* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [17 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=724281368&selectedPageVersions=1&selectedPageVersions=2)

| Linux Networking Howto's |
| --- |

General network setup

* in general the order and use of the network interfaces in a physical box is as follows:
  + **eth0**: cooperate name : **c1/c2** - is used in clusters for heartbeat 1 (hb1)
  + **eth1**: backup name : **b/b1** - is used in VCS for heartbeat 2 (hb2)
  + **eth2**: admin lan name : **a** - is used in VCS for heartbeat 3 (hb3)
  + **eth3**: for cooperate use, usually as bonding interface with eth0

**Remove Bonding: no reboot**

# ifconfig bond1 down  
# cat /sys/class/net/bond1/bonding/slaves  
eth4 eth6  
# cat /sys/class/net/bonding\_masters  
bond0 bond1  
# echo "-eth4" > /sys/class/net/bond1/bonding/slaves  
# echo "-eth6" > /sys/class/net/bond1/bonding/slaves  
echo "-bond1" > /sys/class/net/bonding\_masters  
# ls -l /sys/class/net/bond1  
ls: cannot access /sys/class/net/bond1: No such file or directory  
# rm /etc/sysconfig/network/ifcfg-bond1

**LAN Recabling: IP's remain**

**Task Description**  
The corporate connections of the farm servers are plugged from the HA-II to the HA-III network (star point). IPs remain the same (IP network is straddled between HAII and HAIII), no downtime of servers.  
**Check the NSI Numbers:**  
[NSI Numbers](https://apex-p.bmwgroup.net:4950/pls/htmldbtss/f?p=301:10117:1312381938785:::::)  
Server/NSI assignment  
Port/Interface  
NSI/Cable Type (category)  
NIC 01 NSI: ESVC SERVER-HA-A **# eth0**  
NIC 02 NSI: ESVH SERVER-BACKUP  
NIC 03 NSI: ESVE SERVER-HA-A **# eth3**  
PCI 11 | A-02 NSI: ESVD SERVER-HA-B **# eth4**  
PCI 11 | A-03 NSI: ESVF SERVER-HA-B **# eth6**  
iLO 3 NSI: ESVG SERVER-ADMIN  
  
**get the interface info's**

lpxent003:~ # egrep 'bond|IP' /etc/sysconfig/network/ifcfg-br\_1\*  
/etc/sysconfig/network/ifcfg-br\_160050074000:BRIDGE\_PORTS='bond1'  
/etc/sysconfig/network/ifcfg-br\_160050074000:IPADDR='160.50.74.118'  
/etc/sysconfig/network/ifcfg-br\_160050076000:BRIDGE\_PORTS='bond0'  
/etc/sysconfig/network/ifcfg-br\_160050076000:IPADDR='160.50.76.162'  
/etc/sysconfig/network/ifcfg-br\_192168015000:IPADDR='192.168.15.20'  
  
lpxent003:~ # nslookup 160.50.74.118| grep "in-addr"  
118.74.50.160.in-addr.arpa name = lpxent003c2.bmwgroup.net.  
lpxent003:~ # nslookup 160.50.76.162| grep "in-addr"  
162.76.50.160.in-addr.arpa name = lpxent003.bmwgroup.net.

* open up 2 terminal sessions on the server to setup a constant ping to the gateway on both of the corporate bridges

lpxent003:~ # ping -I br\_160050074000 160.50.74.1

lpxent003:~ # ping -I br\_160050076000 160.50.76.1

* Tell LNS to swap cable ESVE (eth3)
* check link, tcp dump: look for packets in the right subnet.

lpxent003:~ # ethtool eth3 | grep Link  
Link detected: yes  
tcpdump -c 30 -n -i eth3 | egrep '160.50.76.'  
lpxent003:~ # tcpdump -c 30 -n -i eth3 | egrep '160.50.76.'  
tcpdump: WARNING: eth3: no IPv4 address assigned  
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode  
listening on eth3, link-type EN10MB (Ethernet), capture size 96 bytes  
30 packets captured  
30 packets received by filter  
0 packets dropped by kernel  
15:38:22.895046 arp who-has 160.50.76.122 (ff:ff:ff:ff:ff:ff) tell 160.50.76.3  
15:38:23.223169 IP 160.50.76.153.6155 > 239.255.2.3.6155: UDP, length 57  
15:38:23.223444 IP 160.50.76.98.6155 > 239.255.2.3.6155: UDP, length 57  
15:38:23.223450 IP 160.50.76.81.6155 > 239.255.2.3.6155: UDP, length 57  
15:38:23.243203 IP 160.50.76.37 > 224.0.0.251: igmp v2 report 224.0.0.251  
15:38:23.505023 arp who-has 160.50.76.123 (ff:ff:ff:ff:ff:ff) tell 160.50.76.3

* Switch bond0 to eth3 as active, arping new gateway to get ethernet address registered / ping from another Server OK

lpxent003:~ # ifenslave -c bond0 eth3 ; sleep 3 ; cat /proc/net/bonding/bond0 | grep "Currently Active Slave"  
  
lpxent003:~ # ping -I br\_160050076000 160.50.76.1

* Tell LNS to swap cable ESVC (eth1)
* check link, tcp dump: look for packets in the right subnet OK
* Switch bond0 to eth0 as active, arping new gateway to get ethernet address registered / ping from another Server OK

**Add/Install Bonding**

Please follow below steps to set up bonding on a server already running (with one ip configured on a single interface):

**Check links**

At first one should check that the interfaces which should be bonded must have a link in order to work properly. This can be done with **ethtool ethX** when the interface is up! if not enable with **ifconfig ethX up** and check again.:

* First check the already configured Interface, that one should be fine:

root@lt1001:/root #ethtool eth0

Settings for eth0:

Supported ports: [ TP ]

Supported link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

1000baseT/Full

Supports auto-negotiation: Yes

Advertised link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

1000baseT/Full

Advertised pause frame use: No

Advertised auto-negotiation: Yes

Speed: 1000Mb/s

Duplex: Full

Port: Twisted Pair

PHYAD: 1

Transceiver: internal

Auto-negotiation: on

MDI-X: Unknown

Supports Wake-on: pumbg

Wake-on: d

Current message level: 0x00000003 (3)

drv probe

Link detected: yes

root@lt1001:/root #

Then check the other one which should be cabled at this point in order to get a working bonding interface:

root@lt1001:/root #ethtool eth3

Settings for eth3:

Supported ports: [ TP ]

Supported link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

1000baseT/Full

Supports auto-negotiation: Yes

Advertised link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

1000baseT/Full

Advertised pause frame use: No

Advertised auto-negotiation: Yes

Speed: Unknown!

Duplex: Unknown! (255)

Port: Twisted Pair

PHYAD: 1

Transceiver: internal

Auto-negotiation: on

MDI-X: Unknown

Supports Wake-on: d

Wake-on: d

Current message level: 0x00000003 (3)

drv probe

Link detected: no <<<<<<<<<<<<<<<<<<<<<

root@lt1001:/root #

This does not necessarily mean that the interface is not cabled/port not configured. Please check first if the interface is up, or bring it up, wait a few seconds and check again:

root@lt1001:/root #ifconfig eth3

eth3 Link encap:Ethernet HWaddr F4:CE:46:A8:96:92

BROADCAST MULTICAST MTU:1500 Metric:1

RX packets:15920159 errors:0 dropped:15918423 overruns:0 frame:0

TX packets:0 errors:0 dropped:0 overruns:0 carrier:0

collisions:0 txqueuelen:1000

RX bytes:1119322656 (1067.4 Mb) TX bytes:0 (0.0 b)

Memory:d0200000-d0280000

root@lt1001:/root #

root@lt1001:/root #ifconfig eth3 up

root@lt1001:/root #

root@lt1001:/root #ethtool eth3

Settings for eth3:

Supported ports: [ TP ]

Supported link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

1000baseT/Full

Supports auto-negotiation: Yes

Advertised link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

1000baseT/Full

Advertised pause frame use: No

Advertised auto-negotiation: Yes

Speed: 1000Mb/s

Duplex: Full

Port: Twisted Pair

PHYAD: 1

Transceiver: internal

Auto-negotiation: on

MDI-X: Unknown

Supports Wake-on: d

Wake-on: d

Current message level: 0x00000003 (3)

drv probe

Link detected: yes <<<<<<<< now we have a link

root@lt1001:/root #

**Check IP traffic**

Now we'll check if we are really in the correct network; remember eth0 is here in 160.50.65.36/24, so eth3 should see traffic (yes, although no ip is configured!) in that nework

root@lt1001:/root #tcpdump -n -i eth3 ip

tcpdump: WARNING: eth3: no IPv4 address assigned

tcpdump: verbose output suppressed, use -v or -vv for full protocol decode

listening on eth3, link-type EN10MB (Ethernet), capture size 96 bytes

17:58:14.799784 IP 160.50.65.33.137 > 160.50.65.255.137: NBT UDP PACKET(137): QUERY; REQUEST; BROADCAST

17:58:15.549836 IP 160.50.65.33.137 > 160.50.65.255.137: NBT UDP PACKET(137): QUERY; REQUEST; BROADCAST

17:58:16.197081 IP 160.50.65.1.1985 > 224.0.0.2.1985: HSRPv0-hello 20: state=active group=2 addr=160.50.65.4

17:58:16.299758 IP 160.50.65.33.137 > 160.50.65.255.137: NBT UDP PACKET(137): QUERY; REQUEST; BROADCAST

^C

4 packets captured

4 packets received by filter

0 packets dropped by kernel

root@lt1001:/root #

As you can see we can see traffic from the correct network, so the second bonding interface should work as expected.

**Install BMW-CFG-Bonding override**

Preparation work is now done. We have a link on the potential second interface and we see traffic in the correct network, so we can go ahead and install the BMW-CFG-Bonding override:

root@lpinstbss1:/root #install\_override.sh lt1001 BMW-CFG-Bonding

### 20140422 17:59:17 - BMW-CFG-Bonding ########################################

Integrity of override confirmed

Checking for connectivity to lt1001 ... OK

Copying directory tree /global/instserv/overrides/BMW-CFG-Bonding ...

Executing BMW-CFG-Bonding-script configure (on lt1001) ...

this is BMW-CFG-Bonding-script

configuring override BMW-CFG-Bonding

warning: commands will be executed using /bin/sh

job 3 at 2014-04-22 17:59

Storing information in database ...

==> OSSEC\_RESET(lt1001) in progress ... FAILED: No access to OSSEC server

### SUCCESS - 20140422 17:59:20 - End of BMW-CFG-Bonding (0) ###################

root@lpinstbss1:/root #

After the override has been installed you will recognize a short hiccup in the connection to the server but it should not terminate and come back after a few seconds. Then you'll find the server well configured:

root@lt1001:/root #ip addr show

1: lo: <LOOPBACK,UP,LOWER\_UP> mtu 16436 qdisc noqueue state UNKNOWN

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

inet 127.0.0.1/8 brd 127.255.255.255 scope host lo

inet 127.0.0.2/8 brd 127.255.255.255 scope host secondary lo

2: eth7: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN qlen 1000

link/ether f4:ce:46:a8:96:90 brd ff:ff:ff:ff:ff:ff

3: eth6: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN qlen 1000

link/ether f4:ce:46:a8:96:91 brd ff:ff:ff:ff:ff:ff

4: eth3: <BROADCAST,MULTICAST,SLAVE,UP,LOWER\_UP> mtu 1500 qdisc mq master bond0 state UP qlen 1000

link/ether f4:ce:46:a8:94:5f brd ff:ff:ff:ff:ff:ff

5: eth2: <BROADCAST,MULTICAST,UP,LOWER\_UP> mtu 1500 qdisc mq state UP qlen 1000

link/ether f4:ce:46:a8:96:93 brd ff:ff:ff:ff:ff:ff

inet 160.48.113.192/24 brd 160.48.113.255 scope global eth2

6: eth5: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN qlen 1000

link/ether f4:ce:46:a8:94:5c brd ff:ff:ff:ff:ff:ff

7: eth4: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN qlen 1000

link/ether f4:ce:46:a8:94:5d brd ff:ff:ff:ff:ff:ff

8: eth1: <BROADCAST,MULTICAST,UP,LOWER\_UP> mtu 1500 qdisc mq state UP qlen 1000

link/ether f4:ce:46:a8:94:5e brd ff:ff:ff:ff:ff:ff

inet 192.168.12.104/24 brd 192.168.12.255 scope global eth1

9: eth0: <BROADCAST,MULTICAST,SLAVE,UP,LOWER\_UP> mtu 1500 qdisc mq master bond0 state UP qlen 1000

link/ether f4:ce:46:a8:94:5f brd ff:ff:ff:ff:ff:ff

11: bond0: <BROADCAST,MULTICAST,MASTER,UP,LOWER\_UP> mtu 1500 qdisc noqueue state UP

link/ether f4:ce:46:a8:94:5f brd ff:ff:ff:ff:ff:ff

inet 160.50.65.36/24 brd 160.50.65.255 scope global bond0

root@lt1001:/root #

bond0 has already been configured and IP was taken over from eth0, so let's check the configuration files:

root@lt1001:/root #cat /proc/net/bonding/bond0

Ethernet Channel Bonding Driver: v3.7.1 (April 27, 2011)

Bonding Mode: fault-tolerance (active-backup)

Primary Slave: eth0 (primary\_reselect always)

Currently Active Slave: eth0

MII Status: up

MII Polling Interval (ms): 100

Up Delay (ms): 200

Down Delay (ms): 0

Slave Interface: eth0

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:94:5f

Slave queue ID: 0

Slave Interface: eth3

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:96:92

Slave queue ID: 0

root@lt1001:/root #cat /etc/sysconfig/network/ifcfg-bond0

BOOTPROTO="static"

STARTMODE="onboot"

IPADDR="160.50.65.36"

NETMASK="255.255.255.0"

NETWORK="160.50.65.0"

BROADCAST="160.50.65.255"

BONDING\_MASTER="yes"

BONDING\_SLAVE\_0="eth0"

BONDING\_SLAVE\_1="eth3"

BONDING\_MODULE\_OPTS="miimon=100 updelay=200 mode=1 primary=eth0"

root@lt1001:/root #

root@lt1001:/root #cat /etc/sysconfig/network/ifcfg-eth0

BOOTPROTO="none"

STARTMODE="auto"

USERCONTROL="no"

root@lt1001:/root #

root@lt1001:/root #cat /etc/sysconfig/network/ifcfg-eth3

BOOTPROTO="none"

STARTMODE="auto"

USERCONTROL="no"

root@lt1001:/root #

So as this is done, the last step is to check the bonding works corretly.

