with the virtual BACKUP IP e.g. 10.145.98.22 or 2a03:1e80:a04:53e::1:208  # CURRENTLY NOT \*\*USUALLY\*\*\* NEEDED!! REPLACE (pkgbu\_name) with the virtual Backup IP-Name e.g. itfqdb00b  #  # !! DO NOT CONFIGURE SMALLER THAN DEFAULT VALUES WITHOUT AN OK FROM FG-941 !!!  #  #########################################################################    HOST (host1) (host2)    #########################################################################  # Service group section  sg (pkgname)  node (host1) (host2)  # Primary Virtuell IP  ip (pkgname\_ip) (pkgname)  # NetBackup Virtuell IP  #######ip (pkgbu\_ip) (pkgbu\_name)  # VCS Script Templates  app oracle module=oracle    #########################################################################  # Disk group section 1  # DG DB  dg dg(pkgname)db    # LDEV SN STORAGE\_TYPE  # e.g.: **for** B2 Mirrored  # 10:30 28275 B2\_GS  # 10:58 28270 B2\_GS  # or **for** Class C2 Unmirrored  # 10:31 28275 C2\_GS    lv  lvdb max  fs  lvdb 8192  mnt lvdb /global/(pkgname)/db owner=oracle:dba chmod=770 opts=mincache=direct,convosync=direct  #########################################################################  # Disk group section 2  # DG BKUP  dg dg(pkgname)bkup  # LDEV SN TYPE    lv lvbkup max  fs lvbkup 8192  mnt lvbkup /global/(pkgname)/bkup owner=oracle:dba chmod=770 opts=defaults  #########################################################################  #  # REDO Filesystems are OPTIONAL  #  #########################################################################  # Disk group section 3  # DG REDO1  dg dg(pkgname)redo1  # LDEV SN TYPE    lv lvredo1 max  fs lvredo1 1024  mnt lvredo1 /global/(pkgname)/redo1 owner=oracle:dba chmod=770 opts=mincache=direct,convosync=direct  #########################################################################  # Disk group section 4  # DG REDO2  dg dg(pkgname)redo2  # LDEV SN TYPE    lv lvredo2 max  fs lvredo2 1024  mnt lvredo2 /global/(pkgname)/redo2 owner=oracle:dba chmod=770 opts=mincache=direct,convosync=direct  ######################################################################### |

## Execution :

If the storage system has been correctly detected, the FIle system can be created in the next step. This is done from the installer server via configure \_ veritas.sh:

**Sample**:

[lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS # configure\_veritas.sh dbekanw7\_oracle\_redo\_TAS000005728769.cluster

|  |
| --- |
| Processing file 'dbekanw7\_oracle\_redo\_TAS000005728769.cluster'    -> Checking File validity                        [OK]    file exist: dbekanw7\_oracle\_redo\_TAS000005728769.cluster  -> Looking **for** RequestID markers                 [OK]    none found  -> Fetching Hostlist(s)                          [OK]    working on node1 node2 -> Testing Hosts                                 [OK]    root access verified  -> Fetching ServiceGroup                         [OK]    found dbekanw7  -> Fetching module **for** Apps                      [OK]    fetched      Running remote sanity check    -> Copy template to remote host 'node1'        [OK]    copied  -> Running sanity check on 'node1'    \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Scanning **for** disks, please wait...success!  Sanity checking LUNs...  Sanity checking **package** dbekanw7...  08:37:04 Sanity checking IP 160.46.22.11  Sanity checking application oracle  WARNING: Application start/stop/monitor scripts don't exist (/lfs/cluster/vcs/dbekanw7\_oracle\_start/stop/monitor), please make sure they are created before the **final** run.  Sanity checking mount /global/dbekanw7/db  Sanity checking mount /global/dbekanw7/bkup  Sanity checking mount /global/dbekanw7/redo1  Sanity checking mount /global/dbekanw7/redo2  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*    -> Sanity check                                  [OK]    success  -> Copy template to remote host 'node2'        [OK]    copied  -> Running sanity check on 'node2'    \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Scanning **for** disks, please wait...success!  Sanity checking LUNs...  Sanity checking **package** dbekanw7...  08:37:20 Sanity checking IP 160.46.22.11  Sanity checking application oracle  WARNING: Application start/stop/monitor scripts don't exist (/lfs/cluster/vcs/dbekanw7\_oracle\_start/stop/monitor), please make sure they are created before the **final** run.  Sanity checking mount /global/dbekanw7/db  Sanity checking mount /global/dbekanw7/bkup  Sanity checking mount /global/dbekanw7/redo1  Sanity checking mount /global/dbekanw7/redo2  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*    -> Sanity check                                  [OK]    success      Deploying application scripts    -> Preparing files                               [OK]    staged  -> Distributing files                            [OK]    distributed      Starting remote /sbin/vxctl call    -> Initiating vxctl on node1  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Scanning **for** disks, please wait...success!  Sanity checking LUNs...  08:37:35 Initializing disk hitachi\_vsp0\_516d                              OK  08:37:35 Disabling thin provisioning on disk hitachi\_vsp0\_516d            OK  08:37:35 Initializing disk hitachi\_vsp1\_516d                              OK  08:37:36 Disabling thin provisioning on disk hitachi\_vsp1\_516d            OK  08:37:36 Creating disk group with name dgdbekanw7bkup and disks  hitachi\_vsp0\_516d hitachi\_vsp1\_516d                                      OK  08:37:37 Renaming disk hitachi\_vsp0\_516d in diskgroup dgdbekanw7bkup to  12\_98053\_516d                                                            OK  08:37:37 Renaming disk hitachi\_vsp1\_516d in diskgroup dgdbekanw7bkup to  10\_98172\_516d                                                            OK  08:37:37 Creating volume lvbkup in diskgroup dgdbekanw7bkup with size  230437M                                                                  OK  08:37:40 Renaming plex lvbkup-03 in diskgroup dgdbekanw7bkup to  lvbkup\_drl-98053                                                         OK  08:37:40 Renaming plex lvbkup-02 in diskgroup dgdbekanw7bkup to  lvbkup-98172                                                             OK  08:37:40 Renaming plex lvbkup-01 in diskgroup dgdbekanw7bkup to  lvbkup-98053                                                             OK  08:37:40 Renaming plex lvbkup-04 in diskgroup dgdbekanw7bkup to  lvbkup\_drl-98172                                                         OK  08:37:40 Renaming plex lvbkup\_dcl-01 in diskgroup dgdbekanw7bkup to  lvbkup\_dcl-98053                                                         OK  08:37:40 Renaming plex lvbkup\_dcl-02 in diskgroup dgdbekanw7bkup to  lvbkup\_dcl-98172                                                         OK  08:37:40 Setting read policy **for** volume lvbkup in diskgroup  dgdbekanw7bkup to plex lvbkup-98053                                      OK  08:37:40 Exec: /sbin/mkfs.vxfs -o bsize=8192  /dev/vx/dsk/dgdbekanw7bkup/lvbkup 2>&1 >/dev/**null**                        OK  08:37:40 Exec: /bin/mount -t vxfs /dev/vx/dsk/dgdbekanw7bkup/lvbkup  /global/dbekanw7/bkup                                                    OK  08:37:40 Exec: /bin/chown oracle:dba /global/dbekanw7/bkup                OK  08:37:40 Exec: /bin/chmod 770 /global/dbekanw7/bkup                       OK  08:37:40 Exec: /bin/umount /global/dbekanw7/bkup                          OK  08:37:40 Initializing disk hitachi\_vsp0\_514b                              OK  08:37:41 Disabling thin provisioning on disk hitachi\_vsp0\_514b            OK  08:37:41 Initializing disk hitachi\_vsp1\_514b                              OK  08:37:41 Disabling thin provisioning on disk hitachi\_vsp1\_514b            OK  08:37:41 Creating disk group with name dgdbekanw7db and disks  hitachi\_vsp0\_514b hitachi\_vsp1\_514b                                      OK  08:37:43 Renaming disk hitachi\_vsp0\_514b in diskgroup dgdbekanw7db to  12\_98053\_514b                                                            OK  08:37:43 Renaming disk hitachi\_vsp1\_514b in diskgroup dgdbekanw7db to  10\_98172\_514b                                                            OK  08:37:43 Creating volume lvdb in diskgroup dgdbekanw7db with size 57575M  OK  08:37:45 Renaming plex lvdb-03 in diskgroup dgdbekanw7db to  lvdb\_drl-98172                                                           OK  08:37:45 Renaming plex lvdb-01 in diskgroup dgdbekanw7db to lvdb-98053    OK  08:37:45 Renaming plex lvdb-02 in diskgroup dgdbekanw7db to lvdb-98172    OK  08:37:45 Renaming plex lvdb-04 in diskgroup dgdbekanw7db to  lvdb\_drl-98053                                                           OK  08:37:45 Renaming plex lvdb\_dcl-01 in diskgroup dgdbekanw7db to  lvdb\_dcl-98053                                                           OK  08:37:45 Renaming plex lvdb\_dcl-02 in diskgroup dgdbekanw7db to  lvdb\_dcl-98172                                                           OK  08:37:45 Setting read policy **for** volume lvdb in diskgroup dgdbekanw7db to  plex lvdb-98053                                                          OK  08:37:45 Exec: /sbin/mkfs.vxfs -o bsize=8192  /dev/vx/dsk/dgdbekanw7db/lvdb 2>&1 >/dev/**null**                            OK  08:37:45 Exec: /bin/mount -t vxfs -o mincache=direct,convosync=direct  /dev/vx/dsk/dgdbekanw7db/lvdb /global/dbekanw7/db                        OK  08:37:45 Exec: /bin/chown oracle:dba /global/dbekanw7/db                  OK  08:37:45 Exec: /bin/chmod 770 /global/dbekanw7/db                         OK  08:37:45 Exec: /bin/umount /global/dbekanw7/db                            OK  08:37:46 Initializing disk hitachi\_vsp0\_513f                              OK  08:37:46 Disabling thin provisioning on disk hitachi\_vsp0\_513f            OK  08:37:46 Initializing disk hitachi\_vsp1\_513f                              OK  08:37:46 Disabling thin provisioning on disk hitachi\_vsp1\_513f            OK  08:37:46 Creating disk group with name dgdbekanw7redo1 and disks  hitachi\_vsp0\_513f hitachi\_vsp1\_513f                                      OK  08:37:48 Renaming disk hitachi\_vsp0\_513f in diskgroup dgdbekanw7redo1 to  12\_98053\_513f                                                            OK  08:37:48 Renaming disk hitachi\_vsp1\_513f in diskgroup dgdbekanw7redo1 to  10\_98172\_513f                                                            OK  08:37:48 Creating volume lvredo1 in diskgroup dgdbekanw7redo1 with size  14359M                                                                   OK  08:37:50 Renaming plex lvredo1-03 in diskgroup dgdbekanw7redo1 to  lvredo1\_drl-98053                                                        OK  08:37:50 Renaming plex lvredo1-02 in diskgroup dgdbekanw7redo1 to  lvredo1-98172                                                            OK  08:37:50 Renaming plex lvredo1-01 in diskgroup dgdbekanw7redo1 to  lvredo1-98053                                                            OK  08:37:51 Renaming plex lvredo1-04 in diskgroup dgdbekanw7redo1 to  lvredo1\_drl-98172                                                        OK  08:37:51 Renaming plex lvredo1\_dcl-01 in diskgroup dgdbekanw7redo1 to  lvredo1\_dcl-98053                                                        OK  08:37:51 Renaming plex lvredo1\_dcl-02 in diskgroup dgdbekanw7redo1 to  lvredo1\_dcl-98172                                                        OK  08:37:51 Setting read policy **for** volume lvredo1 in diskgroup  dgdbekanw7redo1 to plex lvredo1-98053                                    OK  08:37:51 Exec: /sbin/mkfs.vxfs -o bsize=1024  /dev/vx/dsk/dgdbekanw7redo1/lvredo1 2>&1 >/dev/**null**                      OK  08:37:51 Exec: /bin/mount -t vxfs -o mincache=direct,convosync=direct  /dev/vx/dsk/dgdbekanw7redo1/lvredo1 /global/dbekanw7/redo1               OK  08:37:51 Exec: /bin/chown oracle:dba /global/dbekanw7/redo1               OK  08:37:51 Exec: /bin/chmod 770 /global/dbekanw7/redo1                      OK  08:37:51 Exec: /bin/umount /global/dbekanw7/redo1                         OK  08:37:51 Initializing disk hitachi\_vsp0\_514a                              OK  08:37:51 Disabling thin provisioning on disk hitachi\_vsp0\_514a            OK  08:37:51 Initializing disk hitachi\_vsp1\_514a                              OK  08:37:52 Disabling thin provisioning on disk hitachi\_vsp1\_514a            OK  08:37:52 Creating disk group with name dgdbekanw7redo2 and disks  hitachi\_vsp0\_514a hitachi\_vsp1\_514a                                      OK  08:37:54 Renaming disk hitachi\_vsp0\_514a in diskgroup dgdbekanw7redo2 to  12\_98053\_514a                                                            OK  08:37:54 Renaming disk hitachi\_vsp1\_514a in diskgroup dgdbekanw7redo2 to  10\_98172\_514a                                                            OK  08:37:54 Creating volume lvredo2 in diskgroup dgdbekanw7redo2 with size  14359M                                                                   OK  08:37:56 Renaming plex lvredo2-01 in diskgroup dgdbekanw7redo2 to  lvredo2-98053                                                            OK  08:37:56 Renaming plex lvredo2-02 in diskgroup dgdbekanw7redo2 to  lvredo2-98172                                                            OK  08:37:56 Renaming plex lvredo2-04 in diskgroup dgdbekanw7redo2 to  lvredo2\_drl-98053                                                        OK  08:37:56 Renaming plex lvredo2-03 in diskgroup dgdbekanw7redo2 to  lvredo2\_drl-98172                                                        OK  08:37:56 Renaming plex lvredo2\_dcl-01 in diskgroup dgdbekanw7redo2 to  lvredo2\_dcl-98053                                                        OK  08:37:56 Renaming plex lvredo2\_dcl-02 in diskgroup dgdbekanw7redo2 to  lvredo2\_dcl-98172                                                        OK  08:37:56 Setting read policy **for** volume lvredo2 in diskgroup  dgdbekanw7redo2 to plex lvredo2-98053                                    OK  08:37:56 Exec: /sbin/mkfs.vxfs -o bsize=1024  /dev/vx/dsk/dgdbekanw7redo2/lvredo2 2>&1 >/dev/**null**                      OK  08:37:56 Exec: /bin/mount -t vxfs -o mincache=direct,convosync=direct  /dev/vx/dsk/dgdbekanw7redo2/lvredo2 /global/dbekanw7/redo2               OK  08:37:56 Exec: /bin/chown oracle:dba /global/dbekanw7/redo2               OK  08:37:56 Exec: /bin/chmod 770 /global/dbekanw7/redo2                      OK  08:37:56 Exec: /bin/umount /global/dbekanw7/redo2                         OK  08:37:58 Exec: /opt/VRTS/bin/haconf -makerw                               OK  08:37:58 Exec: /opt/VRTS/bin/hagrp -add dbekanw7                          VCS NOTICE V-16-1-10136 Group added; populating SystemList and setting the Parallel attribute recommended before adding resources  OK  08:37:58 Exec: /opt/VRTS/bin/hagrp -modify dbekanw7 SystemList -add node1 0                                                                OK  08:37:58 Exec: /opt/VRTS/bin/hagrp -modify dbekanw7 SystemList -add node2 1                                                                OK  08:37:58 Exec: /opt/VRTS/bin/hagrp -modify dbekanw7 AutoStartList -add node1                                                                  OK  08:37:58 Exec: /opt/VRTS/bin/hagrp -modify dbekanw7 AutoStartList -add node2                                                                  OK  08:37:58 Exec: /opt/VRTS/bin/hares -add dbekanw7\_nic\_proxy Proxy dbekanw7 VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:37:58 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_nic\_proxy  TargetResName NIC\_monitor                                                OK  08:37:58 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_nic\_proxy Enabled 1   OK  08:37:58 Exec: sleep 1                                                    OK  08:37:59 Exec: /opt/VRTS/bin/haconf -dump -makero                         OK  08:38:01 Exec: /opt/VRTS/bin/haconf -makerw                               OK  08:38:01 Exec: /opt/VRTS/bin/hares -add dbekanw7\_dbekanw7\_ip IP dbekanw7  VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:01 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dbekanw7\_ip Address  160.46.22.11                                                             OK  08:38:01 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dbekanw7\_ip NetMask  255.255.255.0                                                            OK  08:38:01 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dbekanw7\_ip Options  "broadcast 160.46.22.255"                                                OK  08:38:01 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dbekanw7\_ip Device  bond0                                                                    OK  08:38:01 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dbekanw7\_ip Critical  1                                                                        OK  08:38:01 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dbekanw7\_ip Enabled 1 OK  08:38:01 Exec: /opt/VRTS/bin/hares -link dbekanw7\_dbekanw7\_ip  dbekanw7\_nic\_proxy                                                       OK  08:38:01 Exec: sleep 1                                                    OK  08:38:02 Exec: /opt/VRTS/bin/haconf -dump -makero                         OK  08:38:03 Exec: /opt/VRTS/bin/haconf -makerw                               OK  08:38:03 Exec: /opt/VRTS/bin/hares -add dbekanw7\_oracle\_app Application  dbekanw7                                                                 VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:03 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_oracle\_app  StartProgram /lfs/cluster/vcs/dbekanw7\_oracle\_start                      OK  08:38:03 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_oracle\_app  StopProgram /lfs/cluster/vcs/dbekanw7\_oracle\_stop                        OK  08:38:03 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_oracle\_app  MonitorProgram /lfs/cluster/vcs/dbekanw7\_oracle\_monitor                  OK  08:38:03 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_oracle\_app Enabled 1  OK  08:38:03 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_oracle\_app Critical 1 OK  08:38:03 Exec: hares -link dbekanw7\_oracle\_app dbekanw7\_dbekanw7\_ip       OK  08:38:03 Exec: sleep 1                                                    OK  08:38:04 Exec: /opt/VRTS/bin/haconf -dump -makero                         OK  08:38:04 Exec: /opt/VRTS/bin/haconf -makerw                               OK  08:38:04 Exec: /opt/VRTS/bin/hacli -cmd "mkdir -p /global/dbekanw7/db"    OK  08:38:04 Exec: /opt/VRTS/bin/hares -add dbekanw7\_dgdbekanw7db DiskGroup  dbekanw7                                                                 VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:04 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7db  DiskGroup dgdbekanw7db                                                   OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7db  StartVolumes 1                                                           OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7db  StopVolumes 1                                                            OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7db Enabled  1                                                                        OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7db Critical  1                                                                        OK  08:38:05 Exec: /opt/VRTS/bin/hares -add dbekanw7\_global\_dbekanw7\_db\_mount  Mount dbekanw7                                                           VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_db\_mount BlockDevice  /dev/vx/dsk/dgdbekanw7db/lvdb                                            OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_db\_mount MountPoint /global/dbekanw7/db         OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_db\_mount FsckOpt %-y                            OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_db\_mount FSType vxfs                            OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_db\_mount Enabled 1                              OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_db\_mount Critical 1                             OK  08:38:05 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_db\_mount MountOpt  mincache=direct,convosync=direct                                         OK  08:38:05 Exec: /opt/VRTS/bin/hares -link  dbekanw7\_global\_dbekanw7\_db\_mount dbekanw7\_dgdbekanw7db                  OK  08:38:05 Exec: /opt/VRTS/bin/hares -link dbekanw7\_oracle\_app  dbekanw7\_global\_dbekanw7\_db\_mount                                        OK  08:38:05 Exec: sleep 1                                                    OK  08:38:06 Exec: /opt/VRTS/bin/haconf -dump -makero                         OK  08:38:06 Exec: /opt/VRTS/bin/haconf -makerw                               OK  08:38:06 Exec: /opt/VRTS/bin/hacli -cmd "mkdir -p /global/dbekanw7/bkup"  OK  08:38:06 Exec: /opt/VRTS/bin/hares -add dbekanw7\_dgdbekanw7bkup DiskGroup  dbekanw7                                                                 VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7bkup  DiskGroup dgdbekanw7bkup                                                 OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7bkup  StartVolumes 1                                                           OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7bkup  StopVolumes 1                                                            OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7bkup  Enabled 1                                                                OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7bkup  Critical 1                                                               OK  08:38:06 Exec: /opt/VRTS/bin/hares -add  dbekanw7\_global\_dbekanw7\_bkup\_mount Mount dbekanw7                       VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_bkup\_mount BlockDevice  /dev/vx/dsk/dgdbekanw7bkup/lvbkup                                        OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_bkup\_mount MountPoint /global/dbekanw7/bkup     OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_bkup\_mount FsckOpt %-y                          OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_bkup\_mount FSType vxfs                          OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_bkup\_mount Enabled 1                            OK  08:38:06 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_bkup\_mount Critical 1                           OK  08:38:06 Exec: /opt/VRTS/bin/hares -link  dbekanw7\_global\_dbekanw7\_bkup\_mount dbekanw7\_dgdbekanw7bkup              OK  08:38:06 Exec: /opt/VRTS/bin/hares -link dbekanw7\_oracle\_app  dbekanw7\_global\_dbekanw7\_bkup\_mount                                      OK  08:38:06 Exec: sleep 1                                                    OK  08:38:07 Exec: /opt/VRTS/bin/haconf -dump -makero                         OK  08:38:08 Exec: /opt/VRTS/bin/haconf -makerw                               OK  08:38:08 Exec: /opt/VRTS/bin/hacli -cmd "mkdir -p /global/dbekanw7/redo1" OK  08:38:08 Exec: /opt/VRTS/bin/hares -add dbekanw7\_dgdbekanw7redo1  DiskGroup dbekanw7                                                       VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo1  DiskGroup dgdbekanw7redo1                                                OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo1  StartVolumes 1                                                           OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo1  StopVolumes 1                                                            OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo1  Enabled 1                                                                OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo1  Critical 1                                                               OK  08:38:08 Exec: /opt/VRTS/bin/hares -add  dbekanw7\_global\_dbekanw7\_redo1\_mount Mount dbekanw7                      VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo1\_mount BlockDevice  /dev/vx/dsk/dgdbekanw7redo1/lvredo1                                      OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo1\_mount MountPoint /global/dbekanw7/redo1   OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo1\_mount FsckOpt %-y                         OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo1\_mount FSType vxfs                         OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo1\_mount Enabled 1                           OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo1\_mount Critical 1                          OK  08:38:08 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo1\_mount MountOpt  mincache=direct,convosync=direct                                         OK  08:38:08 Exec: /opt/VRTS/bin/hares -link  dbekanw7\_global\_dbekanw7\_redo1\_mount dbekanw7\_dgdbekanw7redo1            OK  08:38:08 Exec: /opt/VRTS/bin/hares -link dbekanw7\_oracle\_app  dbekanw7\_global\_dbekanw7\_redo1\_mount                                     OK  08:38:08 Exec: sleep 1                                                    OK  08:38:09 Exec: /opt/VRTS/bin/haconf -dump -makero                         OK  08:38:10 Exec: /opt/VRTS/bin/haconf -makerw                               OK  08:38:10 Exec: /opt/VRTS/bin/hacli -cmd "mkdir -p /global/dbekanw7/redo2" OK  08:38:10 Exec: /opt/VRTS/bin/hares -add dbekanw7\_dgdbekanw7redo2  DiskGroup dbekanw7                                                       VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo2  DiskGroup dgdbekanw7redo2                                                OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo2  StartVolumes 1                                                           OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo2  StopVolumes 1                                                            OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo2  Enabled 1                                                                OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify dbekanw7\_dgdbekanw7redo2  Critical 1                                                               OK  08:38:10 Exec: /opt/VRTS/bin/hares -add  dbekanw7\_global\_dbekanw7\_redo2\_mount Mount dbekanw7                      VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors  OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo2\_mount BlockDevice  /dev/vx/dsk/dgdbekanw7redo2/lvredo2                                      OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo2\_mount MountPoint /global/dbekanw7/redo2   OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo2\_mount FsckOpt %-y                         OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo2\_mount FSType vxfs                         OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo2\_mount Enabled 1                           OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo2\_mount Critical 1                          OK  08:38:10 Exec: /opt/VRTS/bin/hares -modify  dbekanw7\_global\_dbekanw7\_redo2\_mount MountOpt  mincache=direct,convosync=direct                                         OK  08:38:10 Exec: /opt/VRTS/bin/hares -link  dbekanw7\_global\_dbekanw7\_redo2\_mount dbekanw7\_dgdbekanw7redo2            OK  08:38:10 Exec: /opt/VRTS/bin/hares -link dbekanw7\_oracle\_app  dbekanw7\_global\_dbekanw7\_redo2\_mount                                     OK  08:38:10 Exec: sleep 1                                                    OK  08:38:11 Exec: /opt/VRTS/bin/haconf -dump -makero                         OK  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*    -> Evaluating remote script **return** code          [OK]    creation ok    cleanup... |

The output of the script must be checked closely! For example, a popular fs entry is a forgotten fs entry that only leads to a warning. However, since no file system is created, the file system cannot be mounted later.