**Check installation**

* The last step is to do a failover of the bonding interfaces (slaves) from active to passive and back via **ifenslave -c bond0 entX** and not to be kicked off.
* So first check which is the currently active eth in the bond:

root@lt1001:/root #cat /proc/net/bonding/bond0

Ethernet Channel Bonding Driver: v3.7.1 (April 27, 2011)

Bonding Mode: fault-tolerance (active-backup)

Primary Slave: eth0 (primary\_reselect always)

Currently Active Slave: eth0 <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

MII Status: up

MII Polling Interval (ms): 100

Up Delay (ms): 200

Down Delay (ms): 0

Slave Interface: eth0

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:94:5f

Slave queue ID: 0

Slave Interface: eth3

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:96:92

Slave queue ID: 0

root@lt1001:/root #

* Next step is to fail over \_to\_ the not active, in this case eth3 and check if this was successful:

root@lt1001:/root #ifenslave -c bond0 eth3

root@lt1001:/root #

root@lt1001:/root #cat /proc/net/bonding/bond0

Ethernet Channel Bonding Driver: v3.7.1 (April 27, 2011)

Bonding Mode: fault-tolerance (active-backup)

Primary Slave: eth0 (primary\_reselect always)

Currently Active Slave: eth3 <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

MII Status: up

MII Polling Interval (ms): 100

Up Delay (ms): 200

Down Delay (ms): 0

Slave Interface: eth0

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:94:5f

Slave queue ID: 0

Slave Interface: eth3

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:96:92

Slave queue ID: 0

root@lt1001:/root #

root@lt1001:/root #

* if you have not been kicked off, fail back to eth0 and check

root@lt1001:/root #ifenslave -c bond0 eth0

root@lt1001:/root #

root@lt1001:/root #cat /proc/net/bonding/bond0

Ethernet Channel Bonding Driver: v3.7.1 (April 27, 2011)

Bonding Mode: fault-tolerance (active-backup)

Primary Slave: eth0 (primary\_reselect always)

Currently Active Slave: eth0

MII Status: up

MII Polling Interval (ms): 100

Up Delay (ms): 200

Down Delay (ms): 0

Slave Interface: eth0

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:94:5f

Slave queue ID: 0

Slave Interface: eth3

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:96:92

Slave queue ID: 0

root@lt1001:/root #

* This is it

**Online switch change**

From time to time it happens that the network team has to replace a switch as it is broken or out of warranty. Normally we get a appropriate task with a list of affected servers. Check the list or complain if it is missing.

**Preperation**

* Check the list
* Check all affected servers, if
  1. they are reachable
  2. they have bonding or not and in case bonding is configured that bot bonding interfaces have a link (see above). If not, probles should be sorted out first
* Chek the on site engineers contact information, you should have a phone number to contact him

**Actual doing**

* Set a downtime for all affected servers, otherwise you'll get nagios alerts

**Single interface**

* In case you have to deal with a server running on a single interface, login via console and check after the system is re-cabled with

# ethtool <int>|egrep "Link|Speed"

eg:

# ethtool eth1|egrep "Link|Speed"

Speed: 1000Mb/s

Link detected: yes

#

* If link is up and speed is set correctly, check login via ssh and see if it works, if yes, you're done
* If no link is detected or speed is set incorrectly contact engineer on site and/or network team

**Bonding interface**

* In case you have to deal with a bonding interface check after re-cabling the **first** interface of the bond and ensure that is is running correctly before proceeding with the second on!
* check interface and bonding status:

#ethtool eth3

Settings for eth3:

Supported ports: [ TP ]

Supported link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

1000baseT/Full

Supports auto-negotiation: Yes

Advertised link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

1000baseT/Full

Advertised pause frame use: No

Advertised auto-negotiation: Yes

Speed: 1000Mb/s <<<<<<< speed is set correctly

Duplex: Full

Port: Twisted Pair

PHYAD: 1

Transceiver: internal

Auto-negotiation: on

MDI-X: Unknown

Supports Wake-on: d

Wake-on: d

Current message level: 0x00000003 (3)

drv probe

Link detected: yes <<<<<<<< we have a link

#

#

#cat /proc/net/bonding/bond0

Ethernet Channel Bonding Driver: v3.7.1 (April 27, 2011)

Bonding Mode: fault-tolerance (active-backup)

Primary Slave: eth0 (primary\_reselect always)

Currently Active Slave: eth0

MII Status: up <<<<<<<<<<<<<<<<<< up

MII Polling Interval (ms): 100

Up Delay (ms): 200

Down Delay (ms): 0

Slave Interface: eth0

MII Status: up <<<<<<<<<<<<<<<<<< up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:94:5f

Slave queue ID: 0

Slave Interface: eth3

MII Status: up <<<<<<<<<<<<<<<<<< up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:96:92

Slave queue ID: 0

#

* if this is fine, next do a failover to ensure that this also works correctly:

#ifenslave -c bond0 eth3

#

#cat /proc/net/bonding/bond0

Ethernet Channel Bonding Driver: v3.7.1 (April 27, 2011)

Bonding Mode: fault-tolerance (active-backup)

Primary Slave: eth0 (primary\_reselect always)

Currently Active Slave: eth3 <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

MII Status: up

MII Polling Interval (ms): 100

Up Delay (ms): 200

Down Delay (ms): 0

Slave Interface: eth0

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:94:5f

Slave queue ID: 0

Slave Interface: eth3

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:96:92

Slave queue ID: 0

root@lt1001:/root #

root@lt1001:/root #

* if you can still login, fail back:

#ifenslave -c bond0 eth0

#

#cat /proc/net/bonding/bond0

Ethernet Channel Bonding Driver: v3.7.1 (April 27, 2011)

Bonding Mode: fault-tolerance (active-backup)

Primary Slave: eth0 (primary\_reselect always)

Currently Active Slave: eth0

MII Status: up

MII Polling Interval (ms): 100

Up Delay (ms): 200

Down Delay (ms): 0

Slave Interface: eth0

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:94:5f

Slave queue ID: 0

Slave Interface: eth3

MII Status: up

Speed: 1000 Mbps

Duplex: full

Link Failure Count: 0

Permanent HW addr: f4:ce:46:a8:96:92

Slave queue ID: 0

#

* and check login again
* If this all works, you can proceed with the second interface, if needed. If not (link missing, speed incorrect) contact engineer on site or network team.
* Do not proceed with the second interface as long as the first one is not working correctly!
* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [17 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=724281490&selectedPageVersions=1&selectedPageVersions=2)

Analysis of a server in terms of performance

If performance issues occur, you can analyze the server as follows:

SAR(System Analytic Reporter)

Sidec (System analytic data collector) runs via cron every 8 minutes, reads the statistical files under/proc and scrapes the values in files under/var/log/sa/sa \*  
You can use this tool (sar) to find out the following information:

-Memory Use Files (-r)  
-CPU load (-u)  
-Network Statistics (-n)  
-Load Statistics (-q)  
-proc/sec (-c) (How many new processes were generated per Secundum)  
-Block Device Stats (-d) (if sadc has been configured with "-d," but this results in a huge large stats file, so it's disabled)  
-I/O Transfer Statistics (-b)

The time slot can be entered with the options-s and-e:

All Stat. Read files between 193am 10.01.2010 and 20:00 10.01.2010:

# sar -A -s 19:00:00 -e 20:00:00 -f /var/log/sa/sa10

Explanation of key options:

Understanding Storage Statistics:

06:40:01 PM kbmemfree kbmemused %memused kbbuffers kbcached kbswpfree kbswpused %swpused kbswpcad

06:50:01 PM 86608 8089800 98.94 2215508 1538780 15970120 29280 0.18 996

kbmemfree: The amount of memory (in kbyte) that was free.  
kbmemused: The amount of memory (in kbyte) that was used.  
% memused: Memory load (in percent)  
kbbuffers: The amount of memory (in kbyte) that was used as a buffer.  
kbcached: The amount of memory (in kbyte) that was used as a cache.  
kbswpfree: The amount of swaps (in kbyte) that was free.  
kbswpused: The amount of swaps (in kbyte) that was used.  
% swpused: Swap load (in percentage)  
kbswpcad: The amount of cached swaps (in kbyte).

Understanding CPU Stress (-u) Statistics:

06:40:01 PM CPU %user %nice %system %iowait %steal %idle

06:50:01 PM all 0.05 0.00 0.05 0.24 0.00 99.66

% user: CPU load (as a percentage) generated by Userspace applications.  
% nice: CPU load (as a percentage) generated by special Nice Prio from Userspace applications.  
% system: CPU load (as a percentage) generated by kernel space programs.  
% iowait: Used time (in percent) in which the CPUs-while an outstanding Disk IO strain-were unencumbered.  
% steal: Used time (as a percentage) in which the virtual CPUs waited involuntarily, while the hypervisor has overseen other virtual CPU.  
% idle: Used time (as a percentage) when CPUs-during a normal Disk IO load-were unencumbered.

Understanding the Load Stress (-q) Statistics:

06:40:01 PM runq-sz plist-sz ldavg-1 ldavg-5 ldavg-15

06:50:01 PM 0 222 0.09 0.10 0.09

runq-sz: Number of tasks waiting.  
plist-sz: Number of tasks, in the task list.  
ldavg-1: Average load at the last minute.  
ldavg-5: Average strain in the last 5 minutes.  
ldavg-15: Average strain in the last 15 minutes.

Understanding the proc/s (-c) Statistics:

06:40:01 PM proc/s

06:50:01 PM 0.92

Proc/: All processes generated in a second.

IOSTAT (CPU und Disk IO Statistics Reporter)

With iostat you can observe the following information real-time:

* CPU utilization (-c
* Disk IO (-d)

The interval (in seconds) and the number can be specified so that a real-time observation can be made.

For example: iostat-c 1 20: Shows the CPU statistics every second for 20 seconds.

If you run iostat for the first time, it shows the statistics since the last reboot. All of the statistics below have been displayed since the last report.

* CPU load statistic: See statement sar CPU load
* Understanding the disk utilization report:

-p: With this option, a plate can be observed. Default: All plates are displayed.

# iostat -d -p /dev/xvda 1 20

Linux 2.6.16.60-0.33-xen (ltacd01) 01/11/10

Device: tps Blk\_read/s Blk\_wrtn/s Blk\_read Blk\_wrtn

xvda 1.85 2.56 42.96 15211346 255113168

xvda1 5.33 2.56 42.14 15210898 250236528

tps: Transfer(IO request, indeterminate size) per Second  
Blk\_read/s: Blocks(=512 bytes) Read per second  
Blk\_wrtn/s: Blocks(=512 bytes) written per second  
Blk\_read: Total Number of blocks read from device  
Blk\_wrtn: Total Number of blocks written to a device

The measurement unit can be changed with-k (Kbyte) or-m (MByte).

You can observe LVM (Logical Volumes) with the switch-N:

# iostat -d -N 1 30

Linux 2.6.16.60-0.33-xen (ltacd01) 01/11/10

Device: tps Blk\_read/s Blk\_wrtn/s Blk\_read Blk\_wrtn

xvda 1.85 2.56 43.00 15215282 255968536

xvdb1 0.07 1.60 1.86 9555224 11047432

xvdc 0.76 5.82 11.66 34666888 69445992

xvdd 0.16 8.06 4.87 47962011 29004274

xvde 2.75 109.75 13.06 653408051 77749857

xvdf 0.89 15.68 7.83 93358433 46610988

xvdg 0.02 1.68 0.03 9974863 195396

xvdh 0.80 0.67 11.81 4004142 70327260

xvdi 0.02 0.02 0.18 131276 1089036

xvdj 0.16 3.00 5.80 17884379 34547149

xvdk 5.23 234.71 65.91 1397351841 392395892

xvdl 4.34 190.11 48.26 1131784484 287324340

xvdm 2.39 56.35 70.13 335449378 417531001

xvdn 4.50 175.80 69.24 1046581694 412219741

xvdo 1.01 26.08 26.74 155261211 159195031

dgtacdci00ci01-lvswap 2.18 5.81 11.66 34605136 69445992

dgtacdci00ci01-lvglobal 0.00 0.00 0.00 1005 518

dgtacdci00ci01-lvhome 0.00 0.00 0.01 6277 37175

dgtacdci00ci01-lvsapmnt 0.35 0.93 3.19 5518344 18965398

dgtacdci00ci01-lvoracle 0.02 1.67 0.03 9912781 195396

dgtacdci00ci01-lvsapACD 0.76 0.50 9.62 2984392 57275540

dgtacdci00ci01-lvACD 0.02 0.01 0.18 69478 1088403

dgtacdci00ci01-lv102\_64 0.15 2.25 5.70 13410698 33917483

dgtacdci00ci01-lvmirrlogA 0.60 0.33 23.48 1960163 139810404

dgtacdci00ci01-lvmirrlogB 0.64 0.37 23.72 2187918 141195208

dgtacdci00ci01-lvoriglogA 0.90 2.20 31.65 13089012 188398929

dgtacdci00ci01-lvoriglogB 0.91 1.01 31.86 6004285 189703948

dgtacdci00ci01-lvsapdata1 1.17 34.11 31.61 203088598 188198787

dgtacdci00ci01-lvsapdata2 9.44 473.63 77.22 2819702409 459714595

dgtacdci00ci01-lvsapdata3 6.79 299.24 52.17 1781507692 310618472

dgtacdci00ci01-lvsapdata4 0.01 0.74 0.11 4412140 630299

dgtacdci00ci01-lvsaparch 0.38 4.61 28.24 27430105 168132097

dgtacdci00ci01-lvsapreorg 0.02 0.00 1.95 1960 11624902

dgtacdci00ci01-lvsapbackup 0.03 0.00 2.34 14272 13908107

dgtacdci00ci01-lvcd 0.00 0.01 0.00 66911 9130

dgtacdci00ci01-lvRMANBackup 0.05 0.01 0.56 34696 3338356

dgtacdci00ci01-lvkwom 0.02 0.16 0.24 953825 1425264

dgtacdci00ci01-lvsap 0.00 0.00 0.00 787 518

dgtacdci00ci01-lvarchlink 0.00 0.00 0.00 783 518

dgtacdci00ci01-lvsstdata 0.00 0.00 0.00 808 518

IOTOP (by process Disk Statistics as in the top))

Special feature: You can measure the IO bandwidth by process. Total Disk IO (Read and Write) is also displayed.  
First, the Override BMW-SW tools must be installed.  
Then you can start with the following commands:

iotop -o -k -d 1 -a

Declaration of parameters:

-o: Only show the processes that IO actually generate.  
-k: All values should be shown as kilobytes  
-d 1: The values should be queried again each secondary  
-a: All values are accumulated. This can be observed in the long-term IO use

VMSTAT (Virtual Memory und Disk Statistics)

Special feature: Disk Access Time (in ms) can be measured  
  
Understanding the statistics:  
  
Reads  
total: Total reads completed successfully  
merged: grouped reads (resulting in one I/O)  
sectors: Sectors read successfully  
ms: milliseconds spent reading  
  
Writes  
total: Total writes completed successfully  
merged: grouped writes (resulting in one I/O)  
sectors: Sectors written successfully  
ms: milliseconds spent writing  
  
IO  
cur: I/O in progress  
s: seconds spent for I/O

# vmstat -d 1 50 (also zeigt die Disk Statistics jede Sekunde für 50 Sekunden)

disk- ------------reads------------ ------------writes----------- -----IO------

total merged sectors ms total merged sectors ms cur sec

ram0 0 0 0 0 0 0 0 0 0 0

ram1 0 0 0 0 0 0 0 0 0 0

ram2 0 0 0 0 0 0 0 0 0 0

ram3 0 0 0 0 0 0 0 0 0 0

ram4 0 0 0 0 0 0 0 0 0 0

ram5 0 0 0 0 0 0 0 0 0 0

ram6 0 0 0 0 0 0 0 0 0 0

ram7 0 0 0 0 0 0 0 0 0 0

ram8 0 0 0 0 0 0 0 0 0 0

ram9 0 0 0 0 0 0 0 0 0 0

ram10 0 0 0 0 0 0 0 0 0 0

ram11 0 0 0 0 0 0 0 0 0 0

ram12 0 0 0 0 0 0 0 0 0 0

ram13 0 0 0 0 0 0 0 0 0 0

ram14 0 0 0 0 0 0 0 0 0 0

ram15 0 0 0 0 0 0 0 0 0 0

xvda 384536 11326 15215282 7017820 10615496 20779464 256052584 97680644 0 12959

xvdb1 182231 1012224 9555648 797716 213258 1167640 11047432 1069976 0 875

xvdc 795870 3534910 34666888 5629668 3727834 4942034 69445992 29185020 0 4395

xvdd 567919 409 47962011 1766960 412904 23 29004274 3057516 0 528

VXSTAT and VXDMPADM (for Veritas)

There is the possibility to observe Subdisks/volumes:  
  
Vxstat-g diskgroup-i 1: Shows Volume Statistics every second  
Vxstat-g diskgroup-i 1-s: Shows Subdisk Statsitics every second  
  
-o all dgs can also be entered so that all disk group statistics are shown.  
-c: count  
  
Such as:

# vxstat -g dgptdpci00ci01 -s

OPERATIONS BLOCKS AVG TIME(ms)

TYP NAME READ WRITE READ WRITE READ WRITE

sd 13\_35787\_01\_1246-01 70 42 562 460 4.06 0.67

vxdmpadm iostat show all intervaltory 1-counttory 50: Shows all plate Statistics under all paths:

Such as:

# vxdmpadm iostat show all interval=1 count=50

cpu usage = 5317025us per cpu memory = 409600b

OPERATIONS BLOCKS AVG TIME(ms)

PATHNAME READS WRITES READS WRITES READS WRITES

sdbb 147910 0 1186814 0 0.15 0.00

sdm 113485 0 903038 0 0.19 0.00

sdbr 372656 628854 91222597 28431245 0.04 0.02

Subs can with vxdisk list

Identified:

# vxdisk list sdgp

...

Multipathing information:

numpaths: 2

sdgt state=enabled

sdgp state=enabled

View processes that are in the status of "D" (uninterruptable sleep, or IOwait):

# watch -n 1 "(ps aux | awk '\$8 ~ /D/ { print \$0 }')"

Then you can look at the PID, and the process strace-n.

Such as.

Every 1.0s: (ps aux | awk '$8 ~ /D/ { print $0 }')

Sat Apr 21 11:04:38 2012

oracle 19993 0.3 23.5 144004 15525148 ? Ds Apr20 2:51 oraclefamposp (LOCAL=NO)

PID ist 19993.  
  
The file descriptors can be listed:

lpbkdb13:/proc/19993/fd # l

total 11

dr-x------ 2 oracle dba 0 Apr 21 11:08 ./

dr-xr-xr-x 5 oracle dba 0 Apr 20 22:15 ../

lrwx------ 1 oracle dba 64 Apr 21 11:08 0 -> /dev/null

lrwx------ 1 oracle dba 64 Apr 21 11:08 1 -> /dev/null

lrwx------ 1 oracle dba 64 Apr 21 11:08 12 -> socket:[3185084505]

lrwx------ 1 oracle dba 64 Apr 21 11:08 2 -> /dev/null

lr-x------ 1 oracle dba 64 Apr 21 11:08 3 -> /dev/null

lr-x------ 1 oracle dba 64 Apr 21 11:08 4 -> /dev/null

lr-x------ 1 oracle dba 64 Apr 21 11:08 5 -> /dev/null

lr-x------ 1 oracle dba 64 Apr 21 11:08 6 -> /dev/null

lr-x------ 1 oracle dba 64 Apr 21 11:08 7 -> /dev/zero

lr-x------ 1 oracle dba 64 Apr 21 11:08 8 -> /lfs/oracle/prod/ora10205/rdbms/mesg/oraus.msb

lrwx------ 1 oracle dba 64 Apr 21 11:08 9 -> /dev/odm/ctl

lpbkdb13:/proc/19993/fd #

oder

lpbkdb13:/# lsof -p 19993 -a -d '0-65000'

COMMAND PID USER FD TYPE DEVICE SIZE NODE NAME

oracle 19993 oracle 0u CHR 1,3 3686 /dev/null

oracle 19993 oracle 1u CHR 1,3 3686 /dev/null

oracle 19993 oracle 2u CHR 1,3 3686 /dev/null

oracle 19993 oracle 3r CHR 1,3 3686 /dev/null

oracle 19993 oracle 4r CHR 1,3 3686 /dev/null

oracle 19993 oracle 5r CHR 1,3 3686 /dev/null

oracle 19993 oracle 6r CHR 1,3 3686 /dev/null

oracle 19993 oracle 7r CHR 1,5 3706 /dev/zero

oracle 19993 oracle 8r REG 8,3 875008 12697603 /lfs/oracle/prod/ora10205/rdbms/mesg/oraus.msb

oracle 19993 oracle 9u REG 0,18 0 3 /dev/odm/ctl

oracle 19993 oracle 12u IPv4 3185084505 TCP plfamos1.muc:miroconnect->spabfi3c1.muc:41865 (ESTABLISHED)

lpbkdb13:/#

With strace-p 19993 you can see which File Descriptor is being read or written.

Such as:

lpbkdb13:/# strace -p 19993

....

write(12, "\0\16\0\0\6\0\0\0\0\0\t\2iK", 14) = 14

read(12, <unfinished ...>

Process 20036 detached

Read the TCP Socket:

Oracle 19993 oracle 12u IPv4 3185050505 TCP plfamos1.muc:miroconnect->spabfi3c1.muc:41865 (ESTABLISHED)

But most of the time it is translated to a file:

oracle 28035 oracle 8w REG 199,6000 1000211 84671/global/plfamosEFine gold bbriposp/dump/bgdump/al

ert\_famposp.log\_20120401\_1601

And so the DG or the LUNs can be listed:

lpbkdb13:~ # df /global/plfamos1/bkup/famposp/dump/bgdump/alert\_famposp.log\_20120401\_1601

Filesystem 1K-blocks Used Available Use% Mounted on

/dev/vx/dsk/dgplfamos1bkup/lvbkup

58959808 9567592 49006584 17% /global/plfamos1/bkup

lpbkdb13:~ #

Here the DG dgplfamos1bkup is affected.  
The associated LUNs, and his reading, or writing times:

lpbkdb13:~ # vxstat -g dgplfamos1bkup -d

OPERATIONS BLOCKS AVG TIME(ms)

TYP NAME READ WRITE READ WRITE READ WRITE

dm 13\_78135\_01\_21FA 30142326 53380437 1992943267 55244080 0.10 0.00

dm 13\_78135\_02\_21FB 1311478 7345039 687112856 1812090179 1.15 0.48

dm 13\_78135\_03\_21FC 741110 1953666 651268207 1251024933 3.71 0.32

dm 13\_78135\_04\_21FD 521730 4923372 357593625 863201825 23.78 0.27

dm 19\_78173\_01\_220C 780633 1953666 565246095 1251024933 2.92 0.22

dm 19\_78173\_02\_220D 428516 4923369 324974088 863199713 3.18 0.22

dm 19\_78173\_03\_220E 2992615 53380437 1000502925 55244080 0.99 0.02

dm 19\_78173\_04\_220F 816089 7345039 555721890 1812090179 24.70 0.40

lpbkdb13:~ #

Anything over 15ms is too much. In this case, a HiPrio to SAN team must be opened.

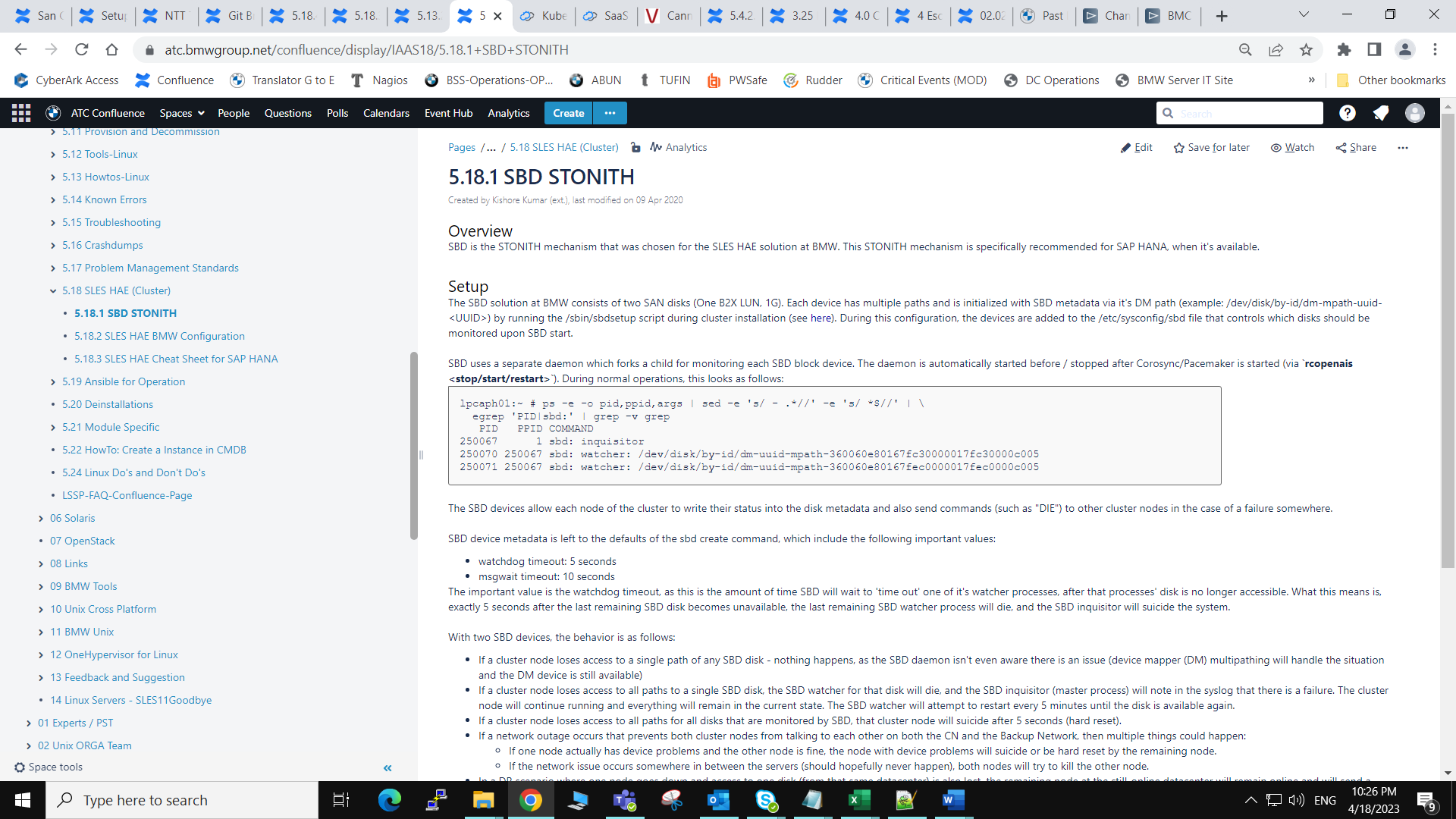
NETHOGS (Network Statistics by Process)

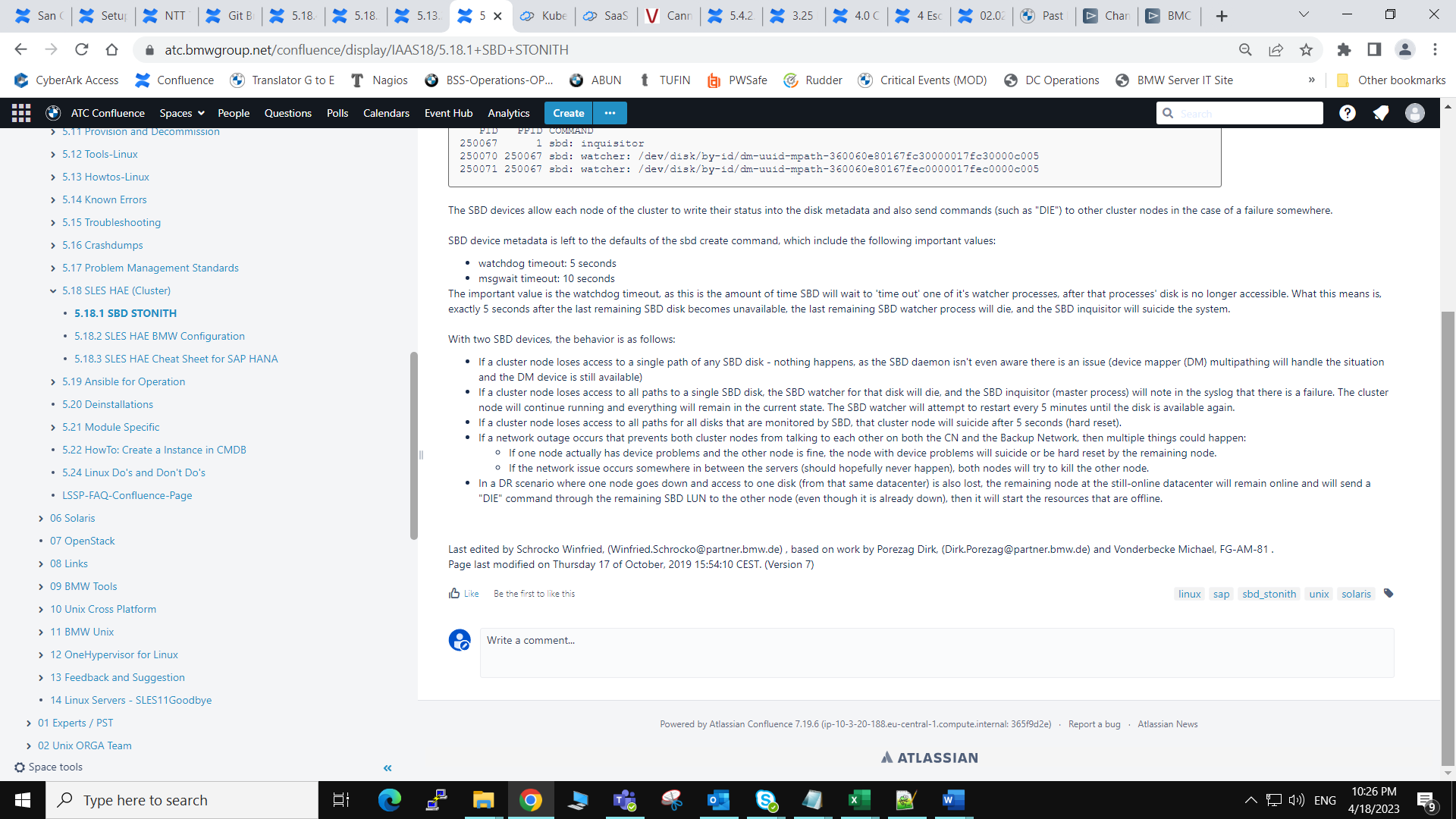
Comes with Override BMW-SW tools.  
With this tool, you can look at the bandwidth of each process.  
Commands:

nethogs [-d] [device(s)]

Declaration of parameters:

-d: Defines the delay between ads.  
Devdevice (s): Check only the following devices. (E.g.: bond0)





* Created by [Kishore Kumar (ext.)](https://atc.bmwgroup.net/confluence/display/~qxz0crd), last modified on [09 Apr 2020](https://atc.bmwgroup.net/confluence/pages/diffpagesbyversion.action?pageId=520971891&selectedPageVersions=1&selectedPageVersions=2)

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# Overview

In the SLES HAE HANA setup, the Pacemaker cluster monitors and manages two SAP HANA instances:

* a master instance that is actively serving client requests
* a slave instance that is kept in sync with the master via database replication and may take over the master role in case the master should fail.

SAP AG and SuSE have jointly developed two agents for managing the SAP HANA processes and replication mode in this setup:

* the SAPHanaTopology agent determines what the current master/slave topology of the HANA system is
* the SAPHana agent actively manages the HANA instances on the two nodes

Both agents are contained in the SAPHanaSR RPM package and can be found in the directory /usr/lib/ocf/resource.d/suse.  
  