If the script goes through successfully, you should already have the mounted file system available on the specified node. Now the ownership and access rights of the file system can be discontinued.

## Check the interim result

The newly created file system must now be mounted and Package available on the current node of the cluster. Initially the Package will be in Partial state, It's not an error state, its just mean that not all the Resources related to Package is not started.

|  |
| --- |
| node1 # hastatus -sum | grep -i dbekanw7  B  dbekanw7        node1              Y          N               PARTIAL  B  dbekanw7        node2              Y          N               OFFLINE  node1 # |

Bring the Package online

|  |
| --- |
| node1 # hagrp -online dbekanw7 -sys node1  node1 # hastatus -sum | grep -i dbekanw7  B  dbekanw7        node1              Y          N               ONLINE  B  dbekanw7        node2              Y          N               OFFLINE |

# **Post Checks**

* The created Package should be online and running, and the mounts should be available in running node

|  |
| --- |
| node1 # hastatus -sum | grep -i dbekanw7  B  dbekanw7        node1              Y          N               ONLINE  B  dbekanw7        node2              Y          N               OFFLINE  node1 # df -hT -t vxfs | grep -i dbekanw7  /dev/vx/dsk/dgdbekanw7db/lvdb                    vxfs       57G   72M   56G   1% /global/dbekanw7/db  /dev/vx/dsk/dgdbekanw7redo1/lvredo1              vxfs       15G   22M   14G   1% /global/dbekanw7/redo1  /dev/vx/dsk/dgdbekanw7bkup/lvbkup                vxfs      226G   81M  224G   1% /global/dbekanw7/bkup  /dev/vx/dsk/dgdbekanw7redo2/lvredo2              vxfs       15G   22M   14G   1% /global/dbekanw7/redo2 |

* Check the Ownership and rights of Package mounts

|  |
| --- |
| node1 # ls -ld /global/dbekanw7  drwxr-xr-x 1 root root 32 Jun 25 08:37 /global/dbekanw7  node1 # ls -ld /global/dbekanw7/\*  drwxrwx--- 3 oracle dba 96 Jun 25 08:37 /global/dbekanw7/bkup  drwxrwx--- 4 oracle dba 96 Jun 25 08:43 /global/dbekanw7/db  drwxrwx--- 3 oracle dba 96 Jun 25 08:37 /global/dbekanw7/redo1  drwxrwx--- 3 oracle dba 96 Jun 25 08:37 /global/dbekanw7/redo2 |

* Check if the Package start/stop/monitor scripts are available

|  |
| --- |
| node1 # cd /lfs/cluster/vcs  node1 :/lfs/cluster/vcs # ls -ltrh dbekanw7\*  -rwxr-xr-x 1 720021 qqbmw 3.1K Sep 17  2019 dbekanw7\_oracle\_stop  -rwxr-xr-x 1 720021 qqbmw 6.3K Sep 17  2019 dbekanw7\_oracle\_start  -rwxr-xr-x 1 720021 qqbmw 1.6K Sep 17  2019 dbekanw7\_oracle\_monitor  node1 :/lfs/cluster/vcs # |

### Perform switch test

In order to ensure that the extension of the package has been carried out correctly and that all resources are properly integrated and available, a final Switchtest must be carried out.

We have to switch the Package from node1 to node2 and vise versa upon checking the same above checks at node2

|  |
| --- |
| node1 # hagrp -**switch** dbekanw7 -to node2            ===> Switching from node1 to node2  node1 # hastatus -sum | grep -i dbekanw7  B  dbekanw7        node1              Y          N               OFFLINE  B  dbekanw7        node2              Y          N               STARTING|PARTIAL  F  dbekanw7        IP              dbekanw7\_dbekanw7\_ip node2              W\_ONLINE  node2 # hastatus -sum | grep -i dbekanw7                                            ==> Package is ONLINE at node2  B  dbekanw7        node1              Y          N               OFFLINE  B  dbekanw7        node2              Y          N               ONLINE  node2 # df -hT | grep -i dbekanw7  /dev/vx/dsk/dgdbekanw7redo2/lvredo2              vxfs       15G   22M   14G   1% /global/dbekanw7/redo2  /dev/vx/dsk/dgdbekanw7bkup/lvbkup                vxfs      226G   81M  224G   1% /global/dbekanw7/bkup  /dev/vx/dsk/dgdbekanw7redo1/lvredo1              vxfs       15G   22M   14G   1% /global/dbekanw7/redo1  /dev/vx/dsk/dgdbekanw7db/lvdb                    vxfs       57G   72M   56G   1% /global/dbekanw7/db  node2 # hastatus -sum | grep -i dbekanw7  B  dbekanw7        node1              Y          N               OFFLINE  B  dbekanw7        node2              Y          N               ONLINE  node2 # hagrp -**switch** dbekanw7 -to node1                               ===>Switchting from node2 to node1  node1 # hastatus -sum | grep -i dbekanw7  B  dbekanw7        node1              Y          N               ONLINE  B  dbekanw7        node2              Y          N               OFFLINE  node1 # df -hT | grep -i dbekanw7  /dev/vx/dsk/dgdbekanw7redo2/lvredo2              vxfs       15G   22M   14G   1% /global/dbekanw7/redo2  /dev/vx/dsk/dgdbekanw7bkup/lvbkup                vxfs      226G   81M  224G   1% /global/dbekanw7/bkup  /dev/vx/dsk/dgdbekanw7redo1/lvredo1              vxfs       15G   22M   14G   1% /global/dbekanw7/redo1  /dev/vx/dsk/dgdbekanw7db/lvdb                    vxfs       57G   72M   56G   1% /global/dbekanw7/db |

### Create Resource Group in CMDB

Make an entry in CMDB for the mentioned Package [ Resource Group ] under Failover cluster [Create Resource Group for a Package in CMDB](https://atc.bmwgroup.net/confluence/display/IAAS18/Create+Resource+Group+for+a+Package+in+CMDB)

### Setting Read Policy

As a next step, the [VxVM Setting Read policy](https://atc.bmwgroup.net/confluence/display/IAAS18/5.4.5.13+VxVM+Setting+Read+policy).

* Created by [Dieter Klingbeil (FG-832RG)](https://atc.bmwgroup.net/confluence/display/~q154334), last modified by [VijayKumarReddy Ayyaluri (ext.)](https://atc.bmwgroup.net/confluence/display/~qxy7563" \o ") on [13 Sep 2022](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=2606506468&selectedPageVersions=8&selectedPageVersions=9)

To be completed :

→ Template-Names to follow etc...

Below Document explains to Migrate Package from cluster to standalone [single server](https://atc.bmwgroup.net/confluence/pages/createpage.action?spaceKey=IAAS18&title=single+server&linkCreation=true&fromPageId=2606506468)

we used below details for illustration

**Package Name**:  tdkiqaw2

**Cluster [ Source ] :** lt02db001 / lt02db002

**Target  [ standalone /single ]** : li02dbipsq001

Cluster2single-prepare-migrate-package

* LUN-Visibility / LSAN-Zoning
* IP-Reservation -- Each moved package will have a new IP on the target-server.
* NFS-Shares
* Have all the “Rquired-Information” in here

Update Preperation to VCS/VxVM Filesystem Layout Version 6

If you migrate the package from an older version to Veritas VCS Version 6 and/or Veritas Storage Foundation Version 6, further steps are neccessary.

Check and note the current version of the disk layout.

PACKG=dbapdmw1  
for VOL in $(df -hP -t vxfs | grep ${PACKG} | awk '{print $1}'); do /opt/VRTS/bin/fstyp -v ${VOL} | grep -i version; done  
magic a501fcf5  version 6  ctime Sat 06 Sep 2008 01:29:46 PM CEST  
magic a501fcf5  version 6  ctime Sat 06 Sep 2008 01:29:13 PM CEST  
magic a501fcf5  version 6  ctime Sat 06 Sep 2008 01:28:48 PM CEST  
magic a501fcf5  version 6  ctime Sat 06 Sep 2008 01:29:32 PM CEST  
Example for a package named dbapdmw1

Cluster2single-migrate-package:

* Have at “required Information only “Source + Destination” + Task – Numbers of Prep

Execution :

**NOTE:** Is it absolutely essential that the package cannot be started on the old cluster any more after it has been migrated. Simultaneous start on both clusters will very likely result in data corruption! For this reason, the service group is frozen on the old cluster and removed permanently after a grace period of a few days.  
  
Check if the Preparation Task is completed and closed successfully

* Evaluate the Prep Task [ such as Storage Visibility / IP reservation and Hardware issues ]

### Check SecFS

Check, whether the package has SecFS resources:

SUORCE\_NODE:~ $ rpm -qa | grep -i vee

SUORCE\_NODE:~ $

If yes, check, whether SecFS is installed on the target cluster. (See the installation instructions depending on OS-Systems)

Set Downtime for the Source and Target servers to avoid Incident alerts during activity

|  |
| --- |
| lpinstiaas02# /lfs/scripts/set\_downtime <source node 1> -s os\_linux\_cluster\_veritas\_check\_vcs -m 60  lpinstiaas02# /lfs/scripts/set\_downtime <source node 1> -s os\_linux\_cluster\_veritas\_check\_health -m 60  lpinstiaas02# /lfs/scripts/set\_downtime <source node 2> -s os\_linux\_cluster\_veritas\_check\_vcs -m 60  lpinstiaas02# /lfs/scripts/set\_downtime <source node 2> -s os\_linux\_cluster\_veritas\_check\_health -m 60  lpinstiaas02# /lfs/scripts/set\_downtime <target system> -s os\_linux\_fs\_check\_san\_mirror -m 60  lpinstiaas02# /lfs/scripts/set\_downtime <target system> -s os\_linux\_fs\_check\_vxvm -m 60 |

Get Confirmation from oracle on Package status and Proceed with Execution Implementation further

Stop Package on Source Cluster

|  |
| --- |
| lt02db002:~ # hastatus -sum | grep -i tdkiqaw2  B  tdkiqaw2        lt02db001            Y          N               OFFLINE  B  tdkiqaw2        lt02db002            Y          N               ONLINE  lt02db002:~ # hagrp -offline tdkiqaw2 -sys lt02db002  lt02db002:~ # hastatus -sum | grep -i tdkiqaw2  B  tdkiqaw2        lt02db001            Y          N               OFFLINE  B  tdkiqaw2        lt02db002            Y          N               OFFLINE  lt02db002:~ # |

- Freeze Package on Source Cluster

|  |
| --- |
| lt02db002:~ # hagrp -freeze tdkiqaw2 -persistent  VCS WARNING V-16-1-11335 Configuration must be ReadWrite : Use haconf -makerw  lt02db002:~ # haconf -makerw  lt02db002:~ # hagrp -freeze tdkiqaw2 -persistent  lt02db002:~ # haconf -dump -makero  lt02db002:~ # hastatus -sum | grep -i tdkiqaw2  B  tdkiqaw2        lt02db001            Y          N               OFFLINE  B  tdkiqaw2        lt02db002            Y          N               OFFLINE  C  tdkiqaw2  H  tdkiqaw2        Application     tdkiqaw2\_app  H  tdkiqaw2        DiskGroup       tdkiqaw2\_dgtdkiqaw2bkup  H  tdkiqaw2        DiskGroup       tdkiqaw2\_dgtdkiqaw2db  H  tdkiqaw2        DiskGroup       tdkiqaw2\_dgtdkiqaw2redo1  H  tdkiqaw2        DiskGroup       tdkiqaw2\_dgtdkiqaw2redo2  H  tdkiqaw2        IP              tdkiqaw2\_ip  H  tdkiqaw2        Mount           tdkiqaw2\_bkup\_mount  H  tdkiqaw2        Mount           tdkiqaw2\_db\_mount  H  tdkiqaw2        Mount           tdkiqaw2\_redo1\_mount  H  tdkiqaw2        Mount           tdkiqaw2\_redo2\_mount  H  tdkiqaw2        Proxy           tdkiqaw2\_nic\_proxy  lt02db002:~ # |

- Add IPs on target

|  |
| --- |
| li02dbipsq001:~ # cat /etc/sysconfig/network/ifcfg-bond0 | grep -A7 tdkiqaw2  #tdkiqaw2  LABEL\_3=3  IPADDR\_3="160.47.10.131"  NETMASK\_3="255.255.255.0"  NETWORK\_3="160.47.10.0"  BROADCAST\_3="160.47.10.255"  li02dbipsq001:~ # |

- Create mountpoints + fstab – entries on target

|  |
| --- |
| li02dbipsq001:~ # ls -ld /global/tdkiqaw2/redo1 /global/tdkiqaw2/redo2 /global/tdkiqaw2/db /global/tdkiqaw2/bkup  drwxr-xr-x 12 oracle dba 8192 Aug 31 09:57 /global/tdkiqaw2/bkup  drwxr-xr-x  9 oracle dba 8192 Jul 20  2020 /global/tdkiqaw2/db  drwxr-xr-x  5 oracle dba 1024 Jul 20  2020 /global/tdkiqaw2/redo1  drwxr-xr-x  5 oracle dba 1024 Jul 20  2020 /global/tdkiqaw2/redo2  li02dbipsq001:~ #    li02dbipsq001:~ # grep -i tdkiqaw2 /etc/fstab  /dev/vx/dsk/dgtdkiqaw2bkup/lvbkup /global/tdkiqaw2/bkup vxfs \_netdev,nofail,x-systemd.device-timeout=20 0 0  /dev/vx/dsk/dgtdkiqaw2db/lvdb /global/tdkiqaw2/db vxfs mincache=direct,convosync=direct,\_netdev,nofail,x-systemd.device-timeout=20 0 0  /dev/vx/dsk/dgtdkiqaw2redo1/lvredo1 /global/tdkiqaw2/redo1 vxfs mincache=direct,convosync=direct,\_netdev,nofail,x-systemd.device-timeout=20 0 0  /dev/vx/dsk/dgtdkiqaw2redo2/lvredo2 /global/tdkiqaw2/redo2 vxfs mincache=direct,convosync=direct,\_netdev,nofail,x-systemd.device-timeout=20 0 0 |

- import veritas – disc-groups manually

|  |
| --- |
| li02dbipsq001:~ # vxdg **import** dgtdkiqaw2bkup  li02dbipsq001:~ # vxdg **import** dgtdkiqaw2db  li02dbipsq001:~ # vxdg **import** dgtdkiqaw2redo1  li02dbipsq001:~ # vxdg **import** dgtdkiqaw2redo2 |
| li02dbipsq001:~ # mount /global/tdkiqaw2/bkup  li02dbipsq001:~ # mount /global/tdkiqaw2/db  li02dbipsq001:~ # mount /global/tdkiqaw2/redo1  li02dbipsq001:~ # mount /global/tdkiqaw2/redo2    li02dbipsq001:~ # df -hT | grep -i tdkiqaw2  /dev/vx/dsk/dgtdkiqaw2bkup/lvbkup                vxfs      2.5T  1.3T  1.2T  53% /global/tdkiqaw2/bkup  /dev/vx/dsk/dgtdkiqaw2db/lvdb                    vxfs      2.6T  1.6T 1016G  61% /global/tdkiqaw2/db  /dev/vx/dsk/dgtdkiqaw2redo1/lvredo1              vxfs      3.6G  2.9G  637M  83% /global/tdkiqaw2/redo1  /dev/vx/dsk/dgtdkiqaw2redo2/lvredo2              vxfs      3.6G  2.4G  1.1G  70% /global/tdkiqaw2/redo2  li02dbipsq001:~ # |

- Migrate Luns / NFS-Shares

- rename scripts at /lfs/cluster/vcs – if any of this package exist

- Update CMDB entries for IPs

Cluster2single-migrate-cleanup

* Have at “required Information only “Source + Destination” + Task – Numbers of Prep + execution – ‘Task

Actions by OS Operations:

- Remove Package Config on old Cluster

- Remove LUN Visibility on old Cluster (Storm Tool)

- Remove old IP Address (if applicable)

- Umount NFS Shares on old Cluster if requested

- CMDB cleanup -> Delete RG;

- document in Task what you deleted

Input:

Source-Cluster

Destination-Single-Server

Package-Name

If source and target are in the same subnet : the same ip will be used

For all 3 :

Remove:

---- User

User IDs to move:

Remove User IDs at Cleanup: <Y / N >

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for i in 'cat amit\_textfile | grep -i xen'; do echo $i ; rootssh $i cat /proc/mdstat | grep -i "\_";done

ANSIBLE  
========

/global/instserv/home/q545913/ansible/ansible-playbooks/OS\_FIX\_lvm.yml

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ cat /global/instserv/home/q545913/ansible/ansible-playbooks/OS\_FIX\_lvm.yml

---

- name: Ansible playbook to fix the lvm.conf

hosts: all

become: true

gather\_facts: false

connection: ssh

tasks:

- name: searching for active global\_filter

shell: grep -q "^\\s\*global\_filter = \[" /etc/lvm/lvm.conf

ignore\_errors: true

failed\_when: no

changed\_when: no

register: global\_filter\_found

# Active global\_filter found, ensure, that the content is valid

- name: active setting found, ensuring valid content

lineinfile:

path: /etc/lvm/lvm.conf

line: "\\1 \"r|/dev/md/.\*\_[0-9]\*$|\" ]"

backup: true

regexp: '(^\s\*global\_filter = \[)'

backrefs: true

when: global\_filter\_found.rc == 0

- name: searching for commented global\_filter

shell: grep -q "^\\s\*\# \*global\_filter = \[" /etc/lvm/lvm.conf

ignore\_errors: true

failed\_when: no

changed\_when: no

register: commented\_global\_filter\_found

# Uncommented global\_filter found, enabling it with the correct filter

- name: Commented global\_filter found, enabling it with the correct filter

lineinfile:

path: /etc/lvm/lvm.conf

line: "\\1\\3 \"r|/dev/md/.\*\_[0-9]\*$|\" ]"

backup: true

regexp: '(^\s\*)\#( \*)(global\_filter = \[)'

backrefs: true

when: commented\_global\_filter\_found.rc == 0 and global\_filter\_found.rc != 0

# No active global\_filter found, setting up one

- name: No active global\_filter found, setting up one

lineinfile:

path: /etc/lvm/lvm.conf

line: "global\_filter = [ \"r|/dev/md/.\*\_[0-9]\*$|\" ]"

backup: true

insertafter: '^devices {'

when: commented\_global\_filter\_found.rc != 0 and global\_filter\_found.rc != 0

# ensure that all other uncommented instances of global\_filter is removed from the lvm.conf

- name: remove uncommented global\_filter entries

lineinfile:

path: /etc/lvm/lvm.conf

regex: '^\s\*\#\s\*global\_filter = \['

state: absent

backup: true

- name: searching for active auto\_activation\_volume\_list setting

shell: grep -q "^\\s\*auto\_activation\_volume\_list = \[" /etc/lvm/lvm.conf

ignore\_errors: true

failed\_when: no

changed\_when: no

register: auto\_activation\_volume\_list\_found

- name: active auto\_activation\_volume\_list found, ensuring valid content

lineinfile:

path: /etc/lvm/lvm.conf

line: "\\1 \"vglocal\", \"vgDRBD\" ]"

backup: true

regexp: '(^\s\*auto\_activation\_volume\_list = \[)'

backrefs: true

when: auto\_activation\_volume\_list\_found.rc == 0

- name: searching for commented auto\_activation\_volume\_list setting

shell: grep -q "^\\s\*\#\\s\*auto\_activation\_volume\_list = \[" /etc/lvm/lvm.conf

ignore\_errors: true

failed\_when: no

changed\_when: no

register: commented\_auto\_activation\_volume\_list\_found

- name: enable the commented auto\_activation\_volume\_list in the lvm.conf with correct content

lineinfile:

path: /etc/lvm/lvm.conf

line: "\\1\\3 \"vglocal\", \"vgDRBD\" ]"

backup: true

regexp: '(^\s\*)\#( \*)(auto\_activation\_volume\_list = \[)'

backrefs: true

when: commented\_auto\_activation\_volume\_list\_found.rc == 0 and auto\_activation\_volume\_list\_found.rc != 0

- name: enable the auto\_activation\_volume\_list when the line was missing

lineinfile:

path: /etc/lvm/lvm.conf

line: "auto\_activation\_volume\_list = [ \"vglocal\", \"vgDRBD\" ]"

backup: true

insertafter: '^activation {'

when: commented\_auto\_activation\_volume\_list\_found.rc != 0 and auto\_activation\_volume\_list\_found.rc != 0

- name: remove commented auto\_activation\_volume\_list entries

lineinfile:

path: /etc/lvm/lvm.conf

regex: '^\s\*\#\s\*auto\_activation\_volume\_list = \['

backup: true

state: absent

- name: searching for duplicates

shell: grep -c "^\\s\*auto\_activation\_volume\_list = \[" /etc/lvm/lvm.conf

ignore\_errors: true

failed\_when: no

changed\_when: no

register: auto\_activation\_dups

- name: searching for duplicates

shell: grep -c "^\\s\*global\_filter = \[" /etc/lvm/lvm.conf

ignore\_errors: true

failed\_when: no

changed\_when: no

register: global\_filter\_dups

- name: search results

fail:

msg: "DUPLICATES OR ERROR FOUND! MANUAL CHECK REQUIRED!"

when: (global\_filter\_dups.stdout != '1' or auto\_activation\_dups.stdout != '1')

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

ansiblectl apply --inputfile ~/dell\_idrac\_fw\_rollout --playbook=HW\_BIOS\_IDRAC\_8\_LATEST.yml

* Created by Unknown User (qxz13gk), last modified by [Gary Waterworth (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz25l4) on [08 Nov 2022](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=1189116547&selectedPageVersions=10&selectedPageVersions=11)

**7.1 => 7.4.1This documentation is for upgrading Veritas VxVM / DLVs (Disk Layout Versions) DGVs (Disk Group Versions). Please read the document carefully before starting the execution**

**Template:**server-unix-std:global|06|Post-SLES12-Veritas-Upgrade-Cleanup

**This is for the following scenarios:**

**1.  Veritas Patch Release or Master Release Upgrade  (with Server/Cluster Downtime).**

       During every MR and IPU update, all Veritas packages need to be updated to the latest versions available in the zypper respositories.

**2.  PRE IPU Upgrades or a Veritas Version Upgrade (when a newer Version of Veritas is installed e.g. VxVM 7.4.1 => 7.4.2 or 7.3.1 => 7.4.1):**

       - BEFORE the IPU or Veritas new Version install, upgrade to the highest DGV and DLV level supported with the \*old\* Veritas Version \*before\* the IPU upgrade

**CAUTION**: Do not upgrade to a higher version, a fall-back will not be possible since the DGs and LVOLS will not function with the older version!

**3.  PRE SAN Import Migrations and SLES12 Re-Installations:**

- BEFORE a SAN Import Migration or SLES12 Re-Install, upgrade to the highest DGV and DLV level supported by Veritas \*before\* the SAN Import Migration or Re-Install

**CAUTION**: Do not upgrade to a higher version, a fall-back will not be possible since the DGs and LVOLS will not function with the older version!

**4.  POST a SLES11=> SLES12 SAN Migration or Re-Installation: Task Template  server-unix-std:global|06|Post-SLES12-Veritas-Upgrade-Cleanup**

  - Since there is no Veritas DLV Version which is compatible between SLES11 Veritas 6.x and SLES12-SP4 Veritas 7.4.1+, this is for a POST SAN/Re-Install action to be done one week after the Migration/Re-Install.