The package also contains the script **/usr/share/SAPHanaSR/tests/show\_SAPHanaSR\_attributes** used for printing status details of the HANA resources. Please note: the tool does **NOT** print the actual HANA database status but instead what the cluster **THINKS** the status is. This may not be the actual status, especially if the cluster was/is frozen. Also, more recent versions of the tool require manual inclusion of the /usr/lib/SAPHanaSR/SAPHanaSRTools.pm perl library and extra arguments for execution. Therefore, it is not useful for quick troubleshooting any more.  
  
Instead, it's better to check the node attributes updated by the HANA agents and visible in the "crm\_mon -Ar1" output. Among other things, these attributes will also show what the sync\_state of the replication is (according to the cluster resource monitoring). During normal operations, the corresponding value of hana\_<sid>\_sync\_state should be "PRIM" for the primary and "SOK" for the secondary node.  
  
Each SLES HAE HANA setup will have the following resources:

* a clone set **cln-sbd-fencing [sbd-fencing]** implementing the SBD STONITH setup (see [here](https://bsswiki.muc/tiki-index.php?page=bss_unix_linux_cluster_hae_sbd))
* a clone set **cln\_SAPHanaTopology\_<SID><IN> [rsc\_SAPHanaTopology\_<SID><IN]** where <SID> is the SID of the HANA instance and <IN> the instance number (for production instances usually 00). This clone set is managed by the SAPHanaTopology agent (see above).
* a master/slave set **msl\_SAPHana\_<SID><IN> [rsc\_SAPHana\_<SID><IN>]** managed by the SAPHana agent. The state of this master/slave resource should reflect the current roles that the two HANA instances should have.
* an IP resource **rsc\_ip\_<SID><IN>** which is managed by the cluster and should always be online on the node that acts as the current master in the master/slave set described above. The correct placement of the IP is enforced by a cluster collocation rule.
* for cost optimized HANA HAE clusters, there is also a Q/A HANA instance with the name rsc\_SAPDatabase\_<SID><IN> (with the Q/A <SID><IN>!) that can only run on the secondary node and only if this node is NOT the master for production at this time.

The full picture during normal operations should look like this (example without Q/A instance):

root@lpcaph01:~# crm\_mon -1r

Last updated: Tue Jun 21 20:00:29 2016

Last change: Tue Jun 21 19:59:32 2016 by root via crm\_attribute on lpcaph01

Stack: classic openais (with plugin)

Current DC: lpcaph01 - partition with quorum

Version: 1.1.11-3ca8c3b

2 Nodes configured, 2 expected votes

7 Resources configured

Online: [ lpcaph01 lpcaph51 ]

Clone Set: cln-sbd-fencing [sbd-fencing]

Started: [ lpcaph01 lpcaph51 ]

Clone Set: cln\_SAPHanaTopology\_CAP00 [rsc\_SAPHanaTopology\_CAP00]

Started: [ lpcaph01 lpcaph51 ]

Master/Slave Set: msl\_SAPHana\_CAP00 [rsc\_SAPHana\_CAP00]

Masters: [ lpcaph01 ]

Slaves: [ lpcaph51 ]

rsc\_ip\_CAP00 (ocf::heartbeat:IPaddr2): Started lpcaph01

# Cluster Health Check

Run "crm\_mon -1r" and verify that the cluster status looks normal. In particular:

* the SAPHanaTopology clone resource should be started on both nodes
* the Master/Slave set should have one Master (usually the node ending in 01) and one Slave (ususally the node ending in 51)
* the rsc\_ip IP resource should be active on the Master node

If all resources appear as "unmanaged", the cluster functions have been disabled by setting maintenance mode, usually due to application level activity on the affected system. For more details regarding maintenance mode, see the next sections in this Wiki page.  
  
In all other cases where the cluster status looks different, the situation must be resolved in cooperation with SAP basis operations. It is possible that they have removed maintenance mode on the cluster before the system was completely recovered. In this case - and only if SAP basis confirms that the system should be clean at the application level - it usually helps to clear previous errors by running "crm resource cleanup <resource> <host>" as demonstrated in the example below. Besides clearing previous failures of the affected resource, this forces the cluster to re-run its monitor and hence will update its status:

lpcmph51:~ # crm\_mon -1

Last updated: Mon May 14 02:00:08 2018

Last change: Mon May 14 01:59:35 2018 by root via crm\_attribute on lpcmph01

Stack: classic openais (with plugin)

Current DC: lpcmph51 - partition with quorum

Version: 1.1.12-f47ea56

2 Nodes configured, 2 expected votes

7 Resources configured

Online: [ lpcmph01 lpcmph51 ]

Clone Set: cln-sbd-fencing [sbd-fencing]

Started: [ lpcmph01 lpcmph51 ]

Clone Set: cln\_SAPHanaTopology\_CMP00 [rsc\_SAPHanaTopology\_CMP00]

Started: [ lpcmph01 lpcmph51 ]

Master/Slave Set: msl\_SAPHana\_CMP00 [rsc\_SAPHana\_CMP00]

rsc\_SAPHana\_CMP00 (ocf::suse:SAPHana): Master lpcmph01 (Monitoring)

rsc\_ip\_CMP00 (ocf::heartbeat:IPaddr2): Started lpcmph01

Failed actions:

rsc\_SAPHana\_CMP00\_start\_0 on lpcmph51 'unknown error' (1): call=175, status=complete, exit-reason='none', last-rc-change='Fri May 11 12:52:36 2018', queued=0ms, exec=600663ms

lpcmph51:~ # crm resource cleanup rsc\_SAPHana\_CMP00 lpcmph51

Cleaning up rsc\_SAPHana\_CMP00:0 on lpcmph51

Waiting for 1 replies from the CRMd. OK

lpcmph51:~ # crm\_mon -1

Last updated: Mon May 14 02:01:16 2018

Last change: Mon May 14 02:00:40 2018 by root via crm\_attribute on lpcmph01

Stack: classic openais (with plugin)

Current DC: lpcmph51 - partition with quorum

Version: 1.1.12-f47ea56

2 Nodes configured, 2 expected votes

7 Resources configured

Online: [ lpcmph01 lpcmph51 ]

Clone Set: cln-sbd-fencing [sbd-fencing]

Started: [ lpcmph01 lpcmph51 ]

Clone Set: cln\_SAPHanaTopology\_CMP00 [rsc\_SAPHanaTopology\_CMP00]

Started: [ lpcmph01 lpcmph51 ]

Master/Slave Set: msl\_SAPHana\_CMP00 [rsc\_SAPHana\_CMP00]

Masters: [ lpcmph01 ]

Slaves: [ lpcmph51 ]

rsc\_ip\_CMP00 (ocf::heartbeat:IPaddr2): Started lpcmph01

# Standard Operations Tasks

## Setting and removing maintenance mode

Setting the maintenance mode will "freeze" all cluster actions, including resource monitoring. This is necessary for certain maintenance tasks (e.g. SAP upgrades or restarting SAP processes outside of the cluster).

### Setting cluster maintenance mode

Maintenance mode is set by running

crm configure property maintenance-mode=true

or alternatively by using the script /usr/local/bin/freeze\_cluster.

### Removing cluster maintenance mode:

Maintenance mode is removed by running:

crm configure property maintenance-mode=false

or alternatively by using the script /usr/local/bin/unfreeze\_cluster.

### Additional Information

If maintenance mode is set, all instances become "unmanaged":

root@lpcaph01:~# crm\_mon -1r

Last updated: Tue Jun 21 20:11:48 2016

Last change: Tue Jun 21 20:11:43 2016 by root via crm\_attribute on lpcaph01

Stack: classic openais (with plugin)

Current DC: lpcaph01 - partition with quorum

Version: 1.1.11-3ca8c3b

2 Nodes configured, 2 expected votes

7 Resources configured

Online: [ lpcaph01 lpcaph51 ]

Clone Set: cln-sbd-fencing [sbd-fencing] (unmanaged)

sbd-fencing (stonith:external/sbd): Started lpcaph51 (unmanaged)

sbd-fencing (stonith:external/sbd): Started lpcaph01 (unmanaged)

Clone Set: cln\_SAPHanaTopology\_CAP00 [rsc\_SAPHanaTopology\_CAP00] (unmanaged)

rsc\_SAPHanaTopology\_CAP00 (ocf::suse:SAPHanaTopology): Started lpcaph51 (unmanaged)

rsc\_SAPHanaTopology\_CAP00 (ocf::suse:SAPHanaTopology): Started lpcaph01 (unmanaged)

Master/Slave Set: msl\_SAPHana\_CAP00 [rsc\_SAPHana\_CAP00] (unmanaged)

rsc\_SAPHana\_CAP00 (ocf::suse:SAPHana): Started lpcaph51 (unmanaged)

rsc\_SAPHana\_CAP00 (ocf::suse:SAPHana): Master lpcaph01 (unmanaged)

rsc\_ip\_CAP00 (ocf::heartbeat:IPaddr2): Started lpcaph01 (unmanaged)

**Note:** Whenever maintenance mode is set, the cluster will stop monitoring the resources (unlike VCS that still does monitor resources even if a group is frozen!) and it will also not take any actions. A status update for a resource in maintenance mode can be forced by running:

crm resource cleanup <resource> [host]

This will force the cluster to first "forget" the last status information stored for this resource, then execute one monitoring cycle and thus synchronize resource status with reality - but only if the agent is able to derive the correct status. In some situations, this may not be the case. For example, the SAPHana agent will sometimes fail to derive the correct status if the HANA processes are in an inconsistent state or if HANA is unable to start due to a configuration issue.  
  
Below is an example for cleaning up resource status in active (non-maintenance) mode after starting the resource failed. SAP operations then corrected application status (master on lpcaph01, slave on lpcaph51) but due to the previously failed actions the cluster didn't have the current status. Via **crm resource cleanup**, the cluster is forced to delete the error history and status of rsc\_SAPHana\_CAP00 on both nodes, then monitors the current status of the resource and consequently moves the IP resource to the current master node, resulting in a clean final state. If the cluster had been in maintenance mode, the status update would have occurred as well but the IP resource would not have been moved to lpcaph01.

lpcaph01:~ # crm\_mon -1r

Last updated: Wed Jun 22 10:07:12 2016

Last change: Wed Jun 22 09:11:31 2016 by root via crm\_attribute on lpcaph51

Stack: classic openais (with plugin)

Current DC: lpcaph01 - partition with quorum

Version: 1.1.11-3ca8c3b

2 Nodes configured, 2 expected votes

7 Resources configured

Online: [ lpcaph01 lpcaph51 ]

Clone Set: cln-sbd-fencing [sbd-fencing]

Started: [ lpcaph01 lpcaph51 ]

Clone Set: cln\_SAPHanaTopology\_CAP00 [rsc\_SAPHanaTopology\_CAP00]

Started: [ lpcaph01 lpcaph51 ]

rsc\_ip\_CAP00 (ocf::heartbeat:IPaddr2): Started lpcaph51

Failed actions:

rsc\_SAPHana\_CAP00\_start\_0 on lpcaph51 'unknown error' (1): call=227, status=complete, last-rc-change='W016', queued=0ms, exec=26279ms

rsc\_SAPHana\_CAP00\_start\_0 on lpcaph01 'not running' (7): call=118, status=complete, last-rc-change='Wed6', queued=0ms, exec=18531ms

lpcaph01:~ # crm resource cleanup rsc\_SAPHana\_CAP00

lpcaph01:~ # sleep 15 # wait a while for monitoring to complete

lpcaph01:~ # crm\_mon -1r

Last updated: Wed Jun 22 10:26:57 2016

Last change: Wed Jun 22 10:26:19 2016 by root via crm\_attribute on lpcaph01

Stack: classic openais (with plugin)

Current DC: lpcaph01 - partition with quorum

Version: 1.1.11-3ca8c3b

2 Nodes configured, 2 expected votes

7 Resources configured

Online: [ lpcaph01 lpcaph51 ]

Clone Set: cln-sbd-fencing [sbd-fencing]

Started: [ lpcaph01 lpcaph51 ]

Clone Set: cln\_SAPHanaTopology\_CAP00 [rsc\_SAPHanaTopology\_CAP00]

Started: [ lpcaph01 lpcaph51 ]

Master/Slave Set: msl\_SAPHana\_CAP00 [rsc\_SAPHana\_CAP00]

Masters: [ lpcaph01 ]

Slaves: [ lpcaph51 ]

rsc\_ip\_CAP00 (ocf::heartbeat:IPaddr2): Started lpcaph01

Below is an example of what to doe when a monitor has failed actions. I tis case there is no resource named **rsc\_SAPHana\_NWP00\_monitor\_61000**, so what we have to do is cleanup rsc\_SAPHana\_NWP00\_monitor\_61000\_\_.

Failed Actions:

\* rsc\_SAPHana\_NWP00\_monitor\_61000 on lpnwph01 'unknown error' (1): call=135, status=complete, exitreason='none',

last-rc-change='Mon Oct 14 08:23:42 2019', queued=0ms, exec=0ms

\* rsc\_SAPHana\_NWP00\_monitor\_61000 on lpnwph51 'unknown error' (1): call=116, status=complete, exitreason='none',

last-rc-change='Fri Sep 27 12:16:53 2019', queued=0ms, exec=0ms

lpnwph01:~ # crm resource cleanup rsc\_SAPHana\_NWP00

Cleaning up rsc\_SAPHana\_NWP00:0 on lpnwph01, removing fail-count-rsc\_SAPHana\_NWP00

Cleaning up rsc\_SAPHana\_NWP00:0 on lpnwph51, removing fail-count-rsc\_SAPHana\_NWP00

Waiting for 2 replies from the CRMd.. OK

In general, extreme care should be taken when maintenance mode is removed! The cluster will then run a monitor cycle for each resource and enforce a status that is consistent with its current configuration. For example, if "standby" mode has been set for a node, the cluster will stop all resources currently active on this node. The safest approach is to make sure that the status of all resources before removing maintenance mode is the same as at the point in time when maintenance mode was set.  
  
**Note:** SAP operations is allowed to set and remove maintenance mode in order to manage HANA without requiring intervention by BMW Unix operations.

## Switching HANA master role between cluster nodes

**Prerequisites**  
Before performing a manual switch test, make sure the cluster status returned by the "crm\_mon -Ar1" command fulfills the following conditions:

* node1 should be listed with node attribute hana\_<sid>\_sync\_state=PRIM
* node2 should be listed with node attribute hana\_<sid>\_sync\_state=SOK
* the cluster should have no "Failed Actions" in the "crm\_mon" output

If the HANA sync state is different, notify the SAP Basis team that the HANA system replication is not working correctly and therefore the cluster switch test cannot be performed. If there are "Failed Actions", clean up the correspondig resources with "crm resource cleanup" (for details, see the relevant chapter on this Wiki page) until all "Failed Actions" are cleared.  
  
**Performing the switch**  
In order to switch the master role from <node1> to <node2>, perform the following steps:

# check the current cluster status (on either node)

crm\_mon -Ar1

# make sure the prerequisites outlined above are met

# DO NOT CONTINUE IF THE RESOURCE OR REPLICATION STATES ARE DIFFERENT!

# now place the current master node1 into standby mode

# this will force the cluster to promote node2 to be master

crm node standby <node1>

# wait while observing the crm\_mon output until node2 is listed as master

crm\_mon

# repeatedly check until node2 shows hana\_<sid>\_sync\_state=PRIM

crm\_mon -Ar1

# now that node2 is the active master, we can online node1 - it should start as slave

crm node online <node1>

# wait while observing the crm\_mon output until node1 is listed as slave

crm\_mon

# repeatedly check until node1 shows hana\_<sid>\_sync\_state=SOK

crm\_mon -Ar1

**Troubleshooting hints:**  
If the status of the HANA master/slave resource (msl\_SAPHana\_<SID><IN>) is weird (two slaves, no master, etc.), sometimes the SAP team might have to fix the application. First check the output of "crm\_mon -Ar1". If both nodes in that output are in sync\_state "PRIM" or both nodes are "SFAIL" then the SAP team may have to fix the problem on the SAP side. If one node shows "PRIM" then it should also show up as "Master" in the crm\_mon output, the other node might show up as "Slave" in crm\_mon but show as "SFAIL" or "UNDEFINED" or something like that in the show\_SAPHanaSR\_attributes output.  
  