                  The template can also be used for systems which were previously Migrated or Re-Installed, where the necessary DLV and GDV actions were not executed in the past.

                   In this task, no fall back is required and the DLV and DGV should be updated to the highest supported Version.

**How To check the current DLV and DGV Versions on a system:**

1. **Check the Veritas Support Matrix Table at the end of this document**
2. **Use the Script /global/instserv/bin/check\_dlv\_dgv.sh**

**To run a check with the script on e.g.** [**lpgip14.bmwgroup.net**](http://lpgip14.bmwgroup.net/)**:**

[lpinstiaas01]  $  rootscp **/global/instserv/bin/check\_dlv\_dgv.sh**  lpgip14.bmwgroup.[net:/var/tmp/](http://net/var/tmp/)

[lpinstiaas01]  $  rootssh [lpgip14.bmwgroup.net](http://lpgip14.bmwgroup.net/)

**The script will inform you which actions are necessary on the system:**

Checking host lpgip14 SLES Release 12-SP4 VxVM Version 7.4.1 PL: 1409

Supported VxVM Version 7.4.1 PL 1409 on lpgip14

VxVM 7.4.1 supports: DLV 11-15

VxVM 7.4.1 supports: DGV MAX 280

Checking DiskLayout DLVs .. 7.4.1 Max supported DLV is 15

LV /dev/vx/dsk/dgpgipcs0001/lvapps has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0001/lvsapGIP has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0002/lvbkup has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0003/lvmirrlogB has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0003/lvoriglogA has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0004/lvmirrlogA has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0004/lvoriglogB has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0005/lvGIP has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0006/lvsapdata1 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0007/lvsapdata2 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0008/lvsapdata3 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0009/lvsapdata4 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0010/lvsapdata5 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0011/lvsapdata6 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0012/lvsapdata7 has DLV 13 ERROR NOK: UPDATE TO DLV 15

LV /dev/vx/dsk/dgpgipcs0013/lvsapdata8 has max DLV 15 OK

Checking DiskGroup DGVs .. 7.4.1 Max supported DGV is 280

DG dgpgipcs0001 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0002 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0003 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0004 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0005 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0006 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0007 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0008 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0009 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0010 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0011 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0012 has DGV 240 ERROR NOK: UPDATE TO DGV 280

DG dgpgipcs0013 has max DGV 280 OK

**Extra Patch Level Check for all versions**

Although a version check is done all IPU's and MR updates need to have ALL installed veritas packages updated to the latest available with the Zypper repositories.

This can be checked separately by running "zypper lu"

**So for the lpgip14 the following actions would be necessary:**

* Patch All Veritas Packages to the latest packages available in the Zypper repositories
* Upgrade all LVOLs to DLV 15 except the one LVOL which already is (lvsapdata8)
* Upgrade all DGs to DGV 280 except for the one DG which already is (dgpgipcs0013)

* **How to Perform the Upgrades:**
* **A) Check the VXVM patch level DLV and DGV version's before upgrading them on the server (check\_dlv\_dgv.sh)**
* **B) Always Set downtime for the server(s) when the servers or resource groups are to be offlined**
* **C) Make sure SAP or Oracle is stopped and confirmation is received from SAP team to proceed ahead. If a cluster offline the resource Groups.**
* **D) Upgrade the Veritas Packages available on the Zypper repository to the latest version available.**

IAAS instructions: [**Steps to Perform Veritas Package Upgrade and MR Update**](https://atc.bmwgroup.net/confluence/display/IAAS18/Steps+to+Perform+Veritas+Package+Upgrade+and+MR+Update)

**E) Upgrade the DGV Versions of the Disk Groups if required in the check above:**

           a) Manually import the DGs which require a DGV (or DVL) upgrade:

         # vxdg import <DG\_NAME>

         Then check with

         # vxdg -q list <DG\_NAME> | egrep -i ^version:| awk '{print $NF}'

         b) Upgrade the DGV version to the highest supported level supported by this Veritas Version (as in the output form  (check\_dlv\_dgv.sh)

**IMPORTANT**: this is done on the Veritas Version BEFORE a IPU, SAN IMPORT or SLES12 Re-Install. Without the -T option, it will upgrade the DGs to the highest supported level of that Veritas version.

         # vxdg upgrade <DG\_NAME>

         Then check with

         # vxdg -q list <DG\_NAME> | egrep -i ^version:| awk '{print $NF}'

If you have many DGs to update, you can use a “for” statement and check at the same time, all should have the highest supported version:

# for DG in dgptupcs00cs02 dgptupcs00cs10 dgptupcs00db02 dgptupcs00db03 dgptupcs00db04 dgptupcs00db05 dgptupcs00db06 dgptupcs00db07 dgptupcs00db10 ; do

   echo "Upgrading $DG"

             vxdg upgrade $DG && sleep 1 && vxdg -q list $DG | egrep -i ^version:| awk '{print "Version: "$NF}'

       done

**F) Upgrade the DLV Version (the Disk Groups must be imported for this):**

1. Create a temporary directory  e.g. # mkdir  /DLVUPGRADE
2. Mount the first vxfs FS in the temporary directory   e.g. # mount /dev/vx/dsk/dgpgipcs0001/lvapps   /DLVUPGRADE )
3. Now upgrade the DLV Version for the vxfs you just mounted. This can \***only**\* be done sequentially .

In the example above lvapps is DLV 10 and must be upgraded to DLV 15:

LV /dev/vx/dsk/dgpgipcs0001/lvapps has DLV 13 ERROR NOK: UPDATE TO DLV 15

This can be done with a “for” statement to save time:

# for DLV in 11 12 13 14 15 ; do

vxupgrade -n $DLV /DLVUPGRADE  &&  sleep 1 && sync -f  /DLVUPGRADE

done

Check that the LVOL is now at the required level and umount when OK:

# /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgpgipcs0001/lvapps | egrep version

# umount  /DLVUPGRADE

**Important:** Do this for each LVOL which requires an Upgrade (make sure to start with the correct version, some systems have a mix of different DLV versions).

**G)  Continue with the Next step in the Task**

1. If this is an IPU Upgrade, commence with the IPU upgrade here.
2. If this is a SAN Migration start the SAN migration
3. If this is a SLES12 Re-install, commence with the SLES12 Re-install task
4. If no other actions were planned (i.e. TASK server-unix-std:global|06|Post-SLES12-Veritas-Upgrade-Cleanup):
   * If a Standalone, remount the Filesystems (mount -a -t vxfs )
   * If a VCS Cluster, Restart the Resource Groups (hagrp -online)

**H)  Details about the required Veritas VxVM Patchlevel, DLV and DGV Versions:**

**1. Update All Veritas Packages as per the procedure in**

[**Steps to Perform Veritas Package Upgrade and MR Update**](https://atc.bmwgroup.net/confluence/display/IAAS18/Steps+to+Perform+Veritas+Package+Upgrade+and+MR+Update)

**2. Veritas Support Matrix for Disk Layout (DLV )Versions:**

############################################################################################

# DLV Support Installed VxVM Version: Source <https://sort.veritas.com/dgfs_matrix/fs_matrix>

# 5.1 (lpcaps3/4) supprts up to DLV 7? No longer documented @ Semantec

# 6.0 supports DLV 7-9 & Supports Mount only for vxupgrade minimum DLV 6

**# 6.1 supports DLV 7-10 & Supports Mount only for vxupgrade minimum DLV 6  (BMW SLES11-SP4 default, has a max DLV 10!)**

# 6.2 supports DLV 7-10 & Supports Mount only for vxupgrade minimum DLV 6

# 7.0 supports DLV 7-10 & Supports Mount only for vxupgrade minimum DLV 6

# 7.1 supports DLV 7-11 & Supports Mount only for vxupgrade minimum DLV 6

# 7.2 supports DLV 9-12 & Supports Mount only for vxupgrade  DLVs 6-8

# 7.3 supports DLV 9-12 & Supports Mount only for vxupgrade  DLVs 6-8

**# 7.3.1+ supports DLV 9-13 & Supports Mount only for for vxupgrade DLVs 6-8    (BMW SLES12-SP2 default)**

# 7.4.0 supports DLV 10-14 (not used @ BMW) & Supports Mount only for vxupgrade DLVs 6-9

**# 7.4.1 supports DLV 11-15 & Supports Mount only for vxupgrade DLVs 6-10          (BMW SLES12-SP4 default, DLV 10 from SLES11 is not officially supported)**

# 7.4.2 supports DLV 12-16 & Supports Mount only for vxupgrade DLVs 6-11

# 7.4.3 supports DLV 12-16 & Supports Mount only for vxupgrade DLVs 6-11

#

############################################################################################

**3.  Veritas Support Matrix for Disk Group DGV) Versions:**

############################################################################################

# DGV Support Installed VxVM Version: Source <https://sort.veritas.com/dgfs_matrix/dg_matrix>

# NOTE: VxVM 7.4.1 (and possibly lower) cannot modify/extend DGVs less than DG Version 160!

#       All VxVM Versions fully support the use of (but not modification of) all previous

#       DGV versions.

#       NOTE: Some VxVM Version infos are missing in the Veritas link, known deviations have been

#             added below.

#

# 4.0     Supports DGVs up to max      110

# 4.1     Supports DGVs up to max      120

# 5.0     Supports DGVs up to max      130

# 5.0     Supports DGVs up to max      140

# 5.1     Supports DGVs up to max      150   NOTE: Versions 150 and earlier cannot be extended with new disks on VxVM 7.x systems until updated!

# 5.1SP1  Supports DGVs up to max      160

# 6.0     Supports DGVs up to max      170  [DCO version 30 CAUTION larger DCO LOG SPACE REQUIRED]

# 6.0.1   Supports DGVs up to max      180

**# 6.1     Supports DGVs up to max      190**

# 6.2     Supports DGVs up to max      200

# 7.0     Supports DGVs up to max      200

# 7.1     Supports DGVs up to max      220

# 7.2     Supports DGVs up to max      230

# 7.3     Supports DGVs up to max      230

**# 7.3.1   Supports DGVs up to max      240**

# 7.4     Supports DGVs up to max      260

**# 7.4.1   Supports DGVs up to max      280**

# 7.4.2   Supports DGVs up to max      290

# 7.4.3   Supports DGVs up to max      300

#

############################################################################################

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [08 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=521131018&selectedPageVersions=1&selectedPageVersions=2)

# **Before you start**

Please check following:

* Do you have a downtime for the package?
* Are there no concurrent tasks to modify the same cluster, which are not assigned to you?
* Is the requester or a collegue from middleware / application team available? You will definitively need someone to check the application afterwards.

# **Check old values**

The first step is to identify the mounts that have to be changed. In our example we will change mount options for redo filesystems of a package from "rw, delaylog, largefiles, ioerror=mwdisable" to "rw, delaylog, largefiles, mincache=direct, convosync=direct, ioerror=mwdisable".

Please note, default mount options for oracle Veritas are:

**lvdb:** mincache=direct, convosync=direct,\_netdev

**lvbkup:** \_netdev

**redo1:** mincache=direct, convosync=direct,\_netdev

**redo2:** mincache=direct, convosync=direct,\_netdev

user@node1:~> df -hP | grep package

/dev/vx/dsk/dgpackagebkup/lvbkup 5.6T 54G 5.3T 1% /global/package/bkup

/dev/vx/dsk/dgpackagedb/lvdb 8.4T 6.2T 2.2T 75% /global/package/db

/dev/vx/dsk/dgpackageredo1/lvredo1 12G 11G 1.9G 85% /global/package/redo1

/dev/vx/dsk/dgpackageredo2/lvredo2 12G 11G 1.9G 85% /global/package/redo2

user@node1:~> mount | grep package

/dev/vx/dsk/dgpackagebkup/lvbkup on /global/package/bkup type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackagedb/lvdb on /global/package/db type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackageredo1/lvredo1 on /global/package/redo1 type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackageredo2/lvredo2 on /global/package/redo2 type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

node1:/root # hastatus -sum | grep package

B package node1 Y N ONLINE

B package node2 Y N OFFLINE

node1:/root # hares -display -group package | less

node1:/root # hares -display -group package | grep -e "mount \*MountOpt"

package\_bkup\_mount MountOpt global

package\_db\_mount MountOpt global

package\_redo1\_mount MountOpt global

package\_redo2\_mount MountOpt global

 Initial situation

# **Set the new mount options**

When we know, what to change, we can give the appropriate commands to change mount options. It is very important to double check the commands entered. Use 4-eyes principle it you are not absolutely sure.

node1:/root # hares -value package\_redo1\_mount MountOpt

node1:/root # hares -value package\_redo2\_mount MountOpt

node1:/root # haconf -makerw

node1:/root # hares -modify package\_redo1\_mount MountOpt mincache=direct,convosync=direct

node1:/root # hares -modify package\_redo2\_mount MountOpt mincache=direct,convosync=direct

node1:/root # hares -value package\_redo1\_mount MountOpt

mincache=direct,convosync=direct

node1:/root # hares -value package\_redo2\_mount MountOpt

mincache=direct,convosync=direct

node1:/root # haconf -dump -makero

 Changing mount options

At this point the new value is already set. To make it active, you need to take the package offline and then online again, alternatively you can switch the package to the other node. **Both methods involve a short downtime for the application.**

node1:/root # hagrp -offline package -sys node1

node1:/root # hastatus -sum

[...]

B package node1 Y N OFFLINE

B package node2 Y N OFFLINE

[...]

node1:/root # hagrp -online package -sys node1

node1:/root # hastatus -sum

[...]

B package node1 Y N ONLINE

B package node2 Y N OFFLINE

[...]

 Making changes effective

# **Check the results**

Now we should double check, if everything is fine.

user@node1:~> df -hP | grep package

/dev/vx/dsk/dgpackagebkup/lvbkup 5.6T 54G 5.3T 1% /global/package/bkup

/dev/vx/dsk/dgpackagedb/lvdb 8.4T 6.2T 2.2T 75% /global/package/db

/dev/vx/dsk/dgpackageredo1/lvredo1 12G 11G 1.9G 85% /global/package/redo1

/dev/vx/dsk/dgpackageredo2/lvredo2 12G 11G 1.9G 85% /global/package/redo2

user@node1:~> mount | grep package

/dev/vx/dsk/dgpackagebkup/lvbkup on /global/package/bkup type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackagedb/lvdb on /global/package/db type vxfs (rw,delaylog,largefiles,ioerror=mwdisable)

/dev/vx/dsk/dgpackageredo1/lvredo1 on /global/package/redo1 type vxfs (rw,delaylog,largefiles,mincache=direct,convosync=direct,ioerror=mwdisable)

/dev/vx/dsk/dgpackageredo2/lvredo2 on /global/package/redo2 type vxfs (rw,delaylog,largefiles,mincache=direct,convosync=direct,ioerror=mwdisable)

 Checking the result

As we can see above, the mount options of the redo filesystems have been changed.

# **Where to look in case of problems?**

Should there be a problem, the logs in /var/VRTSvcs/log will be helpful. /var/log/messages can give additional hints.

user@node1:~> less /var/VRTSvcs/log/engine\_A.log

 Looking deeper what went wrong

Last edited by Liebl Markus, (Markus.Liebl@partner.bmw.de) , based on work by qxj5457 .  
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[Like](https://atc.bmwgroup.net/confluence/display/IAAS18/5.6.1.2+VCS+Change+Mount+Options)Be the first to like this

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [21 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=521116683&selectedPageVersions=1&selectedPageVersions=2)
* Here you'll find most common and some unknown but never the less important commands

## Cluster Status

### Cluster status summary

# hastatus -sum

### cluster status continuous

* Without -sum the hastatus command shows continuously refreshing state changes

# hastatus

### Show systems states

# hasys -state

## service group administration

### Online

# hagrp -online [-force] <group> -sys <system>

### Offline

# hagrp -offline [-force] <group> -sys <system>| -any

### Switch

# hagrp -switch <group> -to <system>

### Freeze

# hagrp -freeze <group> [-persistent]

* where - persistent makes the service group frozen even after a reboot, but configuration needs to be writeable !

### Unfreeze

# hagrp -unfreeze <group> [-persistent]

* where - persistent makes the service group unfrozen after a reboot, but configuration needs to be writeable !

## Service Groups

### Service group state

# hagrp -state [service\_group] -sys [system]

### Service group dependencies

# hagrp -dep [service\_group]

### Service Group attributes

# hagrp -display [service\_group] [-attribute attribute] [-sys system]

### Service group resources

# hagrp -resources [service\_group]

### Disable service group

# hagrp -disable service\_group [-sys system]

### Enable service group

# hagrp -enable service\_group [-sys system]

### Clear service group

# hagrp -clear [service\_group] -sys [system]

### Disabale all resources in a group

# hagrp -disable service\_group [-sys system]

### Enable all resources in a group

# hagrp -enableresources service\_group

### Linked service groups

#### Background

* On some clusters there are test and productive service groups (packages) installed but in a way so that every package is running on one node. In case the node with productive package fails the test package should go down and the productive one should go online.

#### How to realize

* This can be realized by so called group dependencies (as they can be quite complex, have a look at VCS admin guide for in depth explanation). We have currently a solution implemented call "local offline dependency". Packages are linked so that it is guaranteed that production is kept up and running and in case it is necessary the test package is shut down and production is started. On the other hand if you try to switch one of the packages manually this will fail with **"VCS WARNING V-16-1-10206 Group dependencies are not met for group"**

#### VCS WARNING V-16-1-10206 Group dependencies are not met for group

* In that case you have to bring down/offline the other package manually first or remove the link between the both packages (see below)

##### Dependency local offline behaviour

* In an offline local dependency, the parent service group can be started only if the child service group is offline on the local system.
* Similarly, the child can be started only if the parent group is offline on the local system.

|  |  |  |
| --- | --- | --- |
| **Offline Local** | **Failover System for Child Group** | **No Failover System for Child Group** |
| Child Fails | Child faults. | Child faults. |
|  | If child fails over to system on which parent is running, parent is taken offline. | Parent continues running. |
|  | If parent is taken offline, it starts on another system, if available. | (This happens if child group is already faulted on the system where parent was running. Child has no available systems.) |

|  |  |  |
| --- | --- | --- |
| **Offline Local** | **Failover System for Parent Group** | **No Failover System for Parent Group** |
| Parent Fails | Parent faults. | Parent faults |
|  | Parent fails over to system without child. | Parent dies |
|  |  | Child continues running. |

* FAQ for Offline Local Dependency
  1. Can parent group be brought online when child group is offline? Yes.
  2. Can child group be taken offline when parent group is online? Yes.
  3. Can parent group be switched while the child group is running? Yes, but not to system on which child is running.
  4. Can child group be switched while the parent group is running? Yes, but not to system on which parent is running.

#### Link and unlink

* check for dependency

#hagrp -dep

* link

# hagrp -link <parent> <children> offline local

* + unlink

# hagrp -unlink <parent> <children>

## Resources

### Resource state

# hares -state [<res> -sys <system>]

### Resource dependency

# hares -dep [resource]

### Resource attributes and settings

# hares -display [resource]

### All resources belonging to one service group

# hares -display -group [service\_group]

### Show all resource types

# hatype -list

## Configuration variables

|  |  |  |
| --- | --- | --- |
| **Variable** | **Definition** | **Default** |
| VCS\_CONF | Root directory for VCS configuration files. | /etc/VRTSvcs Note If this variable is added ormodified you must rebootthe system to apply the changes. |
| VCS\_ENABLE\_LDF | Designates whether or not log data files(LDFs) are generated. If set to 1, LDFs aregenerated. If set to 0, they are not. | 1 |
| VCS\_HOME | Root directory for VCS executables. | /opt/VRTSvcs |
| VCS\_GAB\_PORT | GAB port to which VCS connects. | h |
| VCS\_GAB\_TIMEOUT | Timeout in milliseconds for HAD to sendheartbeats to GAB. | 15000 Note If the specified timeout isexceeded, GAB kills HAD,and all active service groupson system are disabled. |
| VCS\_HAD\_RESTART\_TIMEOUT | User must set this variable to designate theamount of time the hashadow process waits(“sleep time”) before restarting HAD. | 0 |
| VCS\_LOG | Root directory for log files and temporary files. | /var/VRTSvcs Note If this variable is added ormodified you must rebootthe system to apply thechanges. |
| VCS\_SERVICE | Name of configured VCS service. | vcs Note The specified service shouldbe configured beforestarting the VCS engine(HAD). If a service is notspecified, the VCS enginestarts with port 14141. |
| VCS\_TEMP\_DIR | Directory in which temporary informationrequired by, or generated by, hacf is stored. | /var/VRTSvcs Note This directory is created in/tmp under the followingconditions:- The variable is not set.- The variable is set but thedirectory to which it is setdoes not exist.- The utility hacf cannot find thedefault location. |

## start cluster

### Processes running

* In order to have a full running VCS the following services should be running or started. Please mind that the start order is important and you have to do that on both nodes simultaneously, otherwise the start will fail

**serverA#**| **serverB#** DO each STEP simultaneously on both Cluster NODES

chkconfig llt on

chkconfig gab on

chkconfig vxfen on

chkconfig vcs on

/etc/init.d/llt start

lltstat -nvv configured   # should show configured links as active

/etc/init.d/gab start

gabconfig -a               # should show port a available

/etc/init.d/vxfen load

/etc/init.d/vcs start

hastart

hastatus -all             # verify successful start of all service groups

### Normal start

* In case all processes are running, the cluster itself can be started by:

# hastart

### Start if one node down aka seed cluster

* In case on node is down and the node which is up rebooted and/or will not join the cluster as one node is missing, one can force the cluster to start although one node is missing, by running:

# gabconfig -xc

#### Error pattern and solution

root@ltlxp01:/root #/etc/init.d/llt start

Starting LLT:

LLT: loading module...

Loaded 2.6.32.12-0.7-default on kernel 2.6.32.59-0.3-default

WARNING: No modules found for 2.6.32.59-0.3-default, using compatible modules for 2.6.32.12-0.7-default.

LLT: configuring module...

root@ltlxp01:/root #

root@ltlxp01:/root #lltstat -nvv configured

LLT node information:

Node State Link Status Address

\* 0 ltlxp01 OPEN

link1 UP 00:15:17:D6:F5:6C

link2 UP 00:15:17:D6:F5:6D

link3 UP 00:15:17:D6:F5:12

1 ltlxp02 IDLE

link1 DOWN

link2 DOWN

link3 DOWN

root@ltlxp01:/root #/etc/init.d/gab start

Starting GAB:

Loaded 2.6.32.12-0.7-default on kernel 2.6.32.59-0.3-default

WARNING: No modules found for 2.6.32.59-0.3-default, using compatible modules for 2.6.32.12-0.7-default.

Started gablogd

gablogd: Keeping 20 log files of 8388608 bytes each in |/var/log/gab\_ffdc| directory. Daemon log size limit 8388608 bytes

root@ltlxp01:/root #

root@ltlxp01:/root #hastart

root@ltlxp01:/root #hastatus -sum

VCS ERROR V-16-1-10600 Cannot connect to VCS engine

VCS WARNING V-16-1-11046 Local system not available

root@ltlxp01:/root #gabconfig -a

GAB Port Memberships

===============================================================

root@ltlxp01:/root #gabconfig -cx

Started gablogd

gablogd: Keeping 20 log files of 8388608 bytes each in |/var/log/gab\_ffdc| directory. Daemon log size limit 8388608 bytes

root@ltlxp01:/root #gabconfig -a

GAB Port Memberships

===============================================================

Port a gen 99b01 membership 0

root@ltlxp01:/root # hastatus -sum

VCS ERROR V-16-1-10600 Cannot connect to VCS engine

VCS WARNING V-16-1-11046 Local system not available

root@ltlxp01:/root # hastart

root@ltlxp01:/root # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A ltlxp01 RUNNING 0

A ltlxp02 UNKNOWN 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC ltlxp01 Y N ONLINE

B NIC ltlxp02 Y N OFFLINE

B SecFS ltlxp01 Y N ONLINE

B SecFS ltlxp02 Y N OFFLINE

B tlxici80 ltlxp01 N Y OFFLINE

B tlxici80 ltlxp02 Y N OFFLINE

B tlxpci90 ltlxp01 N Y ONLINE

B tlxpci90 ltlxp02 Y N OFFLINE

-- RESOURCES NOT PROBED

-- Group Type Resource System

[...]