In that case, and if SAP operations claims that they see a different status at the application level, it may help to try the following steps:

1. Ask SAP operations which system is acting as master and which is acting as slave (or use the SAP-HANA commands documented in the section below).
2. Put the cluster node acting as slave in standby mode (**crm node standby <node>**).
3. Restart the Pacemaker cluster services on the slave node (see below).
4. Put the cluster node acting as slave back to online mode (**crm node online <node>**).

The Pacemaker cluster services can be restarted as follows:

rcopenais restart # SLES 11

systemctl restart pacemaker.service # SLES 12

Most cases where inconsistencies between cluster status and application status as reported by SAP operations occur can be fixed by restarting Pacemaker on one or both nodes, but this should be a last resort and only done after SAP operations confirms that this may be done. The restart forces the local resource manager to re-initialize and update the status of all resources from scratch.

## OS maintenance

The proper procedure for doing OS maintenance that might require one or more reboots of individual cluster nodes is as follows:

1. Put the cluster into maintenance mode (see above).
2. Request SAP operations to stop all HANA instances on the cluster and wait until they confirm that application shutdown is complete.
3. Shutdown the cluster processes on both nodes (see below). It is recommended to first shutdown the node that was acting as slave and then the master. If only a single system needs maintenance, it is sufficient to shutdown cluster services on this node, the other node may remain online. NOTE: If cluster services are stopped on SLES 12, make sure to stop ALL components (pacemaker, corosync and sbd) - a partial stop may lead to unexpected reboots if the other node executes a STONITH fencing action when it can't communicate with its partner's pacemaker process.
4. Perform system maintenance. Nodes can be rebooted as necessary.
5. When both nodes are back online and work without issues, the cluster can be taken out of maintenance mode. At this time, HANA should be automatically started by the cluster and come up with the same master/slave setup that was active before application shutdown.

# stop / start / restart pacemaker services

rcopenais [stop / start / restart] # SLES 11

systemctl [stop / start / restart] pacemaker.service corosync.service sbd.service # SLES 12

**Troubleshooting:**  
If the resources do not start automatically, the best option is to restart pacemaker on both cluster nodes (first one node, then the other node).

# Known issues

During the cluster tests it was found that host crashes may lead to empty (or possibly corrupt) HANA configuration files (in one particular instance, for example, the main config file /hana/shared/<SID>/global/hdb/custom/config/global.ini was empty). This will prevent HANA from starting and can be seen in the **crm\_mon** output:

rsc\_SAPHana\_<SID><IN>\_start\_0 (call=<XX>, rc=1, cib-update=<YY>, confirmed=true) unknown error

In order to fix this, first put the cluster into maintenance mode and then tell SAP operations to fix the HANA configuration files and start HANA manually. After HANA is up and running, run

crm resource cleanup rsc\_SAPHana\_<SID><IN>

while still in maintenance mode. The cluster will then remove the old failed status, perform a new monitor cycle and pick up the new status. If this status is as expected (working master/slave setup), the maintenance mode can be removed.

# Some SAP HANA check commands

This is auxiliary information which may be helpful for troubleshooting and supporting SAP operations in some cases. Unix operations is not responsible for the application, however, since there is a tight integration between application and cluster, it may be helpful to check the application status directly.  
  
**NOTE: All commands MUST be executed as <sid>adm, not as root!**

## ****Check HANA process status****

su - <sid>adm

/usr/sap/hostctrl/exe/sapcontrol -nr <IN> -function GetProcessList

Sample output:

lpcaph51:/usr/sap/CAP/HDB00> /usr/sap/hostctrl/exe/sapcontrol -nr 00 -function GetProcessList

21.06.2016 22:36:19

GetProcessList

OK

name, description, dispstatus, textstatus, starttime, elapsedtime, pid

hdbdaemon, HDB Daemon, GREEN, Running, 2016 06 21 19:34:44, 3:01:35, 31212

hdbcompileserver, HDB Compileserver, GREEN, Running, 2016 06 21 19:34:50, 3:01:29, 31272

hdbindexserver, HDB Indexserver, GREEN, Running, 2016 06 21 19:34:54, 3:01:25, 31405

hdbnameserver, HDB Nameserver, GREEN, Running, 2016 06 21 19:34:45, 3:01:34, 31228

hdbpreprocessor, HDB Preprocessor, GREEN, Running, 2016 06 21 19:34:50, 3:01:29, 31274

hdbwebdispatcher, HDB Web Dispatcher, GREEN, Running, 2016 06 21 19:35:40, 3:00:39, 32941

hdbxsengine, HDB XSEngine, GREEN, Running, 2016 06 21 19:34:54, 3:01:25, 31407

## ****Check master/slave replication role of local system****

su - <sid>adm

hdbnsutil -sr\_state

Sample output on system currently acting as master:

lpcaph01:/usr/sap/CAP/HDB00> hdbnsutil -sr\_state

checking for active or inactive nameserver ...

System Replication State

~~~~~~~~~~~~~~~~~~~~~~~~

mode: primary

site id: 1

site name: primary\_database\_site

Host Mappings:

~~~~~~~~~~~~~~

lpcaph01 -> [primary\_database\_site] lpcaph01

lpcaph01 -> [secondary\_database\_site] lpcaph51

done.

Sample output on system currently acting as slave:

lpcaph51:/usr/sap/CAP/HDB00> hdbnsutil -sr\_state

checking for active or inactive nameserver ...

System Replication State

~~~~~~~~~~~~~~~~~~~~~~~~

mode: syncmem

site id: 2

site name: secondary\_database\_site

active primary site: 1

Host Mappings:

~~~~~~~~~~~~~~

lpcaph51 -> [primary\_database\_site] lpcaph01

lpcaph51 -> [secondary\_database\_site] lpcaph51

primary masters:lpcaph01

done.

## ****Check master/slave replication status****

su - <sid>adm

python /usr/sap/<SID>/HDB<IN>/exe/python\_support/systemReplicationStatus.py

Sample output for system running as master (some unimportant columns removed for better readability):

lpcaph01:/usr/sap/CAP/HDB00> python /usr/sap/CAP/HDB00/exe/python\_support/systemReplicationStatus.py

| Host | Port | Service Name | Secondary | Secondary | Replication | Replication | Replication |

| | | | Host | Port | Mode | Status | Status Details |

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

| lpcaph01 | 30007 | xsengine | lpcaph51 | 30007 | SYNCMEM | ACTIVE | |

| lpcaph01 | 30001 | nameserver | lpcaph51 | 30001 | SYNCMEM | ACTIVE | |

| lpcaph01 | 30003 | indexserver | lpcaph51 | 30003 | SYNCMEM | ACTIVE | |

status system replication site "2": ACTIVE

overall system replication status: ACTIVE

Sample output for system running as slave:

lpcaph51:/usr/sap/CAP/HDB00> python /usr/sap/CAP/HDB00/exe/python\_support/systemReplicationStatus.py

this system is either not running or not primary system replication site

Local System Replication State

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

mode: SYNCMEM

site id: 2

site name: secondary\_database\_site

active primary site: 1

primary masters: lpcaph01

## ****Display CRM Configuration****

lpcmph51:~ # crm configure show

node lpcmph01 \

attributes hana\_cmp\_vhost=lpcmph01 hana\_cmp\_site=primary\_database\_site hana\_cmp\_srmode=syncmem lpa\_cmp\_lpt=1568073658 hana\_cmp\_remoteHost=lpcmph51 standby=off hana\_cmp\_op\_mode=delta\_datashipping maintenance=off

node lpcmph51 \

attributes lpa\_cmp\_lpt=10 hana\_cmp\_op\_mode=delta\_datashipping hana\_cmp\_vhost=lpcmph51 hana\_cmp\_site=secondary\_database\_site hana\_cmp\_srmode=syncmem hana\_cmp\_remoteHost=lpcmph01 standby=off maintenance=off

primitive rsc\_SAPHanaTopology\_CMP00 ocf:suse:SAPHanaTopology \

operations $id=rsc\_sap2\_CMP00-operations \

op monitor interval=10 timeout=600 \

op start interval=0 timeout=600 \

op stop interval=0 timeout=300 \

params SID=CMP InstanceNumber=00

primitive rsc\_SAPHana\_CMP00 ocf:suse:SAPHana \

operations $id=rsc\_sap\_CMP00-operations \

op start interval=0 timeout=3600 \

node lpcmph01 \

attributes hana\_cmp\_vhost=lpcmph01 hana\_cmp\_site=primary\_database\_site hana\_cmp\_srmode=syncmem lpa\_cmp\_lpt=1568073658 hana\_cmp\_remoteHost=lpcmp

h51 standby=off hana\_cmp\_op\_mode=delta\_datashipping maintenance=off

node lpcmph51 \

attributes lpa\_cmp\_lpt=10 hana\_cmp\_op\_mode=delta\_datashipping hana\_cmp\_vhost=lpcmph51 hana\_cmp\_site=secondary\_database\_site hana\_cmp\_srmode=syn

cmem hana\_cmp\_remoteHost=lpcmph01 standby=off maintenance=off

primitive rsc\_SAPHanaTopology\_CMP00 ocf:suse:SAPHanaTopology \

operations $id=rsc\_sap2\_CMP00-operations \

op monitor interval=10 timeout=600 \

op start interval=0 timeout=600 \

op stop interval=0 timeout=300 \

params SID=CMP InstanceNumber=00

primitive rsc\_SAPHana\_CMP00 ocf:suse:SAPHana \

operations $id=rsc\_sap\_CMP00-operations \

op start interval=0 timeout=3600 \

op stop interval=0 timeout=3600 \

op promote interval=0 timeout=3600 \

op monitor interval=60 role=Master timeout=700 \

op monitor interval=61 role=Slave timeout=700 \

params SID=CMP InstanceNumber=00 PREFER\_SITE\_TAKEOVER=true DUPLICATE\_PRIMARY\_TIMEOUT=7200 AUTOMATED\_REGISTER=true

primitive rsc\_ip\_CMP00 IPaddr2 \

meta target-role=Started is-managed=true \

operations $id=rsc\_ip\_CMP00-operations \

op monitor interval=10s timeout=20s \

params ip=160.46.110.207

primitive sbd-fencing stonith:external/sbd \

op start interval=0 start-delay=1 time=30 \

op monitor interval=3600 timeout=20

ms msl\_SAPHana\_CMP00 rsc\_SAPHana\_CMP00 \

meta is-managed=true notify=true clone-max=2 clone-node-max=1 target-role=Started interleave=true

clone cln-sbd-fencing sbd-fencing \

meta target-role=Started is-managed=true

clone cln\_SAPHanaTopology\_CMP00 rsc\_SAPHanaTopology\_CMP00 \

meta is-managed=true clone-node-max=1 target-role=Started interleave=true

location cli-prefer-rsc\_SAPHana\_CMP00 rsc\_SAPHana\_CMP00 role=Started inf: lpcmph01

colocation col\_saphana\_ip\_CMP00 2000: rsc\_ip\_CMP00:Started msl\_SAPHana\_CMP00:Master

order ord\_SAPHana\_CMP00 2000: cln\_SAPHanaTopology\_CMP00 msl\_SAPHana\_CMP00

property cib-bootstrap-options: \

stonith-enabled=true \

stonith-timeout=75s \

no-quorum-policy=ignore \

placement-strategy=balanced \

expected-quorum-votes=2 \

dc-version=1.1.12-f47ea56 \

cluster-infrastructure="classic openais (with plugin)" \

maintenance-mode=false \

last-lrm-refresh=1526256037

rsc\_defaults rsc-options: \

resource-stickiness=1000 \

migration-threshold=5000

op\_defaults op-options: \

timeout=600 \

record-pending=true

role basisadmin \

write property:maintenance-mode \

read cib

acl\_target adm \

basisadmin

acl\_target cmpadm \

basisadmin

## A more readable Cluster Status

-1 Display the cluster status once on the console and exit

-f Display resource fail counts, and appends the Migration Summary at the end of the output

-n Group resources by node

-r Display inactive resources

-A show the node attributes

lpnwph51:~ # crm\_mon -1fnAr

Stack: corosync

Current DC: lpnwph51 (version 1.1.15-21.1-e174ec8) - partition with quorum

Last updated: Tue Oct 15 09:35:49 2019

Last change: Tue Oct 15 09:35:29 2019 by root via crm\_attribute on lpnwph01

2 nodes configured

7 resources configured

Node lpnwph01: online

sbd-fencing (stonith:external/sbd): Started

rsc\_ip\_NWP00 (ocf::heartbeat:IPaddr2): Started

rsc\_SAPHanaTopology\_NWP00 (ocf::suse:SAPHanaTopology): Started

rsc\_SAPHana\_NWP00 (ocf::suse:SAPHana): Master

Node lpnwph51: online

rsc\_SAPDatabase\_NWQ10 (ocf::heartbeat:SAPDatabase): Started

rsc\_SAPHanaTopology\_NWP00 (ocf::suse:SAPHanaTopology): Started

rsc\_SAPHana\_NWP00 (ocf::suse:SAPHana): Slave

Inactive resources:

Node Attributes:

\* Node lpnwph01:

+ hana\_nwp\_clone\_state : PROMOTED

+ hana\_nwp\_op\_mode : logreplay

+ hana\_nwp\_remoteHost : lpnwph51

+ hana\_nwp\_roles : 4:P:master1:master:worker:master

+ hana\_nwp\_site : primary\_database\_site

+ hana\_nwp\_srmode : syncmem

+ hana\_nwp\_sync\_state : PRIM

+ hana\_nwp\_version : 2.00.033.00.1535711040

+ hana\_nwp\_vhost : lpnwph01

+ lpa\_nwp\_lpt : 1571124929

+ master-rsc\_SAPHana\_NWP00 : 150

\* Node lpnwph51:

+ hana\_nwp\_clone\_state : DEMOTED

+ hana\_nwp\_op\_mode : logreplay

+ hana\_nwp\_remoteHost : lpnwph01

+ hana\_nwp\_roles : 4:S:master1:master:worker:master

+ hana\_nwp\_site : secondary\_database\_site

+ hana\_nwp\_srmode : syncmem

+ hana\_nwp\_sync\_state : SOK

+ hana\_nwp\_version : 2.00.033.00.1535711040

+ hana\_nwp\_vhost : lpnwph51

+ lpa\_nwp\_lpt : 30

+ master-rsc\_SAPHana\_NWP00 : 100

Migration Summary:

\* Node lpnwph01:

\* Node lpnwph51:

###Other outputs you can try:

-L Display negative location constraints

Negative Location Constraints:

loc\_NWQ\_never\_on\_lpnwph01 prevents rsc\_SAPDatabase\_NWQ10 from running on lpnwph01

-o Display resource operation history

-t Display resource operation history with timing details

-c Display cluster tickets

## Other helpful commands

Run using rootsh:

qxf6163@lpnwph51:~> sudo rootsh SAPHanaSR-showAttr

Global cib-time

--------------------------------

global Tue Oct 15 09:58:07 2019

Hosts clone\_state lpa\_nwp\_lpt node\_state op\_mode remoteHost roles site srmode standby sync\_state version vhost

-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

lpnwph01 PROMOTED 1571126287 online logreplay lpnwph51 4:P:master1:master:worker:master primary\_database\_site syncmem off PRIM 2.00.033.00.1535711040 lpnwph01

lpnwph51 DEMOTED 30 online logreplay lpnwph01 4:S:master1:master:worker:master secondary\_database\_site syncmem off SOK 2.00.033.00.1535711040 lpnwph51

Global cib-time

--------------------------------

global Tue Oct 15 09:58:07 2019

Hosts node\_state standby

----------------------------

lpnwph01 online off

lpnwph51 online off

* 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=520964241&selectedPageVersions=1&selectedPageVersions=2)

| Linux LVM Problems and Solutions |
| --- |

LVM: read failed after 0 of 4096

**Problem**  
  
**NOTE!** This only applies to "Logical Volume" errors, **NOT** block devices such as /dev/xvdb /dev/sda5 etc. If uncertain, then please **contact technical expert**!