### Start ADMIN\_WAIT

* In case all nodes are in status ADMIN\_WAIT, one cane force the system to start VCS, but please be sure you know what you're doing!

# hasys -force <system>

* When VCS is starting, it checks its local configuration and if valid VCS engine runs a so called LOCAL\_BUILD and changes to state RUNNING. In case there is a problem with the local configuration since it is invalid or missing it changes to state STALE\_ADMIN\_WAIT. In this case VCS waits for administrative intervention or for a system with a valid configuration.

### The start process

* When VCS is started on a system and it finds an other node belonging to its cluster where VCS is already running both cluster engine processes interchange process states as follows:

1. If on one system A VCS is in state RUNNING the joining node B(the one VCS has been started) runs a REMOTE\_BUILD from system A and changes to state RUNNING
2. If System A where VCS is already running is currently in state LOCAL\_BUILD, node B waits for system A to complete (state RUNNING) and runs a REMOTE\_BUILD afterwards
3. If all systems running VCS are in state STALE\_ADMIN\_WAIT and a node with valid configuration joins the cluster, this system runs a LOCAL\_BUILD and changes to state RUNNING; afterwards all other nodes run a REMOTE\_BUILD and change after successfully done to state RUNNING
4. If all Systems running VCS are in state STALE\_ADMIN\_WAIT and a joining system has also an invalid configuration it also changes state to STALE\_ADMIN\_WAIT. In this case you have to force the system to start, but please be careful!

## Stop VCS

### Stop VCS on all systems

* Please note that the -force option does not bring down the services !

# hastop -all [-force]

### Stop VCS on a local system

* Please note that the -force option does not bring down the services !
* The evacuate option failös over active service groups to other systems

# hastop -local [-force | -evacuate ]

## VCS configuration

### All about main.cf

#### Make main.cf writeable

# haconf -makerw

#### Dump main.cf and make read only

# haconf -dump [-makero]

#### check configuration

* If you modified the configuration by hand, be sure you did the same on both nodes and check afterwards:

# hacf -verify <conf\_dir> [-display]

#### main.cf to commands

* If you have to rebuild the cluster you can get the commands to do so from the main.cf:

# hacf -cftocmd <conf\_dir> [-dest <dest\_dir>] [-display]

### Resources

#### Modify a resource

* In order to modify a resource permanently you shall follow these steps:

1. Bring down the service group **hagrp -offline group -any**
2. Make VCS configuration writeable **haconf -makerw**
3. Modify resource in question **hares -modify "Resource" "Attribute" "value"**
   * In case of doubt check appropriate agent guide for possible settings
4. Check modification **hares -display "Resource"**
5. Make VCS config ro again **haconf -dump -makero**
6. Bring service group online again **hagrp -online "Group" -sys "System"**
7. Verify service group is online again **hagrp -state "Group"**

### llt configuration

* llt is configured via /etc/llttab

# grep -v ^# /etc/llttab

set-verbose 0

set-node /etc/VRTSvcs/conf/sysname

set-cluster 10393

link-lowpri link1 bond0 - ether - -

link link2 eth1 - ether - -

link link3 eth2 - ether - -

exclude 2-31

* Status can be checked with

# lltstat -nvv configured

### gab configuration

* gab is configured via command gabconfig (please see man gabconfig) and is saved in /etc/gabtab

#grep -v ^# /etc/gabtab

/sbin/gabconfig -c -n2

if [ -e /sbin/vxdisk ]

then

sleep 30

/sbin/vxdisk scandisks

fi

#

* status can be check with

# gabconfig -a

## lltstat shows one link down

* Sometime one gets an alarm for a missing llt link/interface. Before you organize a downtime or try to restart cluster framework, you can try to reconfigure the link. Please mind that this solution works often, but not always!!!

The following is an example from PBI000000037708:

### initial situation

* one interface is shown as down on one node:

qxc0474@lpdmsdb1:~ # sudo lltstat -nvv configured

LLT node information:

Node State Link Status Address

\* 0 lpdmsdb1 OPEN

link1 UP 78:AC:C0:F8:EF:32

link2 UP 78:AC:C0:F8:EF:34

link3 UP 78:AC:C0:F8:EF:36

1 lpdmsdb2 OPEN

link1 DOWN <<<<<<<<<<<<<<<<<

link2 UP 68:B5:99:6F:D0:72

link3 UP 68:B5:99:6F:D0:74

qxc0474@lpdmsdb1:~ #

qxc0474@lpdmsdb2:~ # sudo lltstat -nvv configured

LLT node information:

Node State Link Status Address

0 lpdmsdb1 OPEN

link1 DOWN <<<<<<<<<<<<<<<<<

link2 UP 78:AC:C0:F8:EF:34

link3 UP 78:AC:C0:F8:EF:36

\* 1 lpdmsdb2 OPEN

link1 UP 68:B5:99:6F:D0:70

link2 UP 68:B5:99:6F:D0:72

link3 UP 68:B5:99:6F:D0:74

qxc0474@lpdmsdb2:~ #

* Before you proceed, please mind that at least one link should be up as otherwise you might get in trouble and the cluster might start switching itself!!!
* First check which interface is connected to which link as we need it in the next step:

root@lpdmsdb1:/root #grep ^link /etc/llttab

link link1 bond0 - ether - -

link link2 eth1 - ether - -

link link3 eth2 - ether - -

root@lpdmsdb1:/root #

* This should be the same on both nodes!

### Solution: un- and configure llt link

* Unconfigure the link on both notes in parallel!!!:

root@lpdmsdb1:/root #lltconfig -u link1

root@lpdmsdb1:/root #lltstat -nvv configured

LLT node information:

Node State Link Status Address

\* 0 lpdmsdb1 OPEN

link2 UP 78:AC:C0:F8:EF:34

link3 UP 78:AC:C0:F8:EF:36

1 lpdmsdb2 OPEN

link2 UP 68:B5:99:6F:D0:72

link3 UP 68:B5:99:6F:D0:74

root@lpdmsdb1:/root #

#######################

root@lpdmsdb2:/root #lltconfig -u link1

root@lpdmsdb2:/root #lltstat -nvv configured

LLT node information:

Node State Link Status Address

0 lpdmsdb1 OPEN

link2 UP 78:AC:C0:F8:EF:34

link3 UP 78:AC:C0:F8:EF:36

\* 1 lpdmsdb2 OPEN

link2 UP 68:B5:99:6F:D0:72

link3 UP 68:B5:99:6F:D0:74

root@lpdmsdb2:/root #

* The link should now be gone as shown above
* Wait a minute or so, to settle and configure it again in **parallel/simultaneously** on both hosts:

root@lpdmsdb1:/root #lltconfig -t link1 -d bond0 #do that in parallel on other node !!!

LLT lltconfig INFO V-14-2-15653 No link type is specified, defaulting to link type "ether"

root@lpdmsdb1:/root #

#######################

root@lpdmsdb2:/root #lltconfig -t link1 -d bond0 #do that in parallel on other node !!!

LLT lltconfig INFO V-14-2-15653 No link type is specified, defaulting to link type "ether"

root@lpdmsdb2:/root #

* After that, check if the link is up again :

root@lpdmsdb1:/root #lltstat -nvv configured

LLT node information:

Node State Link Status Address

\* 0 lpdmsdb1 OPEN

link1 UP 78:AC:C0:F8:EF:32

link2 UP 78:AC:C0:F8:EF:34

link3 UP 78:AC:C0:F8:EF:36

1 lpdmsdb2 OPEN

link1 UP 68:B5:99:6F:D0:70

link2 UP 68:B5:99:6F:D0:72

link3 UP 68:B5:99:6F:D0:74

root@lpdmsdb1:/root #

############################

root@lpdmsdb2:/root #lltstat -nvv configured

LLT node information:

Node State Link Status Address

0 lpdmsdb1 OPEN

link1 UP 78:AC:C0:F8:EF:32

link2 UP 78:AC:C0:F8:EF:34

link3 UP 78:AC:C0:F8:EF:36

\* 1 lpdmsdb2 OPEN

link1 UP 68:B5:99:6F:D0:70

link2 UP 68:B5:99:6F:D0:72

link3 UP 68:B5:99:6F:D0:74

root@lpdmsdb2:/root #

* If this fails, you can try again, waiting longer between un- and reconfigure
* Experience shows that if it doesn't not work after the 3rd try, you should (most sensible with a planned risk time):
  + stop the cluster on both node with -force option to keep services up
  + stop at leat gab and llt and restart them again
  + check llt status, should be fine again
  + start cluster again

## VCS logging and states

### Log files

* All important logging information can be found in

#cd /var/VRTSvcs/log/

* The most important file there is **engine\_A.log**
* But also for agents/resources like IP, mount, hashadow, haconf,... the log files are there

### VCS states

* Possible VCS states as shown when running hastatus -sum in system section

|  |  |
| --- | --- |
| **Status** | **Definition** |
| ADMIN\_WAIT | The running configuration was lost. A system transitions intothis state for the following reasons: - The last system in the RUNNING configuration leaves the cluster before another system takes a snapshot of itsconfiguration and transitions to the RUNNING state. - A system in LOCAL\_BUILD state tries to build theconfiguration from disk and receives an unexpected errorfrom hacf indicating the configuration is invalid. |
| CURRENT\_DISCOVER\_WAIT | The system has joined the cluster and its configuration file isvalid. The system is waiting for information from othersystems before it determines how to transition to anotherstate. |
| CURRENT\_PEER\_WAIT | The system has a valid configuration file and another systemis doing a build from disk (LOCAL\_BUILD). When its peerfinishes the build, this system transitions to the stateREMOTE\_BUILD. |
| EXITING | The system is leaving the cluster. |
| EXITED | The system has left the cluster. |
| EXITING\_FORCIBLY | An hastop -force command has forced the system to leavethe cluster. |
| FAULTED | The system has left the cluster unexpectedly. |
| INITING | The system has joined the cluster. This is the initial state forall systems. |
| LEAVING | The system is leaving the cluster gracefully. When the agentshave been stopped, and when the current configuration iswritten to disk, the system transitions to EXITING. |
| LOCAL\_BUILD | The system is building the running configuration from thedisk configuration. |
| REMOTE\_BUILD | The system is building a running configuration that itobtained from a peer in a RUNNING state. |
| RUNNING | The system is an active member of the cluster. |
| STALE\_ADMIN\_WAIT | The system has a stale configuration and there is no othersystem in the state of RUNNING from which to retrieve aconfiguration. If a system with a valid configuration isstarted, that system enters the LOCAL\_BUILD state.Systems in STALE\_ADMIN\_WAIT transition toSTALE\_PEER\_WAIT |
| STALE\_DISCOVER\_WAIT | The system has joined the cluster with a stale configurationfile. It is waiting for information from any of its peers beforedetermining how to transition to another state. |
| STALE\_PEER\_WAIT | The system has a stale configuration file and another systemis doing a build from disk (LOCAL\_BUILD). When its peerfinishes the build, this system transitions to the stateREMOTE\_BUILD. |
| UNKNOWN | The system has not joined the cluster because it does not havea system entry in the configuration. |

### hastatus -sum capital letters

* when you have a look at hastatus -sum output you might notice that every line is starting with a capital letter, reflecting system states:

|  |  |
| --- | --- |
| **letter** | **state** |
| A | SYSTEM STATE |
| B | GROUP STATE |
| C | GROUP FROZEN |
| D | RESOURCES FAILED |
| E | RESOURCE NOT PROBED |
| F | RESOURCE ONLINING |
| G | RESOURCE OFFLINING |
| H | RESOURCE DISABLED |
| I | RESOURCES IN ADMIN WAIT |
| J | AGENT FAILED |
| M | HEARTBEAT STATE |
| N | REMOTE CLUSTER STATE |
| O | REMOTE SYSTEM STATE |
| P | REMOTE GROUP STATE |
| Q | REMOTE GROUP FROZEN |
| R | REMOTE RESOURCES FAULTED |
| S | REMOTE RESOURCES NOT PROBED |
| T | REMOTE RESOURCE ONLINING |
| U | REMOTE RESOURCE OFFLINING |
| V | REMOTE RESOURCE DISABLED |

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On Linux Veritas Cluster Systems the VxVM Filesystem and the Basic Resource configuration is configured using the BMW script:  
  
configure\_veritas.sh  
  
which is configured via a template in the directory lpinstiaas01:/global/instserv/data/CONFIGURE\_VERITAS and run from the lpinstiaas01 with sudo.  
  
To understand this Wiki, you should read the VxVM configuration part FIRST, please see  [Configure VxVM](https://atc.bmwgroup.net/confluence/display/IAAS18/Configure+VxVM)  
  
This page will only deal with the Cluster specific configuration in the "Service group section" of the Template.  
  
All templates with the suffix ".cluster" have an extra section "Service group section" and additional "search & replace"  
(values) for the ServiceGroup virtual IP, Backup Interface etc.  
  
For Oracle Servers no additional VCS configuration should be necessary. For SAP Servers, further modifications,  
additional IP resources and Middleware are added after the "configure\_veritas.sh" stage. This is done via the  
BMW-SW-SAP\_PREREQ\_<version> and Middleware Overrides as described in the SAP Wiki.

The LLT Config behaves differently for SDN (Teaming) and non-SDN (Bonding) Network interfaces:

* For the old bonding-styled network setup, the LLT uses 3 interfaces for Cluster-Heartbeat communication, but this list is static: bond0, eth1, eth2. For SLES12 this is configured by a Rudder-Rule and a template
* For the new teaming-styled network setup, the LLT uses also 3 interfaces, but the list is dynamically generated: team0 (static), and 2 of the existing vlan interfaces (preferring one adminvlanXXXX and one backupvlanXXXX if existent, but will fall back to any of the existing vlan-devices until there are 3 in sum. See below for a more detailed information).

**LLT Configuration**

For Teaming the proper interfaces being used by a Rudder-Template are located in the File "/var/rudder/template/llttab.SDN\_inc.j2", which is automatically generated (if it does not exist) by Rudder agent, via running the Script "/var/rudder/template/gen\_llttab.SDN\_inc.sh".

**Do not modify /etc/llttab directly as that will be overwritten!**

If there are any modifications on the OS interfaces that are being used for the LLT Heartbeat (like Admin or Backup VLAN ID changes), this template " **llttab.SDN\_inc.j2**" must be modified. This is included in /etc/llttab, and only recreated when missing, but not overwritten by Rudder.

As soon all of the interfaces are corrected or modified (they must exist on OS level and active), you can run the " **gen\_llttab.SDN\_inc.sh**" script to check the output on the console. As soon the generated output of the script is correct, you can use this output to modify the llttab.SDN\_inc.j2 file or use "gen\_llttab.SDN\_inc.sh -o <file>" to write the content directly to the file.

Example (Non-SDN: static bond0 + eth1 + eth2):

italeno12:~ # /var/rudder/template/gen\_llttab.SDN\_inc.sh  
# Template created based on existence of '/sys/class/net/bond0' at 'Wed Jul 8 17:07:00 CEST 2020'  
link link1 bond0 - ether - -  
link link2 eth1 - ether - -  
link link3 eth2 - ether - -

Example (SDN: static team0 + dynamic link2+link3):

itadell143:~ # /var/rudder/template/gen\_llttab.SDN\_inc.sh  
# Template created based on existence of '/sys/class/net/team0' at 'Wed Jul 8 17:08:20 CEST 2020'  
link link1 team0 - ether - -  
link link2 adminvlan3014 - ether - -  
link link3 backupvlan3504 - ether - -

The Logic of **gen\_llttab.SDN\_inc.sh:**

1. If bond0 exists, generate the static output of bond0 + eth1 + eth2
2. If team0 exists,
   1. Use **team0** for **link1**
   2. Use **the first** (numerically sorted) **adminvlan\*** device for **link2** (if any are found)
   3. Use **the first** (numerically sorted) **backupvlan\*** device for **link3** (if any are found)
   4. If no link2+link3 was found, use as many (numerically sorted) regular vlan\* device for link2+3 as necessary
   5. If no link2+link3 was found, exit with an error.

For Oracle there are two Templates:  
inst\_oracle.cluster => for Oracle ServiceGroups without any REDO Filesystems  
inst\_oracle\_redo.cluster => for Oracle systems with REDO filesystems.  
  
The VCS configuration is the same for both, and all fields are set via the "search & replace" values in the  
template header:

#########################################################################  
#  
# With vi replace with %s/(old)/(new)/g  
#  
# REPLACE (host1) with the physical IP-Name of the first node e.g. lttxtdb01  
# REPLACE (host2) with the physical IP-Name of the second node e.g. lttxtdb02  
# REPLACE (pkgname) with the virtual IP-Name e.g. itfqdb00  
# REPLACE (pkgname\_ip) with the virtual IP e.g. 10.145.92.61  
# => If the SG does not have a dedicated Backup IP-Name, comment out the "ip" for  
# the interface below!  
# REPLACE (pkgbu\_name) with the virtual Backup IP-Name e.g. itfqdb00b  
# REPLACE (pkgbu\_ip) with the virtual BACKUP IP e.g. 10.145.98.22  
#  
# !! DO NOT CONFIGURE SMALLER FS VALUES THAN DEFAULT VALUES WITHOUT AN OK FROM FG-941 !!!  
#  
#########################################################################

After the search & replace above, all fields in the "HOST" and "Service group section" should then be set as needed. Once the VxVM fields have been set, the template should be ready for installation. The SAP Templates have more fields, but the same applies as above.  
  
IF YOU HAVE MORE THAN ONE LV IN A DISK GROUP, YOU MUST SET THE SIZE FOR EACH LV IN THAT DISK GROUP.  
OTHERWISE USE "max" SO THAT ALL DISKSPACE IS ALLOCATED TO THE LV.

Last edited by Wild Thomas, (Thomas.Wild@partner.bmw.de) , based on work by Noyes Geoffrey, (Geoffrey.Noyes@partner.bmw.de) ,  Kujau Christian, (Christian.CK.Kujau@partner.bmw.de)  and  system  .  
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| Migration of VCS Cluster Package (aka VCS Service Group) |
| --- |

**NOTE: Do not use this procedure for SAP cluster packages! Migrating a SAP package must be handled differently. Notify the L2 team and SAP module responsible if a request for migrating a SAP package is received.**  
For SAP please use the following Wikis:  
[5.13.14.5 SAP - Migration Precheck](https://atc.bmwgroup.net/confluence/display/IAAS18/5.13.14.5+SAP+-+Migration+Precheck)  
[5.13.14.6 SAP - Migration with DB import method](https://atc.bmwgroup.net/confluence/display/IAAS18/5.13.14.6+SAP+-+Migration+with+DB+import+method)  
[5.13.14.4 SAP MIG LUN Import](https://atc.bmwgroup.net/confluence/display/IAAS18/5.13.14.4+SAP+MIG+LUN+Import)  
  
**NOTE:**  To perform \*\*  [Manually](https://atc.bmwgroup.net/confluence/x/xPeTMg) \*\*

# **Background**

BMW uses the term "package" to refer to all kinds of service or resource groups. A "package" in BMW terminology is a VCS service group in official VCS language.

## Moving a cluster package includes:

* A) migrating its configuration to the new cluster
* B) moving the data associated with the package to the new cluster There are different ways to move the actual data from the old cluster to the new one. The easiest way is to migrate by re-assigning the existing data disks to the new cluster. However, this is only possible if old and new cluster systems are connected to the same SAN. If this is not the case, the data may either be copied by the middleware/application teams or in special cases the SAN team may create a temporary routing between two different SANs and copy the data from the old SAN to the new one. The latter option is similar to the data disk re-assignment procedure from the server point of view; however, instead of getting access to the original disks, the new cluster will get access to a copy of the original disks then.

A package is usually a failover service group, this means, it can only run on a single system at a particular point in time. The system or cluster node where the package usually runs is called the primary node.

# **Preparations and Prerequisites**

## Prerequisites

1. Before a package may be migrated, the VCS cluster framework must have been installed on the new cluster nodes an the NIC service group for monitoring the network devices must have been defined on this cluster. This is usually the case before a package migration task is received, but it is always a good idea to check by running "hastatus -sum" on one of the new cluster nodes.
2. **!!NOTE!!** If the destination cluster is running Veritas Cluster 6 / Veritas Storage Foundation Suite 6, you will need to update the VxFS disk layout versions. These steps are marked **To VCS/VxVM 6** below in this document. In Veritas Release 6, you can create and mount only file systems with disk layout Version 7, 8, 9, and 10. You can only local mount disk layout Version 6 only to upgrade to a later disk layout version. Updates can only be performed
3. Caution at migrations from newer veritas version to lower veritas version: It may happen that the diskgroups have been updated to the latest version, so we can't import them on the target cluster with older veritas version. Always check the veritas version on the source and target cluster. You can use this one-liner to check the DG-version. **The max. version for veritas 6.1 is 190, but the default DG version at veritas 7.3 is 240.** If the version is not supported on the target cluster please inform the Change Manager, that the migration is not possible.

for x in $(vxdg -q list|awk {'print $1'});do echo -n $x " "; vxdg -q list $x|grep version;done

### Request LUN Visibility for new Cluster nodes

If a migration by disk (or "LUN") re-assignment is requested, the existing storage has to be made visible on the new cluster first. In order to accomplish this, a STORM order has to be created via [http://storm.muc](http://storm.muc/) using the sub-menu "Customer Cockpit > Assign Visibility". The pvinfo input for the order can be generated using:

<installserver>: $ /lfs/scripts/vcs\_sg\_mig.pl GetStorm -s <source system> -g <service group>

where <source system> is the old cluster node where the package is currently running. The output of this command should be pasted into the "PV-Info Output" field of the STORM visibility assignment request and by then clicking "PV-Info Selection", the correct disks will be selected in the list of available disks on the source system. After pressing "Next", BOTH of the new cluster nodes must be selected as target systems and the request can then be completed.  
  
After the request has been implemented by the SAN team, the visibility of the disks can be checked using the command:

<installserver>: $ /lfs/scripts/vcs\_sg\_mig.pl CheckDisks -s <source system> -t <target system> -g <service group>

This command should be run for BOTH new cluster nodes as <target system>. Newly mapped disks must be scanned first using  
"san\_rescan -o" on the target system or even "san\_rescan -o -F <scsi\_host>" if a completely new array has been made accessible for the target hosts. "san\_rescan -o -F <scsi\_host>" must be used always with a scsi\_host. Always check the status between two force rescans.

### Check SecFS

Check, whether the package has SecFS resources:

SUORCE\_NODE:~ $ hacf -cftocmd /etc/VRTSvcs/conf/config -display | grep <PACKAGE>| grep -i secfs

SUORCE\_NODE:~ $

If yes, check, whether SecFS is installed on the target cluster. (See the installation instructions depending on OS-Systems)

### Create mount points and application scripts

The package will need mount points for its file systems and application scripts for starting its application processes. They can be derived from the old cluster configuration and created (mount points) or copied (scripts) via:

lpinstbss1: $ /lfs/scripts/vcs\_sg\_mig.pl PrepMntScr -s <source system> -t <target system 1> -g <service group>

lpinstbss1: $ /lfs/scripts/vcs\_sg\_mig.pl PrepMntScr -s <source system> -t <target system 2> -g <service group>

Here, <source system> is the primary node of the cluster package on the old cluster. Note that this step is done for BOTH target cluster nodes.  
  
  
If a migration of **Application Start/Stop Scripts** (/lfs/cluster/app\_control/) for plant DBs/VMs is requested in a related task please refer to:  
  
[5.6.1.1 VCS Application Start/Stop](https://atc.bmwgroup.net/confluence/pages/viewpage.action?pageId=649688911)

### Create configuration script for the package on the new cluster

**Check** if old package **IP-address** is in same **subnet/network** and get correct interface used as "bondX" in code example.  
If network does not exist on target cluster, you need to order new IP-address in CMDB for package to migrate.  
  
  
Create configuration without new IP due to same subnet:

lpinstbss1: $ /lfs/scripts/vcs\_sg\_mig.pl MigSgCfg -s <source system> -t <primary target system|preferred node> -g <service group> -i @bondX

Create configuration with new IP:

lpinstbss1: $ /lfs/scripts/vcs\_sg\_mig.pl MigSgCfg -s <source system> -t <primary target system|preferred node> -g <service group> -i <IP>@bondX

Account your task using DBVUMZPKG1 plus number of packages

## Migrating the package

**NOTE:** Is it absolutely essential that the package cannot be started on the old cluster any more after it has been migrated. Simultaneous start on both clusters will very likely result in data corruption! For this reason, the service group is frozen on the old cluster and removed permanently after a grace period of a few days.

### Preparation

Please put old and new cluster nodes in Nagios maintenance mode to avoid unneccessary warnings.

lpinstbss1: # /lfs/scripts/set\_downtime <source node 1> -s os\_linux\_cluster\_veritas\_check\_vcs -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <source node 1> -s os\_linux\_cluster\_veritas\_check\_health -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <source node 2> -s os\_linux\_cluster\_veritas\_check\_vcs -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <source node 2> -s os\_linux\_cluster\_veritas\_check\_health -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <target node 1> -s os\_linux\_cluster\_veritas\_check\_vcs -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <target node 1> -s os\_linux\_cluster\_veritas\_check\_health -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <target node 2> -s os\_linux\_cluster\_veritas\_check\_vcs -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <target node 2> -s os\_linux\_cluster\_veritas\_check\_health -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <target system> -s os\_linux\_fs\_check\_san\_mirror -m 60

lpinstbss1: # /lfs/scripts/set\_downtime <target system> -s os\_linux\_fs\_check\_vxvm -m 60

### **Prep: To VCS/VxVM 6**

**Update Preperation to VCS/VxVM Filesystem Layout Version 6**  
  
If you migrate the package from an older version to Veritas VCS Version 6 and/or Veritas Storage Foundation Version 6, further steps are neccessary.  
  
Check and note the current version of the disk layout.

PACKG=dbapdmw1

for VOL in $(df -hP -t vxfs | grep ${PACKG} | awk '{print $1}'); do /opt/VRTS/bin/fstyp -v ${VOL} | grep -i version; done

magic a501fcf5 version 6 ctime Sat 06 Sep 2008 01:29:46 PM CEST

magic a501fcf5 version 6 ctime Sat 06 Sep 2008 01:29:13 PM CEST

magic a501fcf5 version 6 ctime Sat 06 Sep 2008 01:28:48 PM CEST

magic a501fcf5 version 6 ctime Sat 06 Sep 2008 01:29:32 PM CEST

Example for a package named dbapdmw1

### Update CMDB

The package which will be migrated needs to be linked to the new failover cluster in the CMDB. Packages are called "resource groups" within the CMDB.  
  
Also, if the new cluster is not on the same subnet as the old cluster, a new IP address in the subnet of the target cluster must be allocated for the package, given the hostname "<service group>-new" and associated with the corresponding resource group object.

### Offline and freeze on old cluster

* login on old primary cluster node
* stop package / service group on old system and freeze the package persistently:

$ hagrp -offline <service group> -sys <OldPrimarySystem>

$ hastatus -sum # check if offline

$ haconf -makerw

$ hagrp -freeze <service group> -persistent

$ haconf -dump -makero

### **Update: To VCS/VxVM 6**

**OBSOLETE:** Use vxvol\_upgrade from your installserver  
  
**Update Disk Layout**  
On the **old** cluster you will need to stepwise update the Veritas Disk layout to version 7. (You may also do this on the **new** cluster but **DO NOT GO PAST layout version 7,** because you then have **no possibility to fall back** to the old cluster.)  
  
For example, if the Current Version is **4** then you will need to:

* import the diskgroup
* mount the volume in local mode (not cluster)
* stepwise update the Veritas disk layout versions (I think you will need to re-import and mount each time, because the update umounts and deports. ...)

**You will need to do the following for each volume of the cluster package.**  
  
**Don't forget to unmount the volumes and deport the diskgroup.**

vxdg import dgdbapdmw1db

mkdir /mytemp

mount.vxfs -t vxfs /dev/vx/dsk/dgdbapdmw1db/lvdb /mytemp

vxupgrade -n 5 /mytemp

mount.vxfs -t vxfs /dev/vx/dsk/dgdbapdmw1db/lvdb /mytemp

vxupgrade -n 6 /mytemp

mount.vxfs -t vxfs /dev/vx/dsk/dgdbapdmw1db/lvdb /mytemp

vxupgrade -n 7 /mytemp

umount /mytemp

vxdg deport dbapdmw1

### Configuration and startup on new cluster

* logon to new primary cluster node for the package
* create and start the package

NewPrimarySystem $ haconf -makerw

NewPrimarySystem $ sh -x /var/tmp/create.<service group>.cmd

NewPrimarySystem $ haconf -dump -makero

NewPrimarySystem $ sleep 30 # give VCS some time to complete a monitor cycle for all new resources

NewPrimarySystem $ hastatus -sum

NewPrimarySystem $ hagrp -online <service group> -sys <NewPrimarySystem>

NewPrimarySystem $ hastatus

If the service IP has changed, DNS must be updated to notify clients about this change. Logon to CMDB, select the resource group object associated with the migrated package and update the IP address information so that the hostname of the old IP-Address changes to "<service group>-old" and the "<service group>-new" changes to "<service group>". DNS records are updated based on CMDB data every 20 minutes (except during 0:00 and 1:00 MET).  
  
Once the package has been started successfully on the new primary cluster node, it should be switched to the second node and then back to the primary to verify that it works on both nodes! Also, if the service IP has changed, DNS must be updated to notify

### Cleanup the Package

* Check status using "hastatus -sum"
* remove the link of the CMDB resource group object to the OLD failover cluster object
* Account task using "DBGSYSKON"
* Delete SG on old cluster node after successful migration

Script:

INST: # vcs\_sg\_mig.pl DelSg -s <source system> -g <service group>

Manual:

OldPrimarySystem $ haconf -makerw

OldPrimarySystem $ for GRP in $(hagrp -resources <service group>); do hares -delete ${GRP}; done

OldPrimarySystem $ hagrp -delete <service group>

OldPrimarySystem $ haconf -dump -makero

* **If IP change=YES then Firewall Rules needs to deleted for old IP, defined CLI process can be use** → [5.13.34 Tufin CLI Commands#5.13.34TufinCLICommands-tufin\_decom\_ip](https://atc.bmwgroup.net/confluence/display/IAAS18/5.13.34+Tufin+CLI+Commands#id-5.13.34TufinCLICommands-5.13.34TufinCLICommands-tufin_decom_ip)

## Aftermath

When the package has run on the new cluster without problems for a few days, the configuration needs to be cleaned up:

* on the old cluster, remove the disks used by the package / service group from the OS:

INST: # /lfs/scripts/vcs\_sg\_mig.pl GetStorm -s <source system> -g <service group> > <service group>.pvinfo

INST: # san\_return -migration -ticket <task ID> -server <source system> -file <service group>.pvinfo

* submit a STORM "Unassign visibility" request for the disks of the migrated package for the OLD cluster nodes (the contents of the <service group>.pvinfo file created earlier can be used to select the correct disks)
* if the IP address has changed:
  + remove the link of the old IP address to the CMDB resource group object associated with the package
  + delete the old IP address (with hostname "<service group>-old") in the CMDB (the IP address object can be removed with the red "x" button in the upper left of the screen after selecting the object - or in the right mouse klick menu. No comment.)
* Account task using "DBGSYSKON"

See a detailed description of complete resource group removal here:  
[5.6.1.9 VCS Remove Cluster Package](https://atc.bmwgroup.net/confluence/display/IAAS18/5.6.1.9+VCS+Remove+Cluster+Package)

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| Timezone and NTP |
| --- |
| Scope |

How to change timezone on linux and adopt NTP on SLES11 Systems  
You can find the SLES12 instructions [here](https://atc.bmwgroup.net/confluence/pages/viewpage.action?pageId=504306409)

| Known Problems |
| --- |

**NOTE:** Whenever timezone is changed on a server make sure that application is down, specially when time is rolled back and you are dealing with a SAP system! Timezone changes have to be approved by the BU.

# **Change time zone (SLES 11)**

* Available timezones can be found in /usr/share/zoneinfo/
* First make a copy of the current files:

# cp -dp /etc/localtime /etc/localtime.old

# cp -p /etc/sysconfig/clock /etc/sysconfig/clock.old

* Then chenage timezone globally in /etc/sysconfig/clock and add the desired time zone, e.g. "TIMEZONE="Europe/Berlin""

# vi /etc/sysconfig/clock

* Remove old localtime file and relink:

# rm /etc/localtime

# ln -sf /usr/share/zoneinfo/Europe/Berlin /etc/localtime

# **Restart NTP**

The last step is to set ntp correctly by issuing the following:

# /etc/init.d/ntp stop

#

# sntp -r ntp1.muc (or ntp1.<server-domain> on different locations # (/usr/sbin/ntpdate ntp1.<server-domain> doesn't work anymore, is now deprecated)

# /etc/init.d/ntp start

and set the hwclock to the current system time

# /sbin/hwclock --systohc

Don't forget to restart cron and syslog, otherwise they will run with the old time!

# /etc/init.d/cron restart

# /etc/init.d/syslog restart

# **Final checks**

Finally check your current settings with date and ntpstatus:

# date

Fri Sep 29 02:44:42 EST 2017

# grep -w TIMEZONE /etc/sysconfig/clock

TIMEZONE="US/Eastern"

#

# /etc/init.d/ntp status

remote refid st t when poll reach delay offset jitter

==============================================================================

LOCAL(0) .LOCL. 5 l 16 64 377 0.000 0.000 0.002

+ntp1.muc 10.237.134.15 2 u 20 64 377 1.035 -0.173 0.292

\*ntp2.muc 160.46.183.30 2 u 15 128 377 0.911 0.149 0.250

+ntp3.muc 160.48.136.124 2 u 23 64 377 1.169 -0.513 0.358

Checking for network time protocol daemon (NTPD): running

#

After that Application can be started again by the appropriate team.

Last edited by Baur Sebastian, (Sebastian.Baur@partner.bmw.de) , based on work by Soevenyhazi Lorand, (Lorand.Soevenyhazi@partner.bmw.de) , Miko Andras, (Andras.Miko@partner.bmw.de) , Kemmerer Walter, (Walter.Kemmerer@partner.bmw.de) , [qxj5457](https://bsswiki.muc/tiki-user_information.php?userId=-1) , Greulich Nicole, (Nicole.Greulich@partner.bmw.de) , [qxc0474](https://bsswiki.muc/tiki-user_information.php?userId=-1) and [system](https://bsswiki.muc/tiki-user_information.php?userId=-1) .  
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# [**5.4.5.9 Veritas Filesystem errors**](https://atc.bmwgroup.net/confluence/display/IAAS18/5.4.5.9+Veritas+Filesystem+errors)

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [21 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=521115106&selectedPageVersions=1&selectedPageVersions=2)

When there is an issue with a Veritas filesystem, before executing fsck, please collect dd output. Thanks to this file, Symantec will be able to recreate the filesystem issue.  
Before executing fsck: Just in case, it would be better to collect it from both the raw device and the volume:

1. dd if=/dev/vx/rdsk/<dgname>/<volume name> of=/var/tmp/<volname\_dd.out> bs=1024k count=256
2. dd if=/dev/rdsk/<devicename> of=/var/tmp/<device\_dd.out> bs=1024k count=256

A Metasave can be created on an umounted and mounted FS in different ways:  
Mounted: <https://www.veritas.com/support/en_US/article.000080853>

Umounted: <https://www.veritas.com/support/en_US/article.000018073>  
As a precaution - you may also consider gathering following points, before taking any resize actions: 1. # fsadm -t vxfs -E /mount\_point 2. # df -k /mount\_point 3. # /opt/VRTS/bin/ncheck -t vxfs -oblock=- /dev/vx/dsk/<dg>/<vol> >/tmp/ncheck.out  
Afterwards, you can safely run fsck and Symantec will be able to continue the investigation via metasave.

* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [08 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=520948555&selectedPageVersions=1&selectedPageVersions=2)

# **VxVM Cheat Sheet**

* Please be aware
  + DG
  + diskname
  + sdxx
* have to be replaced with correct names as used on the system

## Disk and DiskGroups

|  |  |
| --- | --- |
| **Action** | **Command** |
| create diskgroup | **vxdg init**DG diskname**=**sdxx |
| delete diskgroup | **vxdg destroy** DG [DG ..] |
| import diskgroup | **vxdg import** DG [DG ..] |
| deport diskgroup | **vxdg deport** DG [DG ..] |
| show diskgroups | **vxprint** [-qQ][-a|l][-g DG ..] |
| add disk to diskgroup | **vxdg -g** DG **adddisk** diskname**=**sdxx [diskname=sdxx] |
| remove disk from diskgroup | **vxdg -g** DG **rmdisk** diskname [diskname ..] |
| initialise disk | **vxdisksetup** [-i] sdxx [privlen=ns] |
| remove disk for replacement | **vxdg -g** DG **-k rmdisk** diskname |
| insert disk for replacement | **vxdg -g** DG **-k adddisk** diskname**=**sdxx |
| reattach disk after replacement | **vxreattach** [-r] [sdxx] |
| rename disk | **vxedit rename** oldname newname |
| disable disk (offline) | **vxdisk offline** sdxx |
| enable disk (online) | **vxdisk online** sdxx |
| deinitialise disk | **vxdiskunsetup**[-C] sdxx [sdxy..] |
| show disks and diskgroups | **vxdisk** [-g DG] [-s] [-o alldgs] **list** [diskname] |
| show disks | **vxprint** [-qQ][-a|l] diskname [diskname ...] |
| show free space | **vxdg** [-g DG] **free**[diskname ...] |
| add/delete default diskgroup | **vxdctl defaultdg** {DG|**nodg**} |
| show default diskgroup | **vxdg defaultdg** |

## Subdisks

|  |  |
| --- | --- |
| **Action** | **Command** |
| create subdisk | **vxmake -g** DG **sd** sd-name **disk=**diskname **offset=**offset [-kgm] **len=**length |
| rename subdisk | **vxedit rename** oldname newname |
| move subdisk | **vxsd** [-o rm] **mv** oldname newname |
| dissociate sd from plex | **vxsd** [-o rm] **dis** sd\_name [sd\_name ...] |
| associate sd to plex | **vxsd assoc** plexname sd\_name [sd\_name ...] |
| associate log-sd to plex | **vxsd asloc** plexname sd\_name |
| delete subdisk | **vxedit rm** sd\_name [sd\_name ...] |
| show subdisks | **vxprint** -s [qQ][a|l] sd\_name [sd\_name ...] |
|  | |

## Plexes

|  |  |
| --- | --- |
| **Action** | **Command** |
| create concat plex | **vxmake -g**DG **plex**plexname **sd=**sd-list |
| create striped plex | **vxmake -g**DG **plex**plexname **layout=**layout **sdwidth=**stripeunit-width **nocolumn=**column-number **sd=**sd-list |
| create concat/striped plex | **vxmake -g** DG **plex** plexname **layout=stripe stwidth=**stripeunit-width **nocolumn=**column-number **sd=**sd-name:column/offset,.. |
| detach plex from volume | **vxplex det** plexname [plexname ...] |
| attach plex from volume (will mirror) | **vxplex att** volumename plexname [plexname ...] |
| dissociate plex from volume | **vxplex dis** plexname [plexname ...] |
| delete plex (recursive, forced) | **vxedit** [-rf] **rm** plexname [plexname ...] |
| show plexes | **vxprint** [-pqQ][a|l] plexname [plexname ...] |
| convert data plex to snapshot plex | **vxplex -g** DG **convert state=ACTIVE** plexname |
| convert snapshot plex to data plex | **vxplex -g** DG **convert state=SNAPDONE** plexname |
|  | |

## Volumes

|  |  |
| --- | --- |
| **Action** | **Command** |
| create simple volume | **vxmake -g** DG -U [fs] gen **vol** vol-name **plex=**plexname |
| create mirrored volume | **vxmake -g** DG -U [fs] gen **vol** vol-name **plex=**plex-list |
| create volume | **vxassist** [-g DG] **make** vol-name length **layout=**layout |
| calculate max volume size | **vxassist** [-g DG] **maxsize** **layout=**layout [diskname ...] |
| change volume owner | **vxedit -g** DG **set user=**username **group=**groupname **mode=**octal vol-name [vol-name...] |
| start volumes | **vxvol start** vol-name [vol-name...] |
|  | **vxrecover -sE** [vol-name...] (wihtout vol-name all are started) |
|  | **vxvol init active** vol-name |
| stop volume | **vxvol stop** vol-name [vol-name...] |
| add mirror | **vxmake -g** DG **plex** plexname **sd=**sd-list |
|  | **vxplex att** vol-name plexname |
|  | **vxassist mirror** vol-name |
| add log plex DRL | **vxassist -g** DG **addlog** vol-name **logtype=drl loglen=2112** |
| add log plex DCO | **vxassist -g** DG **addlog** vol-name **logtype=dco dcolen=2112** |
| change volume and fs size | **vxresize -F** fstype **-g** DG vol-name [+|-] size [diskname,[offset]] (shrinking only with vxfs !!) |
| change volume size (without fs) | **vxassist -g** DG **growto** vol-name size |
|  | **vxassist -g** DG **growby** vol-name diff |
|  | **vxassist -g** DG **shrinkto** vol-name size |
|  | **vxassist -g** DG **shrinkby** vol-name diff |
| change layout | **vxassist -g** DG **convert** vol-name **layout=**new\_layout |
| relayout volume | **vxassist -g** DG **relayout** vol-name new\_layout |
| remove volume (recursive, forced) | **vxedit** [-rf] **rm** vol-name [vol-name ...] |
| show volumes | **vxprint** [-vrqQ][a|l] vol-name [vol-name ...] |
|  | |

## Tasks

|  |  |
| --- | --- |
| **Action** | **Command** |
| show tasks | **vxtask [-n] list** |
| cancel task | **vxtask abort** task-id |
| pause task | **vxtask pause** task-id |
| resume task | **vxtask resume** task-id |
|  | |

## Create volumes step by step

|  |  |
| --- | --- |
| **Action** | **Command** |
| create diskgroup | **vxdg init** DG diskname=sdxx |
| create subdisk | **vxmake -g** DG **sd** sd-name **disk=**diskname **offset=**offset [-kmg] **len=**length[-kmg] |
| create plex (concat) | **vxmake -g** DG **plex** plexname **sd=**sd-list |
| create volume (simple) | **vxmake -g** DG **-U** [fs]gen **vol** vol-name **plex=**plexname |
| start volume | **vxvol -g** DG **start** vol-name |
| create filesystem | **mkfs.vxfs /dev/vx/rdsk/**DG**/**vol-name |
| mount volume | **mount -t vxfs /dev/vx/rdsk/**DG**/**vol-name /mountpoint |
|  | |

## Delete volume step by step

|  |  |
| --- | --- |
| **Action** | **Command** |
| umount volume | **umount** **/**mountpoint |
| stop volume | **vxvol -g** dg **stop** vol-name |
| dissociate plex from volume | **vxplex -g** dg **dis** plexname |
| delete volume | **vxedit -g** dg **rm** vol-name |
| dissociate sd from plex | **vxsd -g** dg **dis** sd-name |
| delete plex | **vxedit -g** dg **rm** plexname |
| delete subdisk | **vxedit -g** dg **rm** sd-list |
| delete diskgroup | **vxdg destroy** DG (only when there is no other active Volume in the DG!!!) |
| **fast way** (all in one ) | **vxedit -g** dg **-rf rm** vol-name |

## Save and restore configuration

|  |  |
| --- | --- |
| **Action** | **Command** |
| save all configuration | **vxprint -mrA >** config-file |
| save volume config of DG | **vxprint -mrvpsg** DG **>** config-file |
| create config from config file | **vxmake -g** DG **-d** config-file |
| start volumes | **vxrecover -sE** |

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Please Create new package pkgcocbe1i

Package 1 - pkgcocbe1i

==============================

Server 1 : ltdbstde111.bmwgroup.net

Server 2 : ltdbstde112.bmwgroup.net

Default Server: ltdbstde112.bmwgroup.net

Env: Test

APP ID : APP-118472

Package-Name: pkgcocbe1i

Action: Create

Filesystem (Right 755 oracle:dba)

with the file systems

/global/pkgcocbe1i/db 225 GB

/global/pkgcocbe1i/bkup 112 GB

Please enter the package in the CMDB.

Please write a mail to PaaS-CPT@list.bmw.com in case of any issue/clarification.

Note: Please send a mail to PaaS-CPT@list.bmw.com once the package is created

san\_shortinfo | egrep -i '01:01|01:02' | sort -k3

ltdbstde111:~ # san\_shortinfo | egrep -i '01:01|01:02' | sort -k3

hitachi\_vsp50000\_0101 | sdgn 01:01 5A 40198 230490 | sdgf 01:01 6A 40198 230490 |

hitachi\_vsp50000\_0102 | sdgo 01:02 5A 40198 115245 | sdgg 01:02 6A 40198 115245 |

hitachi\_vsp50001\_0101 | sdgr 01:01 5A 40206 230490 | sdgj 01:01 6A 40206 230490 |

hitachi\_vsp50001\_0102 | sdgs 01:02 5A 40206 115245 | sdgk 01:02 6A 40206 115245 |

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ nslookup pkgcocbe1i

Server: 127.0.0.1

Address: 127.0.0.1#53

Name: pkgcocbe1i.bmwgroup.net

Address: 10.30.36.21

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

ltdbstde111:~ #

RG-18683

=======================================

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $ cat ltdbstde111\_pkgcocbe1i\_add.all

HOST ltdbstde112 ltdbstde111

#########################################################################

# Service group section

sg pkgcocbe1i

node ltdbstde112 ltdbstde111

# Primary Virtuell IP

ip 10.30.36.21 pkgcocbe1i

# NetBackup Virtuell IP

#######ip (pkgbu\_ip) (pkgbu\_name)

# VCS Script Templates

app oracle module=oracle

#########################################################################

# Disk group section 1

# DG DB

dg dgpkgcocbe1idb

# @000388613

01:01 40198 B1\_GS3

01:01 40206 B1\_GS3

lv lvdb max

fs lvdb 8192

mnt lvdb /global/pkgcocbe1i/db owner=oracle:dba chmod=755 opts=mincache=direct,convosync=direct

#########################################################################

# Disk group section 2

# DG BKUP

dg dgpkgcocbe1ibkup

# @000388613

01:02 40198 B1\_GS3

01:02 40206 B1\_GS3

lv lvbkup max

fs lvbkup 8192

mnt lvbkup /global/pkgcocbe1i/bkup owner=oracle:dba chmod=755 opts=defaults

#########################################################################

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $ configure\_veritas.sh ltdbstde111\_pkgcocbe1i\_add.all

\_ \_ \_\_\_\_ \_\_\_\_ \_ \_\_\_ \_\_\_\_ \_\_\_\_ \_ \_ \_\_\_\_ \_ \_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_

| | |\_\_\_ |\_\_/ | | |\_\_| [\_\_ |\/| |\_\_| |\ | |\_\_| | \_\_ |\_\_\_ |\_\_/

\/ |\_\_\_ | \ | | | | \_\_\_] | | | | | \| | | |\_\_] |\_\_\_ | \

Processing file 'ltdbstde111\_pkgcocbe1i\_add.all'

-> Checking File validity [OK] file exist: ltdbstde111\_pkgcocbe1i\_add.all

-> Looking for RequestID markers [OK] none found

-> Fetching Hostlist(s) [OK] working on ltdbstde112 ltdbstde111

-> Testing Hosts [OK] root access verified

-> Fetching ServiceGroup [OK] found pkgcocbe1i

-> Fetching module for Apps [OK] fetched

Running remote sanity check

-> Copy template to remote host 'ltdbstde112' [OK] copied

-> Running sanity check on 'ltdbstde112'

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

Sanity checking package pkgcocbe1i...

15:56:47 Sanity checking IP 10.30.36.21

Sanity checking application oracle

WARNING: Application start/stop/monitor scripts don't exist (/lfs/cluster/vcs/pkgcocbe1i\_oracle\_start/stop/monitor), please make sure they are created before the final run.

Sanity checking mount /global/pkgcocbe1i/db

Sanity checking mount /global/pkgcocbe1i/bkup

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Sanity check [OK] success

-> Copy template to remote host 'ltdbstde111' [OK] copied

-> Running sanity check on 'ltdbstde111'

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

Sanity checking package pkgcocbe1i...