When running LVM commands such as pvs, vgs, lvs:

lpmodthk05:~ # pvs

/dev/dgpmodthkapps/lv01: read failed after 0 of 4096 at 2718286413824: Input/output error

/dev/dgpmodthkapps/lv01: read failed after 0 of 4096 at 2718286471168: Input/output error

PV VG Fmt Attr PSize PFree

/dev/xvdb dgpmodthkapps lvm2 a- 506.32g 0

/dev/xvdc dgpmodthkapps lvm2 a- 506.32g 0

..

lpmodthk05:~ # vgs

/dev/dgpmodthkapps/lv01: read failed after 0 of 4096 at 2718286413824: Input/output error

/dev/dgpmodthkapps/lv01: read failed after 0 of 4096 at 2718286471168: Input/output error

VG #PV #LV #SN Attr VSize VFree

dgpmodthkapps 5 1 0 wz--n- 2.47t 0

dgswap 1 1 0 wz--n- 14.06g 13.06g

Here, the LV /dev/dgpmodthkapps/lv01 has problems - most probably due to LUNs being removed without a clean shutdown or mount, or detaching disks from logical volumes.

**Solution**  
  
The steps involved in repairing:  
**1)** Find the affected VG: run vgscan  
**2)** Find the LV's attached to the VG  
**3)** Deactivate the LVs (lvchange -an LV)

lpmodthk05:~ # lvchange -an /dev/dgpmodthkapps/lv01

/dev/dgpmodthkapps/lv01: read failed after 0 of 4096 at 2718286413824: Input/output error

/dev/dgpmodthkapps/lv01: read failed after 0 of 4096 at 2718286471168: Input/output error

**4)** Deactivate the VG (vgchange -an VG)

lpmodthk05:~ # vgchange -an dgpmodthkapps

0 logical volume(s) in volume group "dgpmodthkapps" now active

**5)** Activate the VG (vgchange -ay VG)

lpmodthk05:~ # vgchange -ay dgpmodthkapps

1 logical volume(s) in volume group "dgpmodthkapps" now active

**6)** Scan for LVs

lpmodthk05:~ # lvscan

ACTIVE '/dev/dgswap/lvswap01' [1.00 GiB] inherit

ACTIVE '/dev/dgpmodthkapps/lv01' [2.47 TiB] inherit

**7)** Activate the LVs (lvchange -ay LV)

lpmodthk05:~ # lvchange -ay /dev/dgpmodthkapps/lv01

**8)** A quick check shows all is now OK. **NOTE:** if this **fails**, then please **contact a technical expert**

lpmodthk05:~ # pvs

PV VG Fmt Attr PSize PFree

/dev/xvdb dgpmodthkapps lvm2 a- 506.32g 0

/dev/xvdc dgpmodthkapps lvm2 a- 506.32g 0

..

lpmodthk05:~ # vgs

VG #PV #LV #SN Attr VSize VFree

dgpmodthkapps 5 1 0 wz--n- 2.47t 0

dgswap 1 1 0 wz--n- 14.06g 13.06g

lpmodthk05:~ # lvs

LV VG Attr LSize Origin Snap% Move Log Copy% Convert

lv01 dgpmodthkapps -wi-ao 2.47t

lvswap01 dgswap -wi-ao 1.00g

**9)** Now you can go ahead and re-mount the volume.

vgdisplay command hangs

**Solution**

$ vgssan -v --- /sbin/vgscan ...?

xfs\_buf\_find: Block out of range

If xfs\_growfs fails with "Killed" and messages like

\_xfs\_buf\_find: Block out of range:

BUG: unable to handle kernel NULL pointer dereference "

Upgrade the kernel:

> On 29.11.2013 12:54, Poeschl Andreas, FG-940DG wrote:

> Der 3.0.93er Kernel hat aber ein großes Problem: XFS-Filesysteme lassen sich nicht erweitern.

> Dies trifft uns insbesondere in VMs hart. Dafür gibt es nun den 3.0.101er Kernel, der

> auch dieses Problem behebt ...

XFS NOT full but "No space left on device"

**PROBLEM:**after a filesystem extension the cusomer reports that the message "No space left on device" is received when trying to write to the filesystem

lpspluind3b:/global/cold-index # df -hP .

Filesystem Size Used Avail Use% Mounted on

/dev/mapper/dgspluind3ci-lv01 30T 22T 8.5T 72% /global/cold-index

lpspluind3b:/global/cold-index # touch bla

touch: cannot touch `bla': No space left on device

**SOLUTION:** modify /etc/fstab: change options from default to inode64, and remount the filesystem

lpspluind3b:~ # egrep cold-index /etc/fstab

/dev/dgspluind3ci/lv01 /global/cold-index xfs inode64 0 0

lpspluind3b:~ # umount /global/cold-index

lpspluind3b:~ # mount /global/cold-index

lpspluind3b:~ # touch /global/cold-index/bla

lpspluind3b:~ # rm /global/cold-index/bla

lpspluind3b:~ #

**REASON:** see [No space left on device after xfs\_growfs](http://xfs.org/index.php/XFS_FAQ#Q:_Why_do_I_receive_No_space_left_on_device_after_xfs_growfs.3F)

vgdisplay shows LVM Header problem

The error pattern is as follows:

lp34xen05# vgdisplay -v dgstblnet

Using volume group(s) on command line

Finding volume group "dgstblnet"

Wiping cache of LVM-capable devices

Couldn't find device with uuid 'KtKVFt-0m0W-QLaU-HtbT-UmrN-kFNb-cfqCmz'.

Couldn't find all physical volumes for volume group dgstblnet.

PV Name /dev/md66

PV UUID KtKVFt-0m0W-QLaU-HtbT-UmrN-kFNb-cfqCmz

PV Status allocatable

Total PE / Free PE 28811 / 0

**Attention only with aproval of a senior**

The solution (on XEN farms where VM is running or at least one VG running/active). The UUID is taken form the config file you restore from, here /etc/lvm/backup/dgstblnet:

lp34xen05# pvcreate --restorefile /etc/lvm/backup/dgstblnet --uuid 'KtKVFt-0m0W-QLaU-HtbT-UmrN-kFNb-cfqCmz' /dev/md66

Couldn't find device with uuid 'KtKVFt-0m0W-QLaU-HtbT-UmrN-kFNb-cfqCmz'.

Failed to read existing physical volume '/dev/md66'

Physical volume "/dev/md66" successfully created

It is also possible to run that inside a VM (/etc/lvm/backup/dgXXX also exists there), but there the device is named /dev/xvdY - keep that in mind!  
  
Running the above command again should show no error:

lp34xen05# vgdisplay -v dgstblnet

Using volume group(s) on command line

Finding volume group "dgstblnet"

Wiping cache of LVM-capable devices

PV Name /dev/md66

PV UUID KtKVFt-0m0W-QLaU-HtbT-UmrN-kFNb-cfqCmz

PV Status allocatable

Total PE / Free PE 28811 / 0

Volume group vanished/destroyed

We'll see here how a volume group is restored again in case the LVM metadata has been destroyed.

Starting point

For this little tutorial I have created a vg named test\_vg, with a lv named test\_lv, mounted to /test with some files in it.

root@lt1001:/etc/lvm/backup #pvs

PV VG Fmt Attr PSize PFree

/dev/dm-2 test\_vg lvm2 a- 14.07g 0

root@lt1001:/etc/lvm/backup #export PS1='#'

# pvs

PV VG Fmt Attr PSize PFree

/dev/dm-2 test\_vg lvm2 a- 14.07g 0

# vgs

VG #PV #LV #SN Attr VSize VFree

test\_vg 1 1 0 wz--n- 14.07g 0

# lvs

LV VG Attr LSize Origin Snap% Move Log Copy% Convert

test\_lv test\_vg -wi-ao 14.07g

# df -hP /test; ll /test

Filesystem Size Used Avail Use% Mounted on

/dev/mapper/test\_vg-test\_lv 15G 1000M 14G 7% /test

total 0

drwxr-xr-x 8 root root 83 May 31 14:55 var

Destroy metadata

As I do currently not have a destroyed vg, we'll go ahead and do it on our own, just the metadata which makes up the fist 1MB; if you go beyond that point, you also destroy the XFS header and then a restore is most likely quicker:

# dd if=/dev/zero of=/dev/dm-2 bs=1K count=1024

1024+0 records in

1024+0 records out

1048576 bytes (1.0 MB) copied, 0.0547759 s, 19.1 MB/s

# pvs

# vgs

No volume groups found

# lvs

No volume groups found

As now there isn't any metadata any more, all information about the pv, vg and lv is apparently gone. The next point is the one where you'll normally start from:

Get the PV back

In order to recover metadata we need the configuration stored in /etc/lvm/backup/"volumegroup" which is updated every time one changes the lv, vg or pv.  
  
So let's try the first step and get the physical volume back. We need the UUID the physical volume had been created with and write it back to the disk:

# grep -B1 id /etc/lvm/backup/test\_vg

test\_vg {

id = "le26B4-4t20-3k5w-wVoq-L693-wEgV-vuwltn"

--

pv0 {

id = "2iQKIt-kMKH-pEi4-fph2-TE7d-n6fl-TCCGLk"

--

test\_lv {

id = "MR2dbo-oucF-dbUK-dpDR-Zp3s-kIWb-cUGmEu"

Here we need the id for pv0 which we write back to the disk:

# pvcreate --restorefile /etc/lvm/backup/test\_vg -u "2iQKIt-kMKH-pEi4-fph2-TE7d-n6fl-TCCGLk" /dev/dm-2

Couldn't find device with uuid 2iQKIt-kMKH-pEi4-fph2-TE7d-n6fl-TCCGLk.

Can't open /dev/dm-2 exclusively. Mounted filesystem?

OK, interesting, I'm pretty sure that there is nothing mounted, but let's see and try it forcibly again:

# mount |grep test

# pvcreate --restorefile /etc/lvm/backup/test\_vg -u "2iQKIt-kMKH-pEi4-fph2-TE7d-n6fl-TCCGLk" /dev/dm-2 -ff

Couldn't find device with uuid 2iQKIt-kMKH-pEi4-fph2-TE7d-n6fl-TCCGLk.

Can't open /dev/dm-2 exclusively. Mounted filesystem?

Still no success (this is on physical hosts). The problem is, that device mapper has still its hand on the VG and we have to remove that first:

# dmsetup ls

[...]

360060e8016535e000001535e0000002a (253, 17)

360060e8016535c000001535c0000002a (253, 6)

test\_vg-test\_lv (253, 31) <<<<<

360060e8016535e000001535e00000029 (253, 7)

360060e8016535c000001535c00000029 (253, 14)

[...]

# dmsetup remove test\_vg-test\_lv

# dmsetup ls

=> Now device should be gone!

Once done, we should be able to recover:

# pvcreate --restorefile /etc/lvm/backup/test\_vg -u "2iQKIt-kMKH-pEi4-fph2-TE7d-n6fl-TCCGLk" /dev/dm-2 -ff

Couldn't find device with uuid 2iQKIt-kMKH-pEi4-fph2-TE7d-n6fl-TCCGLk.

Physical volume "/dev/dm-2" successfully created

# pvs

PV VG Fmt Attr PSize PFree

/dev/dm-2 lvm2 a- 14.07g 14.07g

OK, so now we have or physical volume back.

Volume group and logical volume

Once we have back the physical volume, let's see if we get the rest by restoring the volume group configuration:

# vgcfgrestore -f /etc/lvm/backup/test\_vg test\_vg

Restored volume group test\_vg

# vgs

VG #PV #LV #SN Attr VSize VFree

test\_vg 1 1 0 wz--n- 14.07g 0

# lvs

LV VG Attr LSize Origin Snap% Move Log Copy% Convert

test\_lv test\_vg -wi--- 14.07g

As you can see, the logical volume is not active so far which means that we can not mount it, so let's do that first:

# vgchange -ay test\_vg

1 logical volume(s) in volume group "test\_vg" now active

# lvs

LV VG Attr LSize Origin Snap% Move Log Copy% Convert

test\_lv test\_vg -wi-a- 14.07g

Now we should be able to mount the file system again.

Bring back file system

As we had some trouble with the volume, it is not unlikely that we do have trouble with the file system, so before mounting, check it:

# xfs\_check -s /dev/mapper/test\_vg-test\_lv

That looks good - in case it does not, try a **xfs\_repair** and then mount it again:

# mount -t xfs /dev/mapper/test\_vg-test\_lv /test

And we're done :-)

Online LUN replacement using LVM Mirror

Sometimes it's required to replace LUNs without downtimes. This howto describes how to do that.  
  
Work Plan:

* add disks see at xen lvm grow
* use one or more luns to mirror existing luns
* detach pvs/ luns & san return

Pro / Cons:  
+ mirroring speed can be controlled  
+ mirroring can be halted or stopped  
+ progress can be monitored  
- requires at least LVM version > v2.02.54 for stablity (according an EMC document)

>> Sample from lt34xendb002, lt34db0008vm - TAS000000380190 / TAS000000412164

# dmesg

[...]

[612704.164007] blkfront: xvdg: flush diskcache: enabled

[612704.167421] xvdg: unknown partition table

[612801.317234] blkfront: xvdh: flush diskcache: enabled

[612801.325368] xvdh: unknown partition table

[613021.129910] blkfront: xvdi: flush diskcache: enabled

[613021.132883] xvdi: unknown partition table

[613203.065475] blkfront: xvdj: flush diskcache: enabled

[613203.068925] xvdj: unknown partition table

[613386.295576] blkfront: xvdk: flush diskcache: enabled

[613386.300956] xvdk: unknown partition table

[613536.703682] BIOS EDD facility v0.16 2004-Jun-25, 0 devices found

[613536.703688] EDD information not available.

root@lt34dbhk0006vm:~# pvcreate /dev/xvdg /dev/xvdh /dev/xvdi /dev/xvdj /dev/xvdk

Physical volume "/dev/xvdg" successfully created

Physical volume "/dev/xvdh" successfully created

Physical volume "/dev/xvdi" successfully created

Physical volume "/dev/xvdj" successfully created

Physical volume "/dev/xvdk" successfully created

root@lt34dbhk0006vm:~# pvs

PV VG Fmt Attr PSize PFree

/dev/xvdb dgtl34dbhk0006vmswap lvm2 a- 14.06g 0

/dev/xvdc dgtl34dbhk0006vmdb lvm2 a- 56.24g 0

/dev/xvdd dgtl34dbhk0006vmdb lvm2 a- 56.24g 0

/dev/xvde dgtl34dbhk0006vmdb lvm2 a- 56.24g 18.71g

/dev/xvdf dgtl34dbhk0006vmbkup lvm2 a- 56.24g 0

/dev/xvdg lvm2 a- 506.32g 506.32g

/dev/xvdh lvm2 a- 506.32g 506.32g

/dev/xvdi lvm2 a- 506.32g 506.32g

/dev/xvdj lvm2 a- 506.32g 506.32g

/dev/xvdk lvm2 a- 506.32g 506.32g

>> Extend the VG:

root@lt34dbhk0006vm:~# vgextend dgtl34dbhk0006vmdb /dev/xvdg

Volume group "dgtl34dbhk0006vmdb" successfully extended

>> View LVs:

root@lt34dbhk0006vm:~# lvs -a -o+devices

LV VG Attr LSize Origin Snap% Move Log Copy% Convert Devices

lvbkup dgtl34dbhk0006vmbkup -wi-ao 56.24g /dev/xvdf(0)

lvdb dgtl34dbhk0006vmdb -wi-ao 150.00g /dev/xvdc(0)

lvdb dgtl34dbhk0006vmdb -wi-ao 150.00g /dev/xvdd(0)

lvdb dgtl34dbhk0006vmdb -wi-ao 150.00g /dev/xvde(0)

lvswap dgtl34dbhk0006vmswap -wi-ao 14.06g /dev/xvdb(0)

>> Mirror LVs:

root@lt34dbhk0006vm:~# lvconvert -b -m1 --corelog dgtl34dbhk0006vmdb/lvdb

Logical volume lvdb converted.

>> Monitor LVs:

root@lt34dbhk0006vm:~# lvs -a -o+devices

LV VG Attr LSize Origin Snap% Move Log Copy% Convert Devices

lvbkup dgtl34dbhk0006vmbkup -wi-ao 56.24g /dev/xvdf(0)

lvdb dgtl34dbhk0006vmdb mwi-ao 150.00g 1.07 lvdb\_mimage\_0(0),lvdb\_mimage\_1(0 )

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb Iwi-ao 150.00g /dev/xvdc(0)

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb Iwi-ao 150.00g /dev/xvdd(0)

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb Iwi-ao 150.00g /dev/xvde(0)

[lvdb\_mimage\_1] dgtl34dbhk0006vmdb Iwi-ao 150.00g /dev/xvdg(0)

lvswap dgtl34dbhk0006vmswap -wi-ao 14.06g

/dev/xvdb(0)

root@lt34dbhk0006vm:~# lvs -a -o+devices

LV VG Attr LSize Origin Snap% Move Log Copy% Convert Devices

lvbkup dgtl34dbhk0006vmbkup -wi-ao 56.24g /dev/xvdf(0)

lvdb dgtl34dbhk0006vmdb mwi-ao 150.00g 5.58 lvdb\_mimage\_0(0),lvdb\_mimage\_1(0)

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb Iwi-ao 150.00g /dev/xvdc(0)

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb Iwi-ao 150.00g /dev/xvdd(0)

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb Iwi-ao 150.00g /dev/xvde(0)

[lvdb\_mimage\_1] dgtl34dbhk0006vmdb Iwi-ao 150.00g /dev/xvdg(0)

lvswap dgtl34dbhk0006vmswap -wi-ao 14.06g /dev/xvdb(0)

>> When the mirror is at 100%, we sync amd detach old LUNs/storage:

root@lt34dbhk0006vm:~# lvs -a -o+devices

LV VG Attr LSize Origin Snap% Move Log Copy% Convert Devices

lvbkup dgtl34dbhk0006vmbkup -wi-ao 56.24g /dev/xvdf(0)

lvdb dgtl34dbhk0006vmdb mwi-ao 150.00g 100.00

lvdb\_mimage\_0(0),lvdb\_mimage\_1(0)

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb iwi-ao 150.00g /dev/xvdc(0)

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb iwi-ao 150.00g /dev/xvdd(0)

[lvdb\_mimage\_0] dgtl34dbhk0006vmdb iwi-ao 150.00g /dev/xvde(0)

[lvdb\_mimage\_1] dgtl34dbhk0006vmdb iwi-ao 150.00g /dev/xvdg(0)

lvswap dgtl34dbhk0006vmswap -wi-ao 14.06g /dev/xvdb(0)

root@lt34dbhk0006vm:~# sync

>> Remove old devices, break the mirror:

root@lt34dbhk0006vm:~# lvconvert -m0 dgtl34dbhk0006vmdb/lvdb /dev/xvdc /dev/xvdd /dev/xvde

Logical volume lvdb converted.

>> View LVs, PVs:

root@lt34dbhk0006vm:~# lvs -a -o+devices

LV VG Attr LSize Origin Snap% Move Log Copy% Convert Devices

lvbkup dgtl34dbhk0006vmbkup -wi-ao 56.24g /dev/xvdf(0)

lvdb dgtl34dbhk0006vmdb -wi-ao 150.00g /dev/xvdg(0)

lvswap dgtl34dbhk0006vmswap -wi-ao 14.06g /dev/xvdb(0)

root@lt34dbhk0006vm:~# pvs

PV VG Fmt Attr PSize PFree

/dev/xvdb dgtl34dbhk0006vmswap lvm2 a- 14.06g 0

/dev/xvdc dgtl34dbhk0006vmdb lvm2 a- 56.24g 56.24g

/dev/xvdd dgtl34dbhk0006vmdb lvm2 a- 56.24g 56.24g

/dev/xvde dgtl34dbhk0006vmdb lvm2 a- 56.24g 56.24g

/dev/xvdf dgtl34dbhk0006vmbkup lvm2 a- 56.24g 0

/dev/xvdg dgtl34dbhk0006vmdb lvm2 a- 506.32g 356.32g

/dev/xvdh lvm2 a- 506.32g 506.32g

/dev/xvdi lvm2 a- 506.32g 506.32g

/dev/xvdj lvm2 a- 506.32g 506.32g

/dev/xvdk lvm2 a- 506.32g 506.32g

>> Remove old PVs from VG and wipe them:

root@lt34dbhk0006vm:~# vgreduce dgtl34dbhk0006vmdb /dev/xvdc /dev/xvdd /dev/xvde

Removed "/dev/xvdc" from volume group "dgtl34dbhk0006vmdb"

Removed "/dev/xvdd" from volume group "dgtl34dbhk0006vmdb"

Removed "/dev/xvde" from volume group "dgtl34dbhk0006vmdb"

root@lt34dbhk0006vm:~# pvremove /dev/xvdc

Labels on physical volume "/dev/xvdc" successfully wiped

root@lt34dbhk0006vm:~# pvremove /dev/xvdd

Labels on physical volume "/dev/xvdd" successfully wiped

root@lt34dbhk0006vm:~# pvremove /dev/xvde

Labels on physical volume "/dev/xvde" successfully wiped

>> On the farmservers, remove and cleanup the old PVs:

root@lt34xendb001:~# vm info lt34dbhk0006vm | egrep '(xvdc|xvdd|xvde)'

Block device xvdc : /dev/md/lt34dbhk0006vm\_2

Block device xvdd : /dev/md/lt34dbhk0006vm\_3

Block device xvde : /dev/md/lt34dbhk0006vm\_4

root@lt34xendb001:~# mdadm --detail /dev/md/lt34dbhk0006vm\_2

/dev/md/lt34dbhk0006vm\_2:

Version : 1.1

Creation Time : Thu Jul 10 13:44:23 2014

Raid Level : raid1

Array Size : 58972604 (56.24 GiB 60.39 GB)

Used Dev Size : 58972604 (56.24 GiB 60.39 GB)

Raid Devices : 2

Total Devices : 2

Persistence : Superblock is persistent

Intent Bitmap : Internal

Update Time : Thu Oct 2 20:06:23 2014

State : active

Active Devices : 2

Working Devices : 2

Failed Devices : 0

Spare Devices : 0

Name : SAN:lt34dbhk0006vm\_2

UUID : b4c0a673:a05cc538:dc0decf1:a4fa60aa

Events : 2

Number Major Minor RaidDevice State

0 253 126 0 active sync /dev/dm-126

1 253 137 1 active sync /dev/dm-137

root@lt34xendb001:~# mdadm --detail /dev/md/lt34dbhk0006vm\_3

/dev/md/lt34dbhk0006vm\_3:

Version : 1.1

Creation Time : Thu Jul 10 13:45:23 2014

Raid Level : raid1

Array Size : 58972604 (56.24 GiB 60.39 GB)

Used Dev Size : 58972604 (56.24 GiB 60.39 GB)

Raid Devices : 2

Total Devices : 2

Persistence : Superblock is persistent

Intent Bitmap : Internal

Update Time : Thu Oct 2 20:06:24 2014

State : active

Active Devices : 2

Working Devices : 2

Failed Devices : 0

Spare Devices : 0

Name : SAN:lt34dbhk0006vm\_3

UUID : f5e182ed:6c1d30f4:dc7e7632:a68fbd90

Events : 4

Number Major Minor RaidDevice State

0 253 123 0 active sync /dev/dm-123

1 253 136 1 active sync /dev/dm-136

root@lt34xendb001:~# mdadm --detail /dev/md/lt34dbhk0006vm\_4

/dev/md/lt34dbhk0006vm\_4:

Version : 1.1

Creation Time : Thu Jul 10 13:47:07 2014

Raid Level : raid1

Array Size : 58972604 (56.24 GiB 60.39 GB)

Used Dev Size : 58972604 (56.24 GiB 60.39 GB)

Raid Devices : 2

Total Devices : 2

Persistence : Superblock is persistent

Intent Bitmap : Internal

Update Time : Thu Oct 2 20:06:26 2014

State : active

Active Devices : 2

Working Devices : 2

Failed Devices : 0

Spare Devices : 0

Name : SAN:lt34dbhk0006vm\_4

UUID : 3ca238a2:e971c971:c83b7a71:5e1e450d

Events : 2

Number Major Minor RaidDevice State

0 253 42 0 active sync /dev/dm-42

1 253 135 1 active sync /dev/dm-135

>> View LUNs for SAN return (must be done before DMs are removed)

root@lt34xendb001:~# san\_shortinfo | egrep -i '(dm-42|dm-135|dm-123|dm-136|dm-126|dm-137)'

dm-135 | sdip 01:67 3A 97255 57622 | sdjn 01:67 4A 97255 57622 |

dm-137 | sdio 01:66 3A 97255 57622 | sdjm 01:66 4A 97255 57622 |

dm-136 | sdim 01:64 3A 97255 57622 | sdjk 01:64 4A 97255 57622 |

dm-42 | sdid 01:67 3A 97231 57622 | sdjb 01:67 4A 97231 57622 |

dm-126 | sdec 01:66 3A 97231 57622 | sdja 01:66 4A 97231 57622 |

dm-123 | sddd 01:64 3A 97231 57622 | sdiy 01:64 4A 97231 57622 |

root@lt34xendb001:~# vm rmdisk lt34dbhk0006vm lt34dbhk0006vm\_2

20:25:11 Checking farm status before running command 'rmdisk'

20:25:11 Establishing libvirt connection to lt34xendb001 OK

20:25:14 Establishing libvirt connection to lt34xendb002 OK

20:25:17 Verifying free config space on lt34xendb001 lt34xendb002 OK

20:25:23 Establishing libvirt connection to lt34xendb001 OK

20:25:26 Detaching md device /dev/md/lt34dbhk0006vm\_2 from VM lt34dbhk0006vm OK

20:25:30 Establishing libvirt connection to lt34xendb002 OK

20:25:32 Updating definition of lt34dbhk0006vm on lt34xendb002 OK

20:25:32 Stopping md device /dev/md/lt34dbhk0006vm\_2 OK

20:25:32 Removing md device /dev/md/lt34dbhk0006vm\_2 from mdadm.conf OK

20:25:34 /dev/md/lt34dbhk0006vm\_2 removed from lt34dbhk0006vm

root@lt34xendb001:~# vm rmdisk lt34dbhk0006vm lt34dbhk0006vm\_3

20:25:45 Checking farm status before running command 'rmdisk'

20:25:45 Establishing libvirt connection to lt34xendb001 OK

20:25:47 Establishing libvirt connection to lt34xendb002 OK

20:25:50 Verifying free config space on lt34xendb001 lt34xendb002 OK

20:25:56 Establishing libvirt connection to lt34xendb001 OK

20:25:59 Detaching md device /dev/md/lt34dbhk0006vm\_3 from VM lt34dbhk0006vm OK

20:26:04 Establishing libvirt connection to lt34xendb002 OK

20:26:05 Updating definition of lt34dbhk0006vm on lt34xendb002 OK

20:26:05 Stopping md device /dev/md/lt34dbhk0006vm\_3 OK

20:26:06 Removing md device /dev/md/lt34dbhk0006vm\_3 from mdadm.conf OK

20:26:07 /dev/md/lt34dbhk0006vm\_3 removed from lt34dbhk0006vm

root@lt34xendb001:~# vm rmdisk lt34dbhk0006vm lt34dbhk0006vm\_4

20:26:14 Checking farm status before running command 'rmdisk'

20:26:14 Establishing libvirt connection to lt34xendb001 OK

20:26:16 Establishing libvirt connection to lt34xendb002 OK

20:26:19 Verifying free config space on lt34xendb001 lt34xendb002 OK

20:26:25 Establishing libvirt connection to lt34xendb001 OK

20:26:28 Detaching md device /dev/md/lt34dbhk0006vm\_4 from VM lt34dbhk0006vm OK

20:26:32 Establishing libvirt connection to lt34xendb002 OK

20:26:34 Updating definition of lt34dbhk0006vm on lt34xendb002 OK

20:26:34 Stopping md device /dev/md/lt34dbhk0006vm\_4 OK

20:26:34 Removing md device /dev/md/lt34dbhk0006vm\_4 from mdadm.conf OK

20:26:36 /dev/md/lt34dbhk0006vm\_4 removed from lt34dbhk0006vm

Done. Now the replaced LUNs can be returned to the SAN (see TAS000000412164).