15:57:03 Sanity checking IP 10.30.36.21

Sanity checking application oracle

WARNING: Application start/stop/monitor scripts don't exist (/lfs/cluster/vcs/pkgcocbe1i\_oracle\_start/stop/monitor), please make sure they are created before the final run.

Sanity checking mount /global/pkgcocbe1i/db

Sanity checking mount /global/pkgcocbe1i/bkup

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Sanity check [OK] success

Deploying application scripts

-> Preparing files [OK] staged

-> Distributing files [OK] distributed

Starting remote /sbin/vxctl call

-> Initiating vxctl on ltdbstde112

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

15:57:17 Initializing disk hitachi\_vsp50000\_0102 OK

15:57:17 Disabling thin provisioning on disk hitachi\_vsp50000\_0102 OK

15:57:17 Initializing disk hitachi\_vsp50001\_0102 OK

15:57:18 Disabling thin provisioning on disk hitachi\_vsp50001\_0102 OK

15:57:18 Creating disk group with name dgpkgcocbe1ibkup and disks

hitachi\_vsp50000\_0102 hitachi\_vsp50001\_0102 OK

15:57:18 Renaming disk hitachi\_vsp50000\_0102 in diskgroup

dgpkgcocbe1ibkup to 18\_40198\_0102 OK

15:57:18 Renaming disk hitachi\_vsp50001\_0102 in diskgroup

dgpkgcocbe1ibkup to 2\_40206\_0102 OK

15:57:19 Creating volume lvbkup in diskgroup dgpkgcocbe1ibkup with size

115195M OK

15:57:20 Renaming plex lvbkup-02 in diskgroup dgpkgcocbe1ibkup to

lvbkup-40206 OK

15:57:20 Renaming plex lvbkup-01 in diskgroup dgpkgcocbe1ibkup to

lvbkup-40198 OK

15:57:20 Renaming plex lvbkup-03 in diskgroup dgpkgcocbe1ibkup to

lvbkup\_drl-40206 OK

15:57:20 Renaming plex lvbkup-04 in diskgroup dgpkgcocbe1ibkup to

lvbkup\_drl-40198 OK

15:57:20 Renaming plex lvbkup\_dcl-02 in diskgroup dgpkgcocbe1ibkup to

lvbkup\_dcl-40206 OK

15:57:20 Renaming plex lvbkup\_dcl-01 in diskgroup dgpkgcocbe1ibkup to

lvbkup\_dcl-40198 OK

15:57:20 Setting read policy for volume lvbkup in diskgroup

dgpkgcocbe1ibkup to plex lvbkup-40206 OK

15:57:20 Exec: /sbin/mkfs.vxfs -o bsize=8192

/dev/vx/dsk/dgpkgcocbe1ibkup/lvbkup 2>&1 >/dev/null OK

15:57:20 Exec: /bin/mount -t vxfs /dev/vx/dsk/dgpkgcocbe1ibkup/lvbkup

/global/pkgcocbe1i/bkup OK

15:57:20 Exec: /bin/chown oracle:dba /global/pkgcocbe1i/bkup OK

15:57:20 Exec: /bin/chmod 755 /global/pkgcocbe1i/bkup OK

15:57:20 Exec: /bin/umount /global/pkgcocbe1i/bkup OK

15:57:21 Initializing disk hitachi\_vsp50000\_0101 OK

15:57:21 Disabling thin provisioning on disk hitachi\_vsp50000\_0101 OK

15:57:21 Initializing disk hitachi\_vsp50001\_0101 OK

15:57:22 Disabling thin provisioning on disk hitachi\_vsp50001\_0101 OK

15:57:22 Creating disk group with name dgpkgcocbe1idb and disks

hitachi\_vsp50000\_0101 hitachi\_vsp50001\_0101 OK

15:57:23 Renaming disk hitachi\_vsp50000\_0101 in diskgroup dgpkgcocbe1idb

to 18\_40198\_0101 OK

15:57:23 Renaming disk hitachi\_vsp50001\_0101 in diskgroup dgpkgcocbe1idb

to 2\_40206\_0101 OK

15:57:23 Creating volume lvdb in diskgroup dgpkgcocbe1idb with size

230437M OK

15:57:24 Renaming plex lvdb-03 in diskgroup dgpkgcocbe1idb to

lvdb\_drl-40206 OK

15:57:24 Renaming plex lvdb-01 in diskgroup dgpkgcocbe1idb to lvdb-40198 OK

15:57:24 Renaming plex lvdb-02 in diskgroup dgpkgcocbe1idb to lvdb-40206 OK

15:57:24 Renaming plex lvdb-04 in diskgroup dgpkgcocbe1idb to

lvdb\_drl-40198 OK

15:57:24 Renaming plex lvdb\_dcl-01 in diskgroup dgpkgcocbe1idb to

lvdb\_dcl-40198 OK

15:57:24 Renaming plex lvdb\_dcl-02 in diskgroup dgpkgcocbe1idb to

lvdb\_dcl-40206 OK

15:57:24 Setting read policy for volume lvdb in diskgroup dgpkgcocbe1idb

to plex lvdb-40206 OK

15:57:24 Exec: /sbin/mkfs.vxfs -o bsize=8192

/dev/vx/dsk/dgpkgcocbe1idb/lvdb 2>&1 >/dev/null OK

15:57:25 Exec: /bin/mount -t vxfs -o mincache=direct,convosync=direct

/dev/vx/dsk/dgpkgcocbe1idb/lvdb /global/pkgcocbe1i/db OK

15:57:25 Exec: /bin/chown oracle:dba /global/pkgcocbe1i/db OK

15:57:25 Exec: /bin/chmod 755 /global/pkgcocbe1i/db OK

15:57:25 Exec: /bin/umount /global/pkgcocbe1i/db OK

15:57:27 Exec: /opt/VRTS/bin/haconf -makerw OK

15:57:27 Exec: /opt/VRTS/bin/hagrp -add pkgcocbe1i VCS NOTICE V-16-1-10136 Group added; populating SystemList and setting the Parallel attribute recommended before adding resources

OK

15:57:27 Exec: /opt/VRTS/bin/hagrp -modify pkgcocbe1i SystemList -add

ltdbstde112 0 OK

15:57:27 Exec: /opt/VRTS/bin/hagrp -modify pkgcocbe1i SystemList -add

ltdbstde111 1 OK

15:57:27 Exec: /opt/VRTS/bin/hagrp -modify pkgcocbe1i AutoStartList -add

ltdbstde112 OK

15:57:27 Exec: /opt/VRTS/bin/hagrp -modify pkgcocbe1i AutoStartList -add

ltdbstde111 OK

15:57:27 Exec: /opt/VRTS/bin/hares -add pkgcocbe1i\_nic\_proxy Proxy

pkgcocbe1i VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

OK

15:57:27 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_nic\_proxy

TargetResName NIC\_monitor OK

15:57:27 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_nic\_proxy Enabled 1 OK

15:57:27 Exec: sleep 1 OK

15:57:28 Exec: /opt/VRTS/bin/haconf -dump -makero OK

15:57:31 Exec: /opt/VRTS/bin/haconf -makerw OK

15:57:31 Exec: /opt/VRTS/bin/hares -add pkgcocbe1i\_pkgcocbe1i\_ip IP

pkgcocbe1i VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

OK

15:57:31 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_pkgcocbe1i\_ip

Address 10.30.36.21 OK

15:57:31 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_pkgcocbe1i\_ip

NetMask 255.255.248.0 OK

15:57:31 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_pkgcocbe1i\_ip

Options "broadcast 10.30.39.255" OK

15:57:31 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_pkgcocbe1i\_ip

Device team0 OK

15:57:31 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_pkgcocbe1i\_ip

Critical 1 OK

15:57:31 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_pkgcocbe1i\_ip

Enabled 1 OK

15:57:31 Exec: /opt/VRTS/bin/hares -link pkgcocbe1i\_pkgcocbe1i\_ip

pkgcocbe1i\_nic\_proxy OK

15:57:31 Exec: sleep 1 OK

15:57:32 Exec: /opt/VRTS/bin/haconf -dump -makero OK

15:57:33 Exec: /opt/VRTS/bin/haconf -makerw OK

15:57:33 Exec: /opt/VRTS/bin/hares -add pkgcocbe1i\_oracle\_app Application

pkgcocbe1i VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

OK

15:57:33 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_oracle\_app

StartProgram /lfs/cluster/vcs/pkgcocbe1i\_oracle\_start OK

15:57:33 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_oracle\_app

StopProgram /lfs/cluster/vcs/pkgcocbe1i\_oracle\_stop OK

15:57:33 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_oracle\_app

MonitorProgram /lfs/cluster/vcs/pkgcocbe1i\_oracle\_monitor OK

15:57:33 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_oracle\_app Enabled

1 OK

15:57:33 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_oracle\_app Critical

1 OK

15:57:33 Exec: hares -link pkgcocbe1i\_oracle\_app pkgcocbe1i\_pkgcocbe1i\_ip OK

15:57:33 Exec: sleep 1 OK

15:57:34 Exec: /opt/VRTS/bin/haconf -dump -makero OK

15:57:35 Exec: /opt/VRTS/bin/haconf -makerw OK

15:57:35 Exec: /opt/VRTS/bin/hacli -cmd "mkdir -p /global/pkgcocbe1i/db" OK

15:57:35 Exec: /opt/VRTS/bin/hares -add pkgcocbe1i\_dgpkgcocbe1idb

DiskGroup pkgcocbe1i VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

OK

15:57:35 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1idb

DiskGroup dgpkgcocbe1idb OK

15:57:35 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1idb

StartVolumes 1 OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1idb

StopVolumes 1 OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1idb

Enabled 1 OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1idb

Critical 1 OK

15:57:36 Exec: /opt/VRTS/bin/hares -add

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount Mount pkgcocbe1i VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount BlockDevice

/dev/vx/dsk/dgpkgcocbe1idb/lvdb OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount MountPoint /global/pkgcocbe1i/db OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount FsckOpt %-y OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount FSType vxfs OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount Enabled 1 OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount Critical 1 OK

15:57:36 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount MountOpt

mincache=direct,convosync=direct OK

15:57:36 Exec: /opt/VRTS/bin/hares -link

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount pkgcocbe1i\_dgpkgcocbe1idb OK

15:57:36 Exec: /opt/VRTS/bin/hares -link pkgcocbe1i\_oracle\_app

pkgcocbe1i\_global\_pkgcocbe1i\_db\_mount OK

15:57:36 Exec: sleep 1 OK

15:57:37 Exec: /opt/VRTS/bin/haconf -dump -makero OK

15:57:38 Exec: /opt/VRTS/bin/haconf -makerw OK

15:57:38 Exec: /opt/VRTS/bin/hacli -cmd "mkdir -p

/global/pkgcocbe1i/bkup" OK

15:57:38 Exec: /opt/VRTS/bin/hares -add pkgcocbe1i\_dgpkgcocbe1ibkup

DiskGroup pkgcocbe1i VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1ibkup

DiskGroup dgpkgcocbe1ibkup OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1ibkup

StartVolumes 1 OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1ibkup

StopVolumes 1 OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1ibkup

Enabled 1 OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify pkgcocbe1i\_dgpkgcocbe1ibkup

Critical 1 OK

15:57:38 Exec: /opt/VRTS/bin/hares -add

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount Mount pkgcocbe1i VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount BlockDevice

/dev/vx/dsk/dgpkgcocbe1ibkup/lvbkup OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount MountPoint

/global/pkgcocbe1i/bkup OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount FsckOpt %-y OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount FSType vxfs OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount Enabled 1 OK

15:57:38 Exec: /opt/VRTS/bin/hares -modify

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount Critical 1 OK

15:57:38 Exec: /opt/VRTS/bin/hares -link

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount pkgcocbe1i\_dgpkgcocbe1ibkup OK

15:57:38 Exec: /opt/VRTS/bin/hares -link pkgcocbe1i\_oracle\_app

pkgcocbe1i\_global\_pkgcocbe1i\_bkup\_mount OK

15:57:38 Exec: sleep 1 OK

15:57:39 Exec: /opt/VRTS/bin/haconf -dump -makero OK

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Evaluating remote script return code [OK] creation ok

cleanup...

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $

=====================================================================================================================/lfs/oracle\_audit========================

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $ cat TAS000006968797\_lpbkdbtde07\_grow.all

HOST lpbkdbtde07

dg dgoracle\_lpbkdbtde07

50:BF 98061 B1\_GS3

50:BF 98049 B1\_GS3

lv lvoracleaudit max

mnt lvoracleaudit /lfs/oracle\_audit

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $ configure\_veritas.sh TAS000006968797\_lpbkdbtde07\_grow.all

\_ \_ \_\_\_\_ \_\_\_\_ \_ \_\_\_ \_\_\_\_ \_\_\_\_ \_ \_ \_\_\_\_ \_ \_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_

| | |\_\_\_ |\_\_/ | | |\_\_| [\_\_ |\/| |\_\_| |\ | |\_\_| | \_\_ |\_\_\_ |\_\_/

\/ |\_\_\_ | \ | | | | \_\_\_] | | | | | \| | | |\_\_] |\_\_\_ | \

Processing file 'TAS000006968797\_lpbkdbtde07\_grow.all'

-> Checking File validity [OK] file exist: TAS000006968797\_lpbkdbtde07\_grow.all

-> Looking for RequestID markers [OK] none found

-> Fetching Hostlist(s) [OK] working on lpbkdbtde07

-> Testing Hosts [OK] root access verified

-> Fetching ServiceGroup [WARN] no 'sg'-line found

-> Fetching module for Apps [WARN] no apps in template

Running remote sanity check

-> Copy template to remote host 'lpbkdbtde07' [OK] copied

-> Running sanity check on 'lpbkdbtde07'

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Sanity check [OK] success

Starting remote /sbin/vxctl call

-> Initiating vxctl on lpbkdbtde07

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Scanning for disks, please wait...success!

Sanity checking LUNs...

15:51:34 Initializing disk hitachi\_vsp0\_50bf OK

15:51:34 Disabling thin provisioning on disk hitachi\_vsp0\_50bf OK

15:51:34 Initializing disk hitachi\_vsp1\_50bf OK

15:51:35 Disabling thin provisioning on disk hitachi\_vsp1\_50bf OK

15:51:35 Adding disks to diskgroup dgoracle\_lpbkdbtde07:

hitachi\_vsp0\_50bf hitachi\_vsp1\_50bf OK

15:51:35 Renaming disk hitachi\_vsp0\_50bf in diskgroup

dgoracle\_lpbkdbtde07 to 13\_98049\_50bf OK

15:51:35 Renaming disk hitachi\_vsp1\_50bf in diskgroup

dgoracle\_lpbkdbtde07 to 1\_98061\_50bf OK

15:51:35 Growing volume lvoracleaudit in diskgroup dgoracle\_lpbkdbtde07

to size +115195M OK

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-> Evaluating remote script return code [OK] creation ok

cleanup...

[INSTSERV][qxz10kv][lpinstiaas02] /global/instserv/data/CONFIGURE\_VERITAS $

===================================================================================================================================================================

tmpfs tmpfs 38G 0 38G 0% /run/user/864047

tmpfs tmpfs 38G 0 38G 0% /run/user/0

lpbkdbtde07:~ # df -hT /lfs/oracle\_audit

Filesystem Type Size Used Avail Use% Mounted on

/dev/vx/dsk/dgoracle\_lpbkdbtde07/lvoracleaudit vxfs 50G 50G 0 100% /lfs/oracle\_audit

lpbkdbtde07:~ # df -hT /lfs/oracle\_audit

Filesystem Type Size Used Avail Use% Mounted on

/dev/vx/dsk/dgoracle\_lpbkdbtde07/lvoracleaudit vxfs 50G 50G 0 100% /lfs/oracle\_audit

lpbkdbtde07:~ #

lpbkdbtde07:~ #

lpbkdbtde07:~ # vxassist -g dgoracle\_lpbkdbtde07 maxgrow lvoracleaudit

Volume lvoracleaudit can be extended by 236075008 to: 576851968 (281666Mb)

lpbkdbtde07:~ # vxresize -g dgoracle\_lpbkdbtde07 lvoracleaudit 100G

lpbkdbtde07:~ # df -hT /lfs/oracle\_audit

Filesystem Type Size Used Avail Use% Mounted on

/dev/vx/dsk/dgoracle\_lpbkdbtde07/lvoracleaudit vxfs 100G 51G 50G 51% /lfs/oracle\_audit

lpbkdbtde07:~ #

lpbkdbtde07:~ # exit

exit

lp01d65:~ # history

1 2021-10-09 13:12:56 ##############--- 20211009.131256 ---##############

2 2021-10-09 13:12:58 uptime

3 2021-10-09 13:13:08 hastatus -sum

4 2021-10-09 13:14:11 hastatus -summ | grep ONLINE

5 2021-10-09 13:14:24 hastatus -sum

6 2021-10-09 13:14:30 hastatus -summ | grep ONLINE

7 2021-10-09 13:15:34 date

8 2021-10-09 13:20:42 hostname -f

9 2021-10-09 13:22:14 /var/tmp/check\_dlv\_dgv.sh

10 2021-10-09 13:43:28 cat /etc/SuSE-release

11 2021-10-09 13:49:03 vxdisk -o alldgs list

12 2021-10-09 14:03:38 haclus -value EngineVersion

13 2021-10-09 14:25:40 cat /etc/VRTSvcs/conf/config/main.cf

14 2021-10-09 14:29:34 rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

15 2021-10-09 14:30:58 hastatus -sum

16 2021-10-09 14:31:21 hastatus -sum | grep -i online

17 2021-10-09 14:31:55 df -hT

18 2021-10-09 14:33:16 rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

19 2021-10-09 14:33:20 rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

20 2021-10-09 14:44:28 vxdg list

21 2021-10-09 14:44:38 date

22 2021-10-09 14:49:34 df -hT;df -TH -t vxfs;df -TH -t vxfs|wc -l;cat /etc/fstab;cat /etc/passwd;cat /etc/group;vxdg list; hares -list;xprint -htq;vxdisk -o alldgs list;hares -display;rpm -qa|grep -i veritas; rpm -qa|grep -i vxfs;rpm -qa|grep -i vrts;rpm -qa|grep -i vrts

23 2021-10-09 14:50:24 df -hT;df -TH -t vxfs;df -TH -t vxfs|wc -l;cat /etc/fstab;cat /etc/passwd;cat /etc/group;vxdg list; hares -list;xprint -htq;vxdisk -o alldgs list;hares -display;rpm -qa|grep -i veritas; rpm -qa|grep -i vxfs;rpm -qa|grep -i vrts;rpm -qa|grep -i vrts;

24 2021-10-09 14:55:59 clear

25 2021-10-09 14:56:03 clear

26 2021-10-09 14:56:44 df -hT;df -TH -t vxfs;df -TH -t vxfs|wc -l;cat /etc/fstab;cat /etc/passwd;cat /etc/group;vxdg list; hares -list;vxprint -htq;vxdisk -o alldgs list;hares -display;rpm -qa|grep -i veritas; rpm -qa|grep -i vxfs;rpm -qa|grep -i vrts

27 2021-10-09 15:08:08 hostname -f

28 2021-10-09 15:18:04 haststatus -sum | grep -i online

29 2021-10-09 15:18:24 hastatus -sum | grep -i online

30 2021-10-09 15:36:21 uname -r

31 2021-10-09 15:36:24 uptime

32 2021-10-09 15:36:29 cat /etc/fstab

33 2021-10-09 15:36:37 df -hT

34 2021-10-09 15:36:41 ifconfig

35 2021-10-09 15:39:08 vxprint -htq

36 2021-10-09 15:39:20 vxdisk -o alldgs list

37 2021-10-09 15:39:37 df -TH -t vxfs|wc -l

38 2021-10-09 15:40:38 blkid

39 2021-10-09 15:40:59 san\_shortinfo

40 2021-10-09 15:46:14 history

41 2021-10-09 16:08:30 vxdg list

42 2021-10-09 16:09:37 hastatus -sum

43 2021-10-09 16:11:05 hastatus -sum | grep -i online

44 2021-10-09 16:12:20 rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

45 2021-10-09 16:12:50 /var/tmp/check\_dlv\_dgv.sh

46 2021-10-09 16:25:07 hastatus -sum | grep -i online

47 2021-10-09 16:27:37 hagrp -offline dbauqaw1 -sys lp01d65

48 2021-10-09 16:28:04 hagrp -offline dbe00w1 -sys lp01d65

49 2021-10-09 16:28:20 hagrp -offline dbhiqaw1 -sys lp01d65

50 2021-10-09 16:29:01 hagrp -offline dbkiqaw1 -sys lp01d66

51 2021-10-09 16:29:38 hastatus -sum

52 2021-10-09 16:30:28 vxdg list

53 2021-10-09 16:30:39 for i in `lsof /lfs/oracle\_audit |awk '{print $2}'`;do kill -9$i; done

54 2021-10-09 16:30:51 for i in `lsof /lfs/oracle\_audit |awk '{print $2}'`;do kill -9 $i; done

55 2021-10-09 16:31:02 for i in `lsof /lfs/oracle\_audit |awk '{print $2}'`;do kill -9 $i;done

56 2021-10-09 16:31:26 for i in `lsof /lfs/oracle |awk '{print $2}'`;do kill -9$i;done

57 2021-10-09 16:31:42 for i in `lsof /lfs/oracle |awk '{print $2}'`;do kill -9 $i;done

58 2021-10-09 16:32:02 for i in `lsof /lfs/oracle|awk '{print $2}'`;do kill -9 $i;done

59 2021-10-09 16:32:22 for i in `lsof /lfs/oracle|awk '{print $2}'`;do kill -9 $i;done

60 2021-10-09 16:32:33 df -hT

61 2021-10-09 16:32:53 umount /lfs/oracle

62 2021-10-09 16:33:02 umount /lfs/oracle\_audit

63 2021-10-09 16:33:22 for i in `lsof /lfs/oracle\_audit |awk '{print $2}'`;do kill -9 $i;done

64 2021-10-09 16:33:44 for i in `lsof /lfs/oracle\_audit|awk '{print $2}'`;do kill -9 $i;done

65 2021-10-09 16:33:49 umount /lfs/oracle\_audit

66 2021-10-09 16:33:55 history

67 2021-10-09 16:35:25 hastatus -sum

68 2021-10-09 16:35:29 df -hT

69 2021-10-09 16:36:17 zypper up VRTSodm VRTSvxfs VRTSvxvm

70 2021-10-09 16:38:01 rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

71 2021-10-09 16:45:34 vxdg import dgoracle\_lp01d65

72 2021-10-09 16:45:34 vxdg import dgdbauqaw1bkup

73 2021-10-09 16:45:34 vxdg import dgdbauqaw1db

74 2021-10-09 16:45:34 vxdg import dgdbauqaw1redo1

75 2021-10-09 16:45:44 vxdg import dgdbauqaw1redo2

76 2021-10-09 16:46:07 vxdg import dgdbe00w1apps

77 2021-10-09 16:46:07 vxdg import dgdbe00w1bkup

78 2021-10-09 16:46:08 vxdg import dgdbe00w1db

79 2021-10-09 16:46:08 vxdg import dgdbe00w1redo1

80 2021-10-09 16:46:10 vxdg import dgdbe00w1redo2

81 2021-10-09 16:46:19 vxdg import dgdbhiqaw1apps

82 2021-10-09 16:46:19 vxdg import dgdbhiqaw1bkup

83 2021-10-09 16:46:19 vxdg import dgdbhiqaw1db

84 2021-10-09 16:46:19 vxdg import dgdbhiqaw1redo1

85 2021-10-09 16:46:21 vxdg import dgdbhiqaw1redo2

86 2021-10-09 17:04:44 for DG in dgoracle\_lp01d65 dgdbauqaw1bkup dgdbauqaw1db dgdbauqaw1redo1 dgdbauqaw1redo2 dgdbe00w1apps dgdbe00w1bkup dgdbe00w1db dgdbe00w1redo1 dgdbe00w1redo2 dgdbhiqaw1apps dgdbhiqaw1bkup dgdbhiqaw1db dgdbhiqaw1redo1 dgdbhiqaw1redo2 ; do echo "Upgrading $DG"; vxdg upgrade $DG && sleep 1 && vxdg -q list $DG | egrep -i ^version:| awk '{print "Version: "$NF}'; done

87 2021-10-09 17:22:48 mkdir /DLVUPGRADE

88 2021-10-09 17:30:12 mount /dev/vx/dsk/dgdbauqaw1bkup/lvbkup /DLVUPGRADE;for DLV in 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

89 2021-10-09 17:30:50 mount /dev/vx/dsk/dgdbauqaw1bkup/lvbkup /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

90 2021-10-09 17:31:20 umount /DLVUPGRADE

91 2021-10-09 17:31:41 mount /dev/vx/dsk/dgdbauqaw1bkup/lvbkup /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

92 2021-10-09 17:32:05 umount /DLVUPGRADE

93 2021-10-09 17:32:20 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbauqaw1bkup/lvbkup | egrep version

94 2021-10-09 17:34:52 mount /dev/vx/dsk/dgdbauqaw1db/lvdb /DLVUPGRADE;for DLV in 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

95 2021-10-09 17:35:06 umount /DLVUPGRADE

96 2021-10-09 17:35:21 mount /dev/vx/dsk/dgdbauqaw1db/lvdb /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

97 2021-10-09 17:35:55 umount /DLVUPGRADE

98 2021-10-09 17:36:07 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbauqaw1db/lvdb | egrep version

99 2021-10-09 17:37:15 mount /dev/vx/dsk/dgdbauqaw1redo1/lvredo1 /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

100 2021-10-09 17:37:47 umount /DLVUPGRADE

101 2021-10-09 17:37:58 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbauqaw1redo1/lvredo1 | egrep version

102 2021-10-09 17:38:41 mount /dev/vx/dsk/dgdbauqaw1redo2/lvredo2 /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

103 2021-10-09 17:39:12 umount /DLVUPGRADE

104 2021-10-09 17:39:25 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbauqaw1redo2/lvredo2 | egrep version

105 2021-10-09 17:40:18 mount /dev/vx/dsk/dgdbe00w1apps/lvapps /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

106 2021-10-09 17:40:43 umount /DLVUPGRADE

107 2021-10-09 17:40:57 mount /dev/vx/dsk/dgdbe00w1apps/lvapps /DLVUPGRADE;for DLV in 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

108 2021-10-09 17:41:18 umount /DLVUPGRADE

109 2021-10-09 17:41:30 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1apps/lvapps | egrep version

110 2021-10-09 17:42:29 mount /dev/vx/dsk/dgdbe00w1bkup/lvbkup /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

111 2021-10-09 17:42:52 umount /DLVUPGRADE

112 2021-10-09 17:43:03 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1bkup/lvbkup | egrep version

113 2021-10-09 17:44:11 mount /dev/vx/dsk/dgdbe00w1db/lvdb /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

114 2021-10-09 17:44:35 umount /DLVUPGRADE

115 2021-10-09 17:44:45 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1db/lvdb | egrep version

116 2021-10-09 17:45:48 mount /dev/vx/dsk/dgdbe00w1redo1/lvredo1 /DLVUPGRADE;for DLV in 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

117 2021-10-09 17:46:08 umount /DLVUPGRADE

118 2021-10-09 17:46:18 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1redo1/lvredo1 | egrep version

119 2021-10-09 17:47:07 mount /dev/vx/dsk/dgdbe00w1redo2/lvredo2 /DLVUPGRADE;for DLV in 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

120 2021-10-09 17:47:28 umount /DLVUPGRADE

121 2021-10-09 17:47:38 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1redo2/lvredo2 | egrep version

122 2021-10-09 17:48:21 mount /dev/vx/dsk/dgdbhiqaw1apps/lvapps /DLVUPGRADE;for DLV in 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

123 2021-10-09 17:48:32 umount /DLVUPGRADE

124 2021-10-09 17:48:45 mount /dev/vx/dsk/dgdbhiqaw1apps/lvapps /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

125 2021-10-09 17:49:11 umount /DLVUPGRADE

126 2021-10-09 17:49:21 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1apps/lvapps | egrep version

127 2021-10-09 17:50:25 mount /dev/vx/dsk/dgdbhiqaw1bkup/lvbkup /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

128 2021-10-09 17:50:48 umount /DLVUPGRADE

129 2021-10-09 17:50:58 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1bkup/lvbkup | egrep version

130 2021-10-09 17:51:49 mount /dev/vx/dsk/dgdbhiqaw1db/lvdb /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

131 2021-10-09 17:52:15 umount /DLVUPGRADE

132 2021-10-09 17:52:20 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1db/lvdb | egrep version

133 2021-10-09 17:53:41 mount /dev/vx/dsk/dgdbhiqaw1redo1/lvredo1 /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

134 2021-10-09 17:54:05 umount /DLVUPGRADE

135 2021-10-09 17:54:16 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1redo1/lvredo1 | egrep version

136 2021-10-09 17:55:25 mount /dev/vx/dsk/dgdbhiqaw1redo2/lvredo2 /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

137 2021-10-09 17:56:02 umount /DLVUPGRADE

138 2021-10-09 17:56:14 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1redo2/lvredo2 | egrep version

139 2021-10-09 17:57:29 mount /dev/vx/dsk/dgoracle\_lp01d65/lvoracle /DLVUPGRADE;for DLV in 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

140 2021-10-09 17:57:56 umount /DLVUPGRADE

141 2021-10-09 17:58:55 umount /lfs/oracle

142 2021-10-09 18:00:11 umount /lfs/oracle

143 2021-10-09 18:00:59 for i in `lsof /lfs/oracle |awk '{print $2}'`;do kill -9 $i;done

144 2021-10-09 18:01:19 for i in `lsof /lfs/oracle|awk '{print $2}'`;do kill -9 $i;done

145 2021-10-09 18:01:36 umount /lfs/oracle

146 2021-10-09 18:02:32 mount /dev/vx/dsk/dgoracle\_lp01d65/lvoracle /DLVUPGRADE;for DLV in 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

147 2021-10-09 18:02:56 umount /DLVUPGRADE

148 2021-10-09 18:03:06 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgoracle\_lp01d65/lvoracle | egrep version

149 2021-10-09 18:04:01 umount /lfs/oracle\_audit

150 2021-10-09 18:04:36 for i in `lsof /lfs/oracle\_audit|awk '{print $2}'`;do kill -9 $i;done

151 2021-10-09 18:04:51 for i in `lsof /lfs/oracle\_audit|awk '{print $2}'`;do kill -9 $i;done

152 2021-10-09 18:05:03 umount /lfs/oracle\_audit

153 2021-10-09 18:05:42 mount /dev/vx/dsk/dgoracle\_lp01d65/lvoracleaudit /DLVUPGRADE;for DLV in 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

154 2021-10-09 18:05:54 umount /DLVUPGRADE

155 2021-10-09 18:06:05 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgoracle\_lp01d65/lvoracleaudit | egrep version

156 2021-10-09 18:23:52 /var/tmp/check\_dlv\_dgv.sh

157 2021-10-09 18:25:32 history

158 2021-10-09 18:26:07 history | grep version

159 2021-10-09 18:30:02 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbauqaw1bkup/lvbkup | egrep version

160 2021-10-09 18:30:02 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbauqaw1db/lvdb | egrep version

161 2021-10-09 18:30:02 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbauqaw1redo1/lvredo1 | egrep version

162 2021-10-09 18:30:06 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbauqaw1redo2/lvredo2 | egrep version

163 2021-10-09 18:30:19 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1apps/lvapps | egrep version

164 2021-10-09 18:30:19 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1bkup/lvbkup | egrep version

165 2021-10-09 18:30:19 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1db/lvdb | egrep version

166 2021-10-09 18:30:19 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1redo1/lvredo1 | egrep version

167 2021-10-09 18:30:19 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbe00w1redo2/lvredo2 | egrep version

168 2021-10-09 18:30:22 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1apps/lvapps | egrep version

169 2021-10-09 18:30:35 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1bkup/lvbkup | egrep version

170 2021-10-09 18:30:35 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1db/lvdb | egrep version

171 2021-10-09 18:30:35 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1redo1/lvredo1 | egrep version

172 2021-10-09 18:30:35 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbhiqaw1redo2/lvredo2 | egrep version

173 2021-10-09 18:30:35 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgoracle\_lp01d65/lvoracle | egrep version

174 2021-10-09 18:30:37 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgoracle\_lp01d65/lvoracleaudit | egrep version

175 2021-10-09 18:31:18 cat /var/tmp/check\_dlv\_dgv.sh

176 2021-10-09 18:32:02 df -hT

177 2021-10-09 18:32:28 cat /etc/fstab

178 2021-10-09 18:50:04 hastatus -sum

179 2021-10-09 18:51:09 hagrp -online dbauqaw1 -sys lp01d65

180 2021-10-09 18:51:30 hagrp -online dbe00w1 -sys lp01d65

181 2021-10-09 18:51:56 hagrp -online dbhiqaw1 -sys lp01d65

182 2021-10-09 18:52:18 hagrp -online dbkiqaw1 -sys lp01d66

183 2021-10-09 18:52:33 hastatus -sum

184 2021-10-09 18:52:54 hastatus -sum

185 2021-10-09 18:53:03 hastatus -sum

186 2021-10-09 18:53:16 hastatus -sum

187 2021-10-09 18:53:28 hastatus -sum

188 2021-10-09 18:53:54 /var/tmp/check\_dlv\_dgv.sh

189 2021-10-09 18:54:15 ps -ef | grep pmon

190 2021-10-09 18:56:52 df -hT

191 2021-10-09 19:48:34 history

lp01d65:~ # exit

exit

qplinux@lp01d65:~> exit

logout

Connection to lp01d65.muc closed.

Connection to lpagpam007.bmwgroup.net. closed.

===================================================================================================================

Your Session Information was:

\* session\_started=Sat Oct 9 13:12:40 CEST 2021

\* real\_user=qxz10kv

\* target\_user=qplinux

\* target\_server=lp01d65.muc

\* psmp\_server=lpagpam007.bmwgroup.net. (10.30.17.17)

\* session\_ended=Sat Oct 9 19:48:45 CEST 2021

\* session\_duration=0d:6h:36m:5s (23765 sec)

[INSTSERV][qxz10kv][lpinstiaas01] ~ $

=========================

lp01d66:~ # history

1 2021-10-09 13:17:44 ##############--- 20200620.153959 ---##############

2 2020-06-20 15:40:13 vxdisk list | grep -i fail ; cat /tmp/vxedit.sh ; sh /tmp/vxedit.sh ; vxprint | grep -i deta ; cat /tmp/vxplex.sh ; sh /tmp/vxplex.sh ; su - qqnagio

3 2021-10-09 13:17:44 ##############--- 20200717.220520 ---##############

4 2020-07-17 22:05:23 uptime

5 2020-07-17 22:05:27 top

6 2020-07-17 22:07:43 cd /var/log/sa

7 2020-07-17 22:07:43 ls

8 2020-07-17 22:07:44 ls -rlt

9 2020-07-17 22:08:05 sar -q -f sa20200716

10 2020-07-17 22:08:19 sar -q -f /var/log/sa/sa20200716

11 2021-10-09 13:17:44 ##############--- 20200723.065645 ---##############

12 2021-10-09 13:17:44 ##############--- 20200724.152203 ---##############

13 2020-07-24 15:22:04 cd /tmp/;./vxplex.sh;./vxedit.sh;su - qqnagio;

14 2021-10-09 13:17:44 ##############--- 20200727.034419 ---##############

15 2020-07-27 03:45:10 /sbin/vxdisk list | grep online.\*failing | awk '{print $4;}' | sort -u > /var/tmp/DG\_with\_failing\_online\_disks

16 2020-07-27 03:45:10 for DG in `cat /var/tmp/DG\_with\_failing\_online\_disks`; do echo Diskgroup $DG\: ; FD="$(/sbin/vxprint -g $DG | awk '/dm.\*FAILING/ {print $2;}')"; for D in $FD ; do /sbin/vxedit -g $DG set failing=off $D; done; LV=''; LV="$(/sbin/vxprint -g $DG | awk '/^v /{print $2;}'| grep -v dcl)" ; for L in $LV ; do echo LV=$L ; /usr/sbin/vxassist -g $DG remove log $L logtype=drl; /usr/sbin/vxassist -g $DG remove log $L logtype=drl; echo adding drl log to [${L}]@${DG} ; /usr/sbin/vxassist -g $DG addlog $L logtype=drl loglen=2112 nlog=2 mirror=enclosure ; done; done;

17 2020-07-27 03:56:47 exit

18 2020-07-27 03:45:09 vxdisk list | egrep 'DEV|fail'

19 2020-07-27 03:45:09 vxprint |grep -i deta\*

20 2020-07-27 03:45:09 vxdisk list | egrep 'DEV|fail' > /tmp/vxdisk.list

21 2020-07-27 03:45:09 while read var1 va2 var3 var4 var5; do vxedit -g $var4 set failing=off $var3 ; done < /tmp/vxdisk.list

22 2020-07-27 03:45:09 cd /tmp

23 2020-07-27 03:45:09 ./vxplex.sh

24 2020-07-27 03:45:09 cd

25 2020-07-27 03:45:09 /bin/bash

26 2020-07-27 03:56:49 exit

27 2021-10-09 13:17:44 ##############--- 20200731.112807 ---##############

28 2021-10-09 13:17:44 ##############--- 20200802.055833 ---##############

29 2021-10-09 13:17:44 ##############--- 20200802.074652 ---##############

30 2021-10-09 13:17:44 ##############--- 20200802.081229 ---##############

31 2020-08-02 08:12:33 hastatus

32 2020-08-02 08:12:40 hastatus -sum

33 2020-08-02 08:17:16 vxdg import dgoracle\_$(uname -n)

34 2020-08-02 08:17:29 mount /lfs/oracle

35 2020-08-02 08:17:34 mount /lfs/oracle\_audit

36 2020-08-02 08:17:48 systemctl restart syslog

37 2020-08-02 08:17:59 df -hP /lfs/oracle\*

38 2020-08-02 10:36:57 exit

39 2020-08-02 10:36:59 exit

40 2021-10-09 13:17:44 ##############--- 20200829.180912 ---##############

41 2020-08-29 18:09:29 vxdisk list | egrep 'DEV|fail'

42 2020-08-29 18:09:29 vxprint |grep -i deta\*

43 2020-08-29 18:09:29 vxdisk list | egrep 'DEV|fail' > /tmp/vxdisk.list

44 2020-08-29 18:09:29 while read var1 va2 var3 var4 var5; do vxedit -g $var4 set failing=off $var3 ; done < /tmp/vxdisk.list

45 2020-08-29 18:09:29 cd /tmp

46 2020-08-29 18:09:29 ./vxplex.sh

47 2020-08-29 18:09:29 cd

48 2020-08-29 18:09:29 /sbin/vxctl fixnames;

49 2020-08-29 18:09:30 su - qqnagio -c /lfs/opt/nagios/prod/local/lib/nagios/plugins/check\_san\_mirror

50 2020-08-29 18:09:32 su - qqnagio -c /lfs/opt/nagios/prod/local/lib/nagios/plugins/check\_vxvm

51 2020-08-29 18:10:22 vxprint|egrep -i 'Disk group|deta\*'

52 2020-08-29 18:10:35 vxplex -g

53 2020-08-29 18:11:05 vxplex -g dgdbkiqaw1db att lvdb lvdb\_drl-97714

54 2020-08-29 18:11:13 vxplex -g dgdbkiqaw1db att lvdb lvdb\_drl-97717

55 2020-08-29 18:15:51 exit

56 2021-10-09 13:17:44 ##############--- 20201128.133403 ---##############

57 2020-11-28 13:34:37 vxdisk list | egrep 'DEV|fail'

58 2020-11-28 13:34:37 vxprint |grep -i deta\*

59 2020-11-28 13:34:37 cd /tmp

60 2020-11-28 13:34:37 ./vxplex.sh

61 2020-11-28 13:34:37 cd

62 2020-11-28 13:34:37 /sbin/vxctl fixnames;

63 2020-11-28 13:35:20 su - qqnagio -c /lfs/opt/nagios/prod/local/lib/nagios/plugins/check\_vxvm

64 2020-11-28 13:35:35 vxdisk list | egrep 'DEV|fail'

65 2020-11-28 13:35:35 vxprint |grep -i deta\*

66 2020-11-28 13:35:35 cd /tmp

67 2020-11-28 13:35:35 ./vxplex.sh

68 2020-11-28 13:35:35 cd

69 2020-11-28 13:35:35 /sbin/vxctl fixnames;

70 2020-11-28 13:35:38 su - qqnagio -c /lfs/opt/nagios/prod/local/lib/nagios/plugins/check\_vxvm

71 2020-11-28 13:36:26 vxdisk list | egrep -i 'det|fail'

72 2020-11-28 13:37:27 vxedit -g dgdbkiqaw1db set failing=off 13\_97714\_a021

73 2020-11-28 13:37:37 vxedit -g dgdbkiqaw1db set failing=off 13\_97714\_50c4

74 2020-11-28 13:37:46 vxedit -g dgdbkiqaw1db set failing=off 19\_97717\_a021

75 2020-11-28 13:37:55 vxedit -g dgdbkiqaw1db set failing=off 19\_97717\_50c4

76 2020-11-28 13:38:23 vxprint |grep -i deta\*

77 2020-11-28 13:39:41 vxplex -g dgdbkiqaw1db att lvdb lvdb\_drl-97714

78 2020-11-28 13:40:07 vxplex -g dgdbkiqaw1db att lvdb lvdb\_drl-97717

79 2020-11-28 13:44:37 exit

80 2021-10-09 13:17:44 ##############--- 20211009.131743 ---##############

81 2021-10-09 13:23:38 /var/tmp/check\_dlv\_dgv.sh

82 2021-10-09 13:43:38 cat /etc/SuSE-release

83 2021-10-09 14:03:44 haclus -value EngineVersion

84 2021-10-09 14:25:48 cat /etc/VRTSvcs/conf/config/main.cf

85 2021-10-09 14:29:42 rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

86 2021-10-09 14:44:49 vxdg list

87 2021-10-09 14:45:33 date

88 2021-10-09 15:04:03 vxprint -htq

89 2021-10-09 15:09:15 hostname -f

90 2021-10-09 15:46:30 hastatus -sum | grep -i online

91 2021-10-09 15:47:01 uname -r

92 2021-10-09 15:47:04 uptime

93 2021-10-09 15:47:19 cat /etc/fstab

94 2021-10-09 15:47:24 cat /etc/fstab | wc -l

95 2021-10-09 15:47:29 df -hT

96 2021-10-09 15:49:09 ifconfig

97 2021-10-09 15:49:21 vxprint -htq

98 2021-10-09 15:49:41 vxdisk -o alldgs list

99 2021-10-09 15:52:12 vxdisk -o alldgs list

100 2021-10-09 15:52:38 san\_shortinfo

101 2021-10-09 16:08:38 vxdg list

102 2021-10-09 16:12:26 rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

103 2021-10-09 16:12:58 /var/tmp/check\_dlv\_dgv.sh

104 2021-10-09 16:34:16 for i in `lsof /lfs/oracle\_audit |awk '{print $2}'`;do kill -9 $i;done

105 2021-10-09 16:34:26 for i in `lsof /lfs/oracle\_audit|awk '{print $2}'`;do kill -9 $i;done

106 2021-10-09 16:34:40 for i in `lsof /lfs/oracle|awk '{print $2}'`;do kill -9 $i;done

107 2021-10-09 16:34:50 for i in `lsof /lfs/oracle|awk '{print $2}'`;do kill -9 $i;done

108 2021-10-09 16:35:12 umount /lfs/oracle

109 2021-10-09 16:35:16 umount /lfs/oracle\_audit

110 2021-10-09 16:35:41 df -hT

111 2021-10-09 16:38:14 zypper up VRTSodm VRTSvxfs VRTSvxvm

112 2021-10-09 16:39:20 rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

113 2021-10-09 16:39:32 date

114 2021-10-09 17:02:36 vxdg import dgoracle\_lp01d66

115 2021-10-09 17:02:36 vxdg import dgdbkiqaw1apps

116 2021-10-09 17:02:36 vxdg import dgdbkiqaw1bkup

117 2021-10-09 17:02:36 vxdg import dgdbkiqaw1db

118 2021-10-09 17:02:37 vxdg import dgdbkiqaw1redo1

119 2021-10-09 17:03:11 vxdg import dgdbkiqaw1redo2

120 2021-10-09 17:06:24 for DG in dgoracle\_lp01d66 dgdbkiqaw1apps dgdbkiqaw1bkup dgdbkiqaw1db dgdbkiqaw1redo1 dgdbkiqaw1redo2 ; do echo "Upgrading $DG"; vxdg upgrade $DG && sleep 1 && vxdg -q list $DG | egrep -i ^version:| awk '{print "Version: "$NF}'; done

121 2021-10-09 17:22:57 mkdir /DLVUPGRADE

122 2021-10-09 18:09:28 mount /dev/vx/dsk/dgdbkiqaw1apps/lvapps /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

123 2021-10-09 18:09:51 umount /DLVUPGRADE

124 2021-10-09 18:10:10 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbkiqaw1apps/lvapps | egrep version

125 2021-10-09 18:10:52 mount /dev/vx/dsk/dgdbkiqaw1bkup/lvbkup /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

126 2021-10-09 18:11:19 umount /DLVUPGRADE

127 2021-10-09 18:11:30 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbkiqaw1bkup/lvbkup | egrep version

128 2021-10-09 18:12:06 mount /dev/vx/dsk/dgdbkiqaw1db/lvdb /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

129 2021-10-09 18:12:31 umount /DLVUPGRADE

130 2021-10-09 18:12:44 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbkiqaw1db/lvdb | egrep version

131 2021-10-09 18:13:26 mount /dev/vx/dsk/dgdbkiqaw1redo1/lvredo1 /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

132 2021-10-09 18:13:51 umount /DLVUPGRADE

133 2021-10-09 18:14:04 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbkiqaw1redo1/lvredo1 | egrep version

134 2021-10-09 18:14:39 mount /dev/vx/dsk/dgdbkiqaw1redo2/lvredo2 /DLVUPGRADE;for DLV in 10 11 12 13 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

135 2021-10-09 18:15:21 umount /DLVUPGRADE

136 2021-10-09 18:15:38 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgdbkiqaw1redo2/lvredo2 | egrep version

137 2021-10-09 18:16:04 df -hT

138 2021-10-09 18:16:31 for i in `lsof /lfs/oracle|awk '{print $2}'`;do kill -9 $i;done

139 2021-10-09 18:16:42 for i in `lsof /lfs/oracle|awk '{print $2}'`;do kill -9 $i;done

140 2021-10-09 18:17:01 umount /lfs/oracle

141 2021-10-09 18:17:23 for i in `lsof /lfs/oracle\_audit|awk '{print $2}'`;do kill -9 $i;done

142 2021-10-09 18:17:26 for i in `lsof /lfs/oracle\_audit|awk '{print $2}'`;do kill -9 $i;done

143 2021-10-09 18:17:37 umount /lfs/oracle\_audit

144 2021-10-09 18:20:33 mount /dev/vx/dsk/dgoracle\_lp01d66/lvoracle /DLVUPGRADE;for DLV in 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

145 2021-10-09 18:20:51 umount /DLVUPGRADE

146 2021-10-09 18:21:03 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgoracle\_lp01d66/lvoracle | egrep version

147 2021-10-09 18:21:53 mount /dev/vx/dsk/dgoracle\_lp01d66/lvoracleaudit /DLVUPGRADE;for DLV in 14 15 ;do vxupgrade -n $DLV /DLVUPGRADE && sleep 3 && sync -f /DLVUPGRADE;done

148 2021-10-09 18:22:11 umount /DLVUPGRADE

149 2021-10-09 18:22:23 /opt/VRTS/bin/fstyp -v /dev/vx/dsk/dgoracle\_lp01d66/lvoracleaudit | egrep version

150 2021-10-09 18:24:51 /var/tmp/check\_dlv\_dgv.sh

151 2021-10-09 18:54:36 /var/tmp/check\_dlv\_dgv.sh

152 2021-10-09 19:49:13 history

lp01d66:~ # exit

exit

qplinux@lp01d66:~> exit

logout

Connection to lp01d66.muc closed.

Connection to lpagpam006.bmwgroup.net. closed.

===================================================================================================================

Your Session Information was:

\* session\_started=Sat Oct 9 13:17:27 CEST 2021

\* real\_user=qxz10kv

\* target\_user=qplinux

\* target\_server=lp01d66.muc

\* psmp\_server=lpagpam006.bmwgroup.net. (10.30.17.19)

\* session\_ended=Sat Oct 9 19:49:18 CEST 2021

\* session\_duration=0d:6h:31m:51s (23511 sec)

[INSTSERV][qxz10kv][lpinstiaas01] ~ $

ltdbpri7:~ # history

1 2020-08-04 05:49:24 ##############--- 20200628.172323 ---##############

2 2020-06-28 17:23:25 sudo vxdisk list | grep -i fail ; sudo cat /tmp/vxedit.sh ; sudo sh /tmp/vxedit.sh ; sudo vxprint | grep -i deta ; sudo cat /tmp/vxplex.sh ; sudo sh /tmp/vxplex.sh ; su - qqnagio

3 2020-06-28 17:23:36 vim /tmp/vxedit.sh

4 2020-06-28 17:24:07 vim /tmp/vxplex.sh

5 2020-06-28 17:24:41 sudo vxdisk list | grep -i fail ; sudo cat /tmp/vxedit.sh ; sudo sh /tmp/vxedit.sh ; sudo vxprint | grep -i deta ; sudo cat /tmp/vxplex.sh ; sudo sh /tmp/vxplex.sh ; su - qqnagio

6 2020-08-04 05:49:24 ##############--- 20200804.054923 ---##############

7 2020-08-04 05:50:50 df -hT /global/tlprisma1/bkup

8 2020-08-04 05:51:06 date

9 2020-08-04 05:51:17 san\_rescan -o

10 2020-08-04 05:52:30 df -hT /global/tlprisma1/bkup

11 2020-08-04 07:55:02 san\_shortinfo | grep -i 50:7C

12 2020-08-04 07:55:22 san\_shortinfo | grep -i 51:54

13 2020-08-04 08:04:35 rpm -qa | grep -i vcs

14 2020-08-04 08:04:45 rpm -qa | grep -i vxvm

15 2020-08-04 08:05:09 rpm -qa | grep -i vrts\*odm

16 2020-08-04 08:05:40 vxdisk -list

17 2020-08-04 08:05:45 vxdisk list

18 2020-08-04 08:06:07 vxdisk list | grep -i invalid

19 2020-08-04 08:06:32 vxdg list

20 2020-08-04 08:06:50 whereis hastatus

21 2020-08-04 08:07:06 which hasstatus

22 2020-08-04 08:07:53 vxdisk -eo alldgs

23 2020-08-04 08:08:08 vxdisk -eo alldgs list | grep -i invalid

24 2020-08-04 08:10:27 df -hT /global/tlprisma1/bkup

25 2020-08-04 08:11:06 df -hT

26 2020-08-04 08:13:26 san\_shortinfo | grep -i 51:54

27 2020-08-04 08:13:44 san\_info

28 2020-08-04 08:14:28 san\_info | grep -i 51:54

29 2020-08-04 08:22:11 df -hT /global/tlprisma1/bkup

30 2020-08-04 08:22:48 vxprint -hvt -g dgtlprisma1bkup

31 2020-08-04 08:23:24 vxprint -hvt -g dgtlprisma1bkup lvbkup

32 2020-08-04 08:23:31 vxprint -hvt -g dgtlprisma1bkup lvbkup

33 2020-08-04 08:26:39 vxassist -g dgtlprisma1bkup maxgrow lvbkup

34 2020-08-04 08:29:13 vxprint -hvt -g dgtlprisma1bkup lvbkup

35 2020-08-04 08:31:35 vxresize -b -g dgtlprisma1bkup lvbkup 2831708160

36 2020-08-04 08:31:53 df -hT /global/tlprisma1/bkup

37 2020-08-04 08:32:41 vxprint -d

38 2020-08-04 08:33:16 history

ltdbpri7:~ # vxdisk -eo alldgs list

DEVICE TYPE DISK GROUP STATUS OS\_NATIVE\_NAME ATTR

hitachi\_vsp0\_03ff auto:cdsdisk 19\_97153\_03ff dgtlprisma1bkup online sdd hdprclm fc

hitachi\_vsp0\_06da auto:cdsdisk 19\_97153\_06da dgtlprisma1bkup online thinrclm sdv hdprclm fc

hitachi\_vsp0\_06d2 auto:cdsdisk 19\_97153\_06d2 dgtlprisma1db online thinrclm sdn hdprclm fc

hitachi\_vsp0\_06d3 auto:cdsdisk 19\_97153\_06d3 dgtlprisma1db online thinrclm sdo hdprclm fc

hitachi\_vsp0\_06d4 auto:cdsdisk 19\_97153\_06d4 dgtlprisma1db online thinrclm sdp hdprclm fc

hitachi\_vsp0\_06d5 auto:cdsdisk 19\_97153\_06d5 dgtlprisma1db online thinrclm sdq hdprclm fc

hitachi\_vsp0\_06d6 auto:cdsdisk 19\_97153\_06d6 dgtlprisma1db online thinrclm sdr hdprclm fc

hitachi\_vsp0\_06d7 auto:cdsdisk 19\_97153\_06d7 dgtlprisma1db online thinrclm sds hdprclm fc

hitachi\_vsp0\_06d8 auto:cdsdisk 19\_97153\_06d8 dgtlprisma1bkup online thinrclm sdt hdprclm fc

hitachi\_vsp0\_06d9 auto:cdsdisk 19\_97153\_06d9 dgtlprisma1bkup online thinrclm sdu hdprclm fc

hitachi\_vsp0\_50a6 auto:cdsdisk 19\_97153\_50a6 dgoracle\_ltdbpri7 online sdc hdprclm fc

hitachi\_vsp0\_50bc auto:cdsdisk 19\_97153\_50bc dgtlprisma1db online sdy hdprclm fc

hitachi\_vsp0\_068a auto:cdsdisk 19\_97153\_068a dgtlprisma2db online sdj hdprclm fc

hitachi\_vsp0\_068b auto:cdsdisk 19\_97153\_068b dgtlprisma2db online sdk hdprclm fc

hitachi\_vsp0\_068c auto:cdsdisk 19\_97153\_068c dgtlprisma2bkup online sdl hdprclm fc

hitachi\_vsp0\_068d auto:cdsdisk 19\_97153\_068d dgtlprisma2bkup online sdm hdprclm fc

hitachi\_vsp0\_0400 auto:cdsdisk 19\_97153\_0400 dgtlprisma1bkup online sde hdprclm fc

hitachi\_vsp0\_509d auto:none - - online invalid thinrclm sdb hdprclm fc

hitachi\_vsp0\_0686 auto:cdsdisk 19\_97153\_0686 dgtlprisma2redo1 online sdf hdprclm fc

hitachi\_vsp0\_0687 auto:cdsdisk 19\_97153\_0687 dgtlprisma2redo2 online sdg hdprclm fc

hitachi\_vsp0\_0688 auto:cdsdisk 19\_97153\_0688 dgtlprisma2db online sdh hdprclm fc

hitachi\_vsp0\_0689 auto:cdsdisk 19\_97153\_0689 dgtlprisma2db online sdi hdprclm fc

hitachi\_vsp0\_5001 auto:cdsdisk 19\_97153\_5001 dgtlprisma2db online sdw hdprclm fc

hitachi\_vsp0\_5002 auto:cdsdisk 19\_97153\_5002 dgtlprisma2db online sdx hdprclm fc

hitachi\_vsp0\_5154 auto:cdsdisk 19\_97153\_5154 dgtlprisma1bkup online sdct hdprclm fc

hitachi\_vsp1\_03ff auto:cdsdisk 18\_97236\_03ff dgtlprisma1bkup online sdab hdprclm fc

hitachi\_vsp1\_06da auto:cdsdisk 18\_97236\_06da dgtlprisma1bkup online thinrclm sdat hdprclm fc

hitachi\_vsp1\_06d2 auto:cdsdisk 18\_97236\_06d2 dgtlprisma1db online thinrclm sdal hdprclm fc

hitachi\_vsp1\_06d3 auto:cdsdisk 18\_97236\_06d3 dgtlprisma1db online thinrclm sdam hdprclm fc

hitachi\_vsp1\_06d4 auto:cdsdisk 18\_97236\_06d4 dgtlprisma1db online thinrclm sdan hdprclm fc

hitachi\_vsp1\_06d5 auto:cdsdisk 18\_97236\_06d5 dgtlprisma1db online thinrclm sdao hdprclm fc

hitachi\_vsp1\_06d6 auto:cdsdisk 18\_97236\_06d6 dgtlprisma1db online thinrclm sdap hdprclm fc

hitachi\_vsp1\_06d7 auto:cdsdisk 18\_97236\_06d7 dgtlprisma1db online thinrclm sdaq hdprclm fc

hitachi\_vsp1\_06d8 auto:cdsdisk 18\_97236\_06d8 dgtlprisma1bkup online thinrclm sdar hdprclm fc

hitachi\_vsp1\_06d9 auto:cdsdisk 18\_97236\_06d9 dgtlprisma1bkup online thinrclm sdas hdprclm fc

hitachi\_vsp1\_50a6 auto:cdsdisk 18\_97236\_50a6 dgoracle\_ltdbpri7 online sdaa hdprclm fc

hitachi\_vsp1\_50bc auto:cdsdisk 18\_97236\_50bc dgtlprisma1db online sdaw hdprclm fc

hitachi\_vsp1\_068a auto:cdsdisk 18\_97236\_068a dgtlprisma2db online sdah hdprclm fc

hitachi\_vsp1\_068b auto:cdsdisk 18\_97236\_068b dgtlprisma2db online sdai hdprclm fc

hitachi\_vsp1\_068c auto:cdsdisk 18\_97236\_068c dgtlprisma2bkup online sdaj hdprclm fc

hitachi\_vsp1\_068d auto:cdsdisk 18\_97236\_068d dgtlprisma2bkup online sdak hdprclm fc

hitachi\_vsp1\_0400 auto:cdsdisk 18\_97236\_0400 dgtlprisma1bkup online sdac hdprclm fc

hitachi\_vsp1\_509d auto:none - - online invalid thinrclm sdz hdprclm fc

hitachi\_vsp1\_0686 auto:cdsdisk 18\_97236\_0686 dgtlprisma2redo1 online sdad hdprclm fc

hitachi\_vsp1\_0687 auto:cdsdisk 18\_97236\_0687 dgtlprisma2redo2 online sdae hdprclm fc

hitachi\_vsp1\_0688 auto:cdsdisk 18\_97236\_0688 dgtlprisma2db online sdaf hdprclm fc

hitachi\_vsp1\_0689 auto:cdsdisk 18\_97236\_0689 dgtlprisma2db online sdag hdprclm fc

hitachi\_vsp1\_5001 auto:cdsdisk 18\_97236\_5001 dgtlprisma2db online sdau hdprclm fc

hitachi\_vsp1\_5002 auto:cdsdisk 18\_97236\_5002 dgtlprisma2db online sdav hdprclm fc

hitachi\_vsp1\_5154 auto:cdsdisk 18\_97236\_5154 dgtlprisma1bkup online sdcu hdprclm fc

ltdbpri7\_disk\_0 auto:none - - online invalid sda -

ltdbpri7:~ # vxdisk -eo alldgs list | grep -i sdct

hitachi\_vsp0\_5154 auto:cdsdisk 19\_97153\_5154 dgtlprisma1bkup online sdct hdprclm fc

ltdbpri7:~ # vxdisk -list

VxVM vxdisk ERROR V-5-1-693 Incorrect usage

VxVM vxdisk INFO V-5-1-1443

Usage: vxdisk [-f] keyword arg ...

For detailed help use: vxdisk -H | help

ltdbpri7:~ # vxdisk list

DEVICE TYPE DISK GROUP STATUS

hitachi\_vsp0\_03ff auto:cdsdisk 19\_97153\_03ff dgtlprisma1bkup online

hitachi\_vsp0\_06da auto:cdsdisk 19\_97153\_06da dgtlprisma1bkup online thinrclm

hitachi\_vsp0\_06d2 auto:cdsdisk 19\_97153\_06d2 dgtlprisma1db online thinrclm

hitachi\_vsp0\_06d3 auto:cdsdisk 19\_97153\_06d3 dgtlprisma1db online thinrclm

hitachi\_vsp0\_06d4 auto:cdsdisk 19\_97153\_06d4 dgtlprisma1db online thinrclm

hitachi\_vsp0\_06d5 auto:cdsdisk 19\_97153\_06d5 dgtlprisma1db online thinrclm

hitachi\_vsp0\_06d6 auto:cdsdisk 19\_97153\_06d6 dgtlprisma1db online thinrclm

hitachi\_vsp0\_06d7 auto:cdsdisk 19\_97153\_06d7 dgtlprisma1db online thinrclm

hitachi\_vsp0\_06d8 auto:cdsdisk 19\_97153\_06d8 dgtlprisma1bkup online thinrclm

hitachi\_vsp0\_06d9 auto:cdsdisk 19\_97153\_06d9 dgtlprisma1bkup online thinrclm

hitachi\_vsp0\_50a6 auto:cdsdisk 19\_97153\_50a6 dgoracle\_ltdbpri7 online

hitachi\_vsp0\_50bc auto:cdsdisk 19\_97153\_50bc dgtlprisma1db online

hitachi\_vsp0\_068a auto:cdsdisk 19\_97153\_068a dgtlprisma2db online

hitachi\_vsp0\_068b auto:cdsdisk 19\_97153\_068b dgtlprisma2db online

hitachi\_vsp0\_068c auto:cdsdisk 19\_97153\_068c dgtlprisma2bkup online

hitachi\_vsp0\_068d auto:cdsdisk 19\_97153\_068d dgtlprisma2bkup online

hitachi\_vsp0\_0400 auto:cdsdisk 19\_97153\_0400 dgtlprisma1bkup online

hitachi\_vsp0\_509d auto:none - - online invalid thinrclm

hitachi\_vsp0\_0686 auto:cdsdisk 19\_97153\_0686 dgtlprisma2redo1 online

hitachi\_vsp0\_0687 auto:cdsdisk 19\_97153\_0687 dgtlprisma2redo2 online

hitachi\_vsp0\_0688 auto:cdsdisk 19\_97153\_0688 dgtlprisma2db online

hitachi\_vsp0\_0689 auto:cdsdisk 19\_97153\_0689 dgtlprisma2db online

hitachi\_vsp0\_5001 auto:cdsdisk 19\_97153\_5001 dgtlprisma2db online

hitachi\_vsp0\_5002 auto:cdsdisk 19\_97153\_5002 dgtlprisma2db online

hitachi\_vsp0\_5154 auto:cdsdisk 19\_97153\_5154 dgtlprisma1bkup online

hitachi\_vsp1\_03ff auto:cdsdisk 18\_97236\_03ff dgtlprisma1bkup online

hitachi\_vsp1\_06da auto:cdsdisk 18\_97236\_06da dgtlprisma1bkup online thinrclm

hitachi\_vsp1\_06d2 auto:cdsdisk 18\_97236\_06d2 dgtlprisma1db online thinrclm

hitachi\_vsp1\_06d3 auto:cdsdisk 18\_97236\_06d3 dgtlprisma1db online thinrclm

hitachi\_vsp1\_06d4 auto:cdsdisk 18\_97236\_06d4 dgtlprisma1db online thinrclm

hitachi\_vsp1\_06d5 auto:cdsdisk 18\_97236\_06d5 dgtlprisma1db online thinrclm

hitachi\_vsp1\_06d6 auto:cdsdisk 18\_97236\_06d6 dgtlprisma1db online thinrclm

hitachi\_vsp1\_06d7 auto:cdsdisk 18\_97236\_06d7 dgtlprisma1db online thinrclm

hitachi\_vsp1\_06d8 auto:cdsdisk 18\_97236\_06d8 dgtlprisma1bkup online thinrclm

hitachi\_vsp1\_06d9 auto:cdsdisk 18\_97236\_06d9 dgtlprisma1bkup online thinrclm

hitachi\_vsp1\_50a6 auto:cdsdisk 18\_97236\_50a6 dgoracle\_ltdbpri7 online

hitachi\_vsp1\_50bc auto:cdsdisk 18\_97236\_50bc dgtlprisma1db online

hitachi\_vsp1\_068a auto:cdsdisk 18\_97236\_068a dgtlprisma2db online

hitachi\_vsp1\_068b auto:cdsdisk 18\_97236\_068b dgtlprisma2db online

hitachi\_vsp1\_068c auto:cdsdisk 18\_97236\_068c dgtlprisma2bkup online

hitachi\_vsp1\_068d auto:cdsdisk 18\_97236\_068d dgtlprisma2bkup online

hitachi\_vsp1\_0400 auto:cdsdisk 18\_97236\_0400 dgtlprisma1bkup online

hitachi\_vsp1\_509d auto:none - - online invalid thinrclm

hitachi\_vsp1\_0686 auto:cdsdisk 18\_97236\_0686 dgtlprisma2redo1 online

hitachi\_vsp1\_0687 auto:cdsdisk 18\_97236\_0687 dgtlprisma2redo2 online

hitachi\_vsp1\_0688 auto:cdsdisk 18\_97236\_0688 dgtlprisma2db online

hitachi\_vsp1\_0689 auto:cdsdisk 18\_97236\_0689 dgtlprisma2db online

hitachi\_vsp1\_5001 auto:cdsdisk 18\_97236\_5001 dgtlprisma2db online

hitachi\_vsp1\_5002 auto:cdsdisk 18\_97236\_5002 dgtlprisma2db online

hitachi\_vsp1\_5154 auto:cdsdisk 18\_97236\_5154 dgtlprisma1bkup online

ltdbpri7\_disk\_0 auto:none - - online invalid

ltdbpri7:~ # vxdisk list | grep -i hitachi\_vsp1\_5154

hitachi\_vsp1\_5154 auto:cdsdisk 18\_97236\_5154 dgtlprisma1bkup online

ltdbpri7:~ # vxdisk list | grep -i 5154

hitachi\_vsp0\_5154 auto:cdsdisk 19\_97153\_5154 dgtlprisma1bkup online

hitachi\_vsp1\_5154 auto:cdsdisk 18\_97236\_5154 dgtlprisma1bkup online

ltdbpri7:~ # vxdisk -p list hitachi\_vsp1\_5154

DISK : hitachi\_vsp1\_5154

VID : HITACHI

UDID : HITACHI%5FOPEN-V%5F17BD4%5F5154

TP\_PREF\_RCLMCMD : write\_same

TP\_RECLM\_CMDS : -

TP\_ALLOC\_UNIT : 44040192

TP\_MAX\_REC\_SIZE : 1409286144

TP\_LUN\_SHIFT\_OF : 0

SCSI\_VERSION : 3

SCSI3\_VPD\_ID : NAA:60060E80167BD40000017BD400005154

REVISION : 7001

PORT\_SERIAL\_NO : 7J

PID : OPEN-V

PHYS\_CTLR\_NAME : c17

MEDIA\_TYPE : hdd

LUN\_TYPE : std

LUN\_SNO\_ORDER : 24

LUN\_SERIAL\_NO : 5154

LIBNAME : libvxhdsusp.so

HARDWARE\_MIRROR : no

DMP\_DEVICE : hitachi\_vsp1\_5154

DDL\_THIN\_DISK : thinrclm

DDL\_DEVICE\_ATTR : hdprclm fc

CAB\_SERIAL\_NO : 97236

ATYPE : A/A

ARRAY\_VOLUME\_ID : 5154

ARRAY\_PORT\_PWWN : 50:06:0e:80:07:2a:b2:68

ARRAY\_CTLR\_ID : 7

ANAME : Hitachi\_VSP

TRANSPORT : FC

ENCLOSURE\_NAME : hitachi\_vsp1

LUN\_SIZE : 472043520

NUM\_PATHS : 2

STATE : online

HOSTID : ltdbpri7

DISK\_TYPE : auto

FORMAT : cdsdisk

DA\_INFO : format=cdsdisk,privoffset=256,pubslice=3,privslice=3

PRIV\_OFF : 256

PRIV\_LEN : 65536

PUB\_OFF : 65792

PUB\_LEN : 471961632

PRIV\_UDID : HITACHI%5FOPEN-V%5F17BD4%5F5154

DG\_NAME : dgtlprisma1bkup

DGID : 1224854150.2086.lpdbpri1

DG\_STATE : imported

DISKID : 1596522009.70.ltdbpri7

DISK\_TIMESTAMP : Tue Aug 4 08:20:09 AM 2020

ltdbpri7:~ # exit

qplinux@ltdbpri7:~>

lp09pcr17:~ # vxprint -hvt -g dgiicrcs10db01 lvICR

V NAME RVG/VSET/CO KSTATE STATE LENGTH READPOL PREFPLEX UTYPE

PL NAME VOLUME KSTATE STATE LENGTH LAYOUT NCOL/WID MODE

SD NAME PLEX DISK DISKOFFS LENGTH [COL/]OFF DEVICE MODE

SV NAME PLEX VOLNAME NVOLLAYR LENGTH [COL/]OFF AM/NM MODE

SC NAME PLEX CACHE DISKOFFS LENGTH [COL/]OFF DEVICE MODE

DC NAME PARENTVOL LOGVOL

SP NAME SNAPVOL DCO

EX NAME ASSOC VC PERMS MODE STATE

v lvICR - ENABLED ACTIVE 707647488 PREFER lvICR-97158 fsgen

pl lvICR-97013 lvICR ENABLED ACTIVE 707647488 CONCAT - RW

sd 58\_97013\_008e-01 lvICR-97013 58\_97013\_008e 4160 471855488 0 VSP\_97013\_008e ENA

sd 58\_97013\_5164-01 lvICR-97013 58\_97013\_5164 0 235792000 471855488 VSP\_97013\_5164 ENA

pl lvICR-97158 lvICR ENABLED ACTIVE 707647488 CONCAT - RW

sd 10\_97158\_008e-01 lvICR-97158 10\_97158\_008e 0 419430400 0 VSP\_97158\_008e ENA

sd 10\_97158\_008e-02 lvICR-97158 10\_97158\_008e 419430544 52429104 419430400 VSP\_97158\_008e ENA

sd 10\_97158\_5164-01 lvICR-97158 10\_97158\_5164 0 235787984 471859504 VSP\_97158\_5164 ENA

dc lvICR\_dco lvICR lvICR\_dcl

v lvICR\_dcl - ENABLED ACTIVE 144 SELECT - gen

pl lvICR\_dcl-97013 lvICR\_dcl ENABLED ACTIVE 144 CONCAT - RW

sd 58\_97013\_008e-02 lvICR\_dcl-97013 58\_97013\_008e 0 144 0 VSP\_97013\_008e ENA

pl lvICR\_dcl-97158 lvICR\_dcl ENABLED ACTIVE 144 CONCAT - RW

sd 10\_97158\_008e-03 lvICR\_dcl-97158 10\_97158\_008e 419430400 144 0 VSP\_97158\_008e ENA

lp09pcr17:~ #

lp09pcr17:~ #

lp09pcr17:~ #

lp09pcr17:~ # vxresize -b -g dgtlprisma1bkup lvbkup 2831708160

VxVM vxresize INFO V-5-1-2555 Volume lvICR: Volume length is already 707647488 sectors

lp09pcr17:~ # df -hT /dev/vx/dsk/dgiicrcs10db01/lvICR

Filesystem Type Size Used Avail Use% Mounted on

/dev/vx/dsk/dgiicrcs10db01/lvICR vxfs 338G 20G 316G 6% /oracle/ICR

lp09pcr17:~ # exit

exit

qxz10kv@lp09pcr17:~> exit

logout

ltdbant9:~ #

ltdbant9:~ # vxassist -g dgtlprisma1bkup maxgrow lvbkup

Volume lvbkup can be extended by 98304 to: 4592664512 (2242511Mb+1984 sectors)

ltdbant9:~ # vxresize -g dgtdbl021bkup lvbkup 2242511M

ltdbant9:~ #

vxresize -b -g dgtlprisma1bkup lvbkup 2831708160