SAN return I

**NOTE:** The san\_return command does **NOT** cover this. We have to manually generate a clean pvinfo output to return the LUNs in STORM. Make sure you're using the correct SAN boxes and LUNs.

root@lt34xendb001:~# vm info lt34db0008vm

Name : lt34db0008vm

Domain ID : NR

Status : Running on lt34xendb002

VM Type : PV

Mounts : None

Storage Type : SAN+MD

Image : N/A

Last Backup (UTC) : 2014-10-27 22:03:43

Cur. VCPUs : 6

Max. VCPUs : 12

Cur. Mem [MB] : 10240

Max. Mem [MB] : 20480

XML - Cur. VCPUs : 6

XML - Max. VCPUs : 12

XML - Cur. Mem [MB] : 10240

XML - Max. Mem [MB] : 20480

XML - Target State : 1

XML - Priority : 1

Network device 0 : 00:16:3e:19:c3:da (br\_172025195000)

Network device 1 : 00:16:3e:19:f8:5d (br\_172025248000)

Block device xvda : /dev/md/lt34db0008vm

Block device xvdb : /dev/md/lt34db0008vm\_1

Block device xvdc : /dev/md/lt34db0008vm\_2

Block device xvdd : /dev/md/lt34db0008vm\_3

Block device xvde : /dev/md/lt34db0008vm\_4

Block device xvdf : /dev/md/lt34db0008vm\_5

Block device xvdg : /dev/md/lt34db0008vm\_6

Block device xvdh : /dev/md/lt34db0008vm\_7

Block device xvdi : /dev/md/lt34db0008vm\_8

Block device xvdj : /dev/md/lt34db0008vm\_9

Block device xvdk : /dev/md/lt34db0008vm\_10

Block device xvdl : /dev/md/lt34db0008vm\_11

Block device xvdm : /dev/md/lt34db0008vm\_12

Block device xvdn : /dev/md/lt34db0008vm\_13

Block device xvdo : /dev/md/lt34db0008vm\_14

Block device xvdp : /dev/md/lt34db0008vm\_15

Block device xvdq : /dev/md/lt34db0008vm\_16

Now return the replaced LUNs, in our case xvdc|xvdd|xvde|xvdg|xvdh:

root@lt34xendb001:~# vm info lt34db0008vm | egrep '(xvdc|xvdd|xvde|xvdg|xvdh)'

Block device xvdc : /dev/md/lt34db0008vm\_2

Block device xvdd : /dev/md/lt34db0008vm\_3

Block device xvde : /dev/md/lt34db0008vm\_4

Block device xvdg : /dev/md/lt34db0008vm\_6

Block device xvdh : /dev/md/lt34db0008vm\_7

root@lt34xendb002:~# mdadm --detail /dev/md/lt34db0008vm\_2

/dev/md/lt34db0008vm\_2:

Version : 1.1

Creation Time : Fri Jul 11 11:46:17 2014

Raid Level : raid1

Array Size : 58972604 (56.24 GiB 60.39 GB)

Used Dev Size : 58972604 (56.24 GiB 60.39 GB)

Raid Devices : 2

Total Devices : 2

Persistence : Superblock is persistent

Intent Bitmap : Internal

Update Time : Tue Oct 28 14:19:40 2014

State : active

Active Devices : 2

Working Devices : 2

Failed Devices : 0

Spare Devices : 0

Name : SAN:lt34db0008vm\_2

UUID : c2049538:a3a8b3e2:aabdda14:338e95a3

Events : 4

Number Major Minor RaidDevice State

0 253 127 0 active sync /dev/dm-127

1 253 139 1 active sync /dev/dm-139

root@lt34xendb002:~# mdadm --detail /dev/md/lt34db0008vm\_3

/dev/md/lt34db0008vm\_3:

Version : 1.1

Creation Time : Fri Jul 11 11:49:24 2014

Raid Level : raid1

Array Size : 58972604 (56.24 GiB 60.39 GB)

Used Dev Size : 58972604 (56.24 GiB 60.39 GB)

Raid Devices : 2

Total Devices : 2

Persistence : Superblock is persistent

Intent Bitmap : Internal

Update Time : Tue Oct 28 14:19:43 2014

State : active

Active Devices : 2

Working Devices : 2

Failed Devices : 0

Spare Devices : 0

Name : SAN:lt34db0008vm\_3

UUID : 5126160d:be095b17:a71c0fc1:96496802

Events : 7

Number Major Minor RaidDevice State

0 253 130 0 active sync /dev/dm-130

1 253 144 1 active sync /dev/dm-144

root@lt34xendb002:~# mdadm --detail /dev/md/lt34db0008vm\_4

/dev/md/lt34db0008vm\_4:

Version : 1.1

Creation Time : Fri Jul 11 12:07:59 2014

Raid Level : raid1

Array Size : 58972604 (56.24 GiB 60.39 GB)

Used Dev Size : 58972604 (56.24 GiB 60.39 GB)

Raid Devices : 2

Total Devices : 2

Persistence : Superblock is persistent

Intent Bitmap : Internal

Update Time : Tue Oct 28 14:19:50 2014

State : active

Active Devices : 2

Working Devices : 2

Failed Devices : 0

Spare Devices : 0

Name : SAN:lt34db0008vm\_4

UUID : 8b6a2828:f773b377:0a97b870:990238fd

Events : 2

Number Major Minor RaidDevice State

0 253 132 0 active sync /dev/dm-132

1 253 141 1 active sync /dev/dm-141

root@lt34xendb002:~# mdadm --detail /dev/md/lt34db0008vm\_6

/dev/md/lt34db0008vm\_6:

Version : 1.1

Creation Time : Thu Aug 21 15:26:26 2014

Raid Level : raid1

Array Size : 235890556 (224.96 GiB 241.55 GB)

Used Dev Size : 235890556 (224.96 GiB 241.55 GB)

Raid Devices : 2

Total Devices : 2

Persistence : Superblock is persistent

Intent Bitmap : Internal

Update Time : Tue Oct 28 14:19:54 2014

State : active

Active Devices : 2

Working Devices : 2

Failed Devices : 0

Spare Devices : 0

Name : SAN:lt34db0008vm\_6

UUID : 939c7a34:2f65d126:72cabd2b:d47c23e1

Events : 2

Number Major Minor RaidDevice State

0 253 151 0 active sync /dev/dm-151

1 253 152 1 active sync /dev/dm-152

root@lt34xendb002:~# mdadm --detail /dev/md/lt34db0008vm\_7

/dev/md/lt34db0008vm\_7:

Version : 1.1

Creation Time : Thu Aug 21 15:28:44 2014

Raid Level : raid1

Array Size : 235890556 (224.96 GiB 241.55 GB)

Used Dev Size : 235890556 (224.96 GiB 241.55 GB)

Raid Devices : 2

Total Devices : 2

Persistence : Superblock is persistent

Intent Bitmap : Internal

Update Time : Tue Oct 28 14:19:56 2014

State : active

Active Devices : 2

Working Devices : 2

Failed Devices : 0

Spare Devices : 0

Name : SAN:lt34db0008vm\_7

UUID : 4c6e6b10:3932b0f5:82fd53eb:fb8c4ded

Events : 3

Number Major Minor RaidDevice State

0 253 154 0 active sync /dev/dm-154

1 253 150 1 active sync /dev/dm-150

Now that we know the configuration of eatch DM, we can remove them:

root@lt34xendb002:~# san\_shortinfo | egrep -iw '(dm-151|dm-152|dm-136|dm-142|dm-132|dm-141|dm-130|dm-144|dm127|dm139|dm-154|dm-150)'

dm-136 | sdij 01:6D 3A 97231 57622 | sdjh 01:6D 4A 97231 57622 |

dm-132 | sdii 01:6C 3A 97231 57622 | sdjg 01:6C 4A 97231 57622 |

dm-154 | sdkh 00:B1 3B 97231 230490 | sdkn 00:B1 4B 97231 230490 |

dm-130 | sdih 01:6B 3A 97231 57622 | sdjf 01:6B 4A 97231 57622 |

dm-151 | sdkg 00:B0 3B 97231 230490 | sdkm 00:B0 4B 97231 230490 |

dm-150 | sdke 00:B1 3B 97255 230490 | sdkk 00:B1 4B 97255 230490 |

dm-142 | sdiv 01:6D 3A 97255 57622 | sdjt 01:6D 4A 97255 57622 |

dm-152 | sdkd 00:B0 3B 97255 230490 | sdkj 00:B0 4B 97255 230490 |

dm-141 | sdiu 01:6C 3A 97255 57622 | sdjs 01:6C 4A 97255 57622 |

dm-144 | sdit 01:6B 3A 97255 57622 | sdjr 01:6B 4A 97255 57622 |

root@lt34xendb002:~# san\_shortinfo | egrep -iw '(01:6D|01:6C|00:B1|01:6B|00:B0)'

dm-136 | sdij 01:6D 3A 97231 57622 | sdjh 01:6D 4A 97231 57622 |

dm-132 | sdii 01:6C 3A 97231 57622 | sdjg 01:6C 4A 97231 57622 |

dm-154 | sdkh 00:B1 3B 97231 230490 | sdkn 00:B1 4B 97231 230490 |

dm-130 | sdih 01:6B 3A 97231 57622 | sdjf 01:6B 4A 97231 57622 |

dm-151 | sdkg 00:B0 3B 97231 230490 | sdkm 00:B0 4B 97231 230490 |

dm-150 | sdke 00:B1 3B 97255 230490 | sdkk 00:B1 4B 97255 230490 |

dm-142 | sdiv 01:6D 3A 97255 57622 | sdjt 01:6D 4A 97255 57622 |

dm-152 | sdkd 00:B0 3B 97255 230490 | sdkj 00:B0 4B 97255 230490 |

dm-141 | sdiu 01:6C 3A 97255 57622 | sdjs 01:6C 4A 97255 57622 |

dm-144 | sdit 01:6B 3A 97255 57622 | sdjr 01:6B 4A 97255 57622 |

Remove the disks from the VM:

root@lt34xendb002:~# vm rmdisk lt34db0008vm lt34db0008vm\_2

15:02:46 Checking farm status before running command 'rmdisk'

15:02:46 Establishing libvirt connection to lt34xendb001 OK

15:02:49 Establishing libvirt connection to lt34xendb002 OK

15:02:51 Verifying free config space on lt34xendb001 lt34xendb002 OK

15:02:58 Establishing libvirt connection to lt34xendb002 OK

15:02:59 Detaching md device /dev/md/lt34db0008vm\_2 from VM lt34db0008vm OK

15:03:06 Establishing libvirt connection to lt34xendb001 OK

15:03:13 Updating definition of lt34db0008vm on lt34xendb001 OK

15:03:14 Stopping md device /dev/md/lt34db0008vm\_2 OK

15:03:16 Removing md device /dev/md/lt34db0008vm\_2 from mdadm.conf OK

15:03:24 /dev/md/lt34db0008vm\_2 removed from lt34db0008vm

root@lt34xendb002:~# vm rmdisk lt34db0008vm lt34db0008vm\_3

15:03:58 Checking farm status before running command 'rmdisk'

15:03:58 Establishing libvirt connection to lt34xendb001 OK

15:04:01 Establishing libvirt connection to lt34xendb002 OK

15:04:04 Verifying free config space on lt34xendb001 lt34xendb002 OK

15:04:10 Establishing libvirt connection to lt34xendb002 OK

15:04:12 Detaching md device /dev/md/lt34db0008vm\_3 from VM lt34db0008vm OK

15:04:18 Establishing libvirt connection to lt34xendb001 OK

15:04:21 Updating definition of lt34db0008vm on lt34xendb001 OK

15:04:21 Stopping md device /dev/md/lt34db0008vm\_3 OK

15:04:22 Removing md device /dev/md/lt34db0008vm\_3 from mdadm.conf OK

15:04:41 /dev/md/lt34db0008vm\_3 removed from lt34db0008vm

root@lt34xendb002:~# vm rmdisk lt34db0008vm lt34db0008vm\_4

15:04:53 Checking farm status before running command 'rmdisk'

15:04:53 Establishing libvirt connection to lt34xendb001 OK

15:04:56 Establishing libvirt connection to lt34xendb002 OK

15:04:58 Verifying free config space on lt34xendb001 lt34xendb002 OK

15:05:04 Establishing libvirt connection to lt34xendb002 OK

15:05:06 Detaching md device /dev/md/lt34db0008vm\_4 from VM lt34db0008vm OK

15:05:12 Establishing libvirt connection to lt34xendb001 OK

15:05:15 Updating definition of lt34db0008vm on lt34xendb001 OK

15:05:15 Stopping md device /dev/md/lt34db0008vm\_4 OK

15:05:16 Removing md device /dev/md/lt34db0008vm\_4 from mdadm.conf OK

15:05:18 /dev/md/lt34db0008vm\_4 removed from lt34db0008vm

root@lt34xendb002:~# vm rmdisk lt34db0008vm lt34db0008vm\_5

15:05:23 Checking farm status before running command 'rmdisk'

15:05:23 Establishing libvirt connection to lt34xendb001 OK

15:05:26 Establishing libvirt connection to lt34xendb002 OK

15:05:29 Verifying free config space on lt34xendb001 lt34xendb002 OK

15:05:35 Establishing libvirt connection to lt34xendb002 OK

15:05:37 Detaching md device /dev/md/lt34db0008vm\_5 from VM lt34db0008vm OK

15:07:20 Establishing libvirt connection to lt34xendb001 OK

15:07:24 Updating definition of lt34db0008vm on lt34xendb001 OK

15:07:24 Stopping md device /dev/md/lt34db0008vm\_5 FAILED

15:07:24 ERROR: Could not stop md device /dev/md/lt34db0008vm\_5, aborting

15:07:24 ERROR: Command rmdisk did not complete successfully

root@lt34xendb002:~# vm rmdisk lt34db0008vm lt34db0008vm\_6

15:08:02 Checking farm status before running command 'rmdisk'

15:08:02 Establishing libvirt connection to lt34xendb001 OK

15:08:05 Establishing libvirt connection to lt34xendb002 OK

15:08:08 Verifying free config space on lt34xendb001 lt34xendb002 OK

15:08:14 Establishing libvirt connection to lt34xendb002 OK

15:08:16 Detaching md device /dev/md/lt34db0008vm\_6 from VM lt34db0008vm OK

15:08:33 Establishing libvirt connection to lt34xendb001 OK

15:08:36 Updating definition of lt34db0008vm on lt34xendb001 OK

15:08:37 Stopping md device /dev/md/lt34db0008vm\_6 OK

15:08:38 Removing md device /dev/md/lt34db0008vm\_6 from mdadm.conf OK

15:08:39 /dev/md/lt34db0008vm\_6 removed from lt34db0008vm

root@lt34xendb002:~# vm rmdisk lt34db0008vm lt34db0008vm\_7

15:08:43 Checking farm status before running command 'rmdisk'

15:08:43 Establishing libvirt connection to lt34xendb001 OK

15:08:47 Establishing libvirt connection to lt34xendb002 OK

15:08:49 Verifying free config space on lt34xendb001 lt34xendb002 OK

15:08:56 Establishing libvirt connection to lt34xendb002 OK

15:08:57 Detaching md device /dev/md/lt34db0008vm\_7 from VM lt34db0008vm OK

15:09:03 Establishing libvirt connection to lt34xendb001 OK

15:09:06 Updating definition of lt34db0008vm on lt34xendb001 OK

15:09:06 Stopping md device /dev/md/lt34db0008vm\_7 OK

15:09:07 Removing md device /dev/md/lt34db0008vm\_7 from mdadm.conf OK

15:09:09 /dev/md/lt34db0008vm\_7 removed from lt34db0008vm

As we do know the LUN IDs, verify the DM devices and remove them:

root@lt34xendb001:~# pvinfo -i | egrep -iw '(00:b0|00:b1|01:6a|01:6b|01:6c)' | egrep '(97231|97255)' | grep -i "dm-"

/dev/dm-155 00 00 00 CL4-F-1 00:b1 OPEN-V 00097255

/dev/dm-153 00 00 00 CL4-F-1 00:b1 OPEN-V 00097231

/dev/dm-152 00 00 00 CL4-F-1 00:b0 OPEN-V 00097255

/dev/dm-150 00 00 00 CL4-F-1 00:b0 OPEN-V 00097231

/dev/dm-142 00 00 00 CL4-E-1 01:6c OPEN-V 00097255

/dev/dm-141 00 00 00 CL4-E-1 01:6b OPEN-V 00097255

/dev/dm-132 00 00 00 CL4-E-1 01:6c OPEN-V 00097231

/dev/dm-128 00 00 00 CL4-E-1 01:6b OPEN-V 00097231

/dev/dm-140 00 00 00 CL4-E-1 01:6a OPEN-V 00097255

/dev/dm-129 00 00 00 CL3-E-1 01:6a OPEN-V 00097231

Remove the DMs:

root@lt34xendb001:~# dmsetup info /dev/dm-155

Name: 360060e80167be70000017be7000000b1

State: ACTIVE

Read Ahead: 1024

Tables present: LIVE

Open count: 0

Event number: 0

Major, minor: 253, 155

Number of targets: 1

UUID: mpath-360060e80167be70000017be7000000b1

Note: "dmsetup" works on the WWN or /dev/dm-??? block device file:

root@lt34xendb001:~# dmsetup remove 360060e80167be70000017be7000000b1

root@lt34xendb001:~# dmsetup info /dev/dm-155

Device /dev/dm-155 not found

Command failed

root@lt34xendb001:~# dmsetup info /dev/dm-153

Name: 360060e80167bcf0000017bcf000000b1

State: ACTIVE

Read Ahead: 1024

Tables present: LIVE

Open count: 0

Event number: 0

Major, minor: 253, 153

Number of targets: 1

UUID: mpath-360060e80167bcf0000017bcf000000b1

root@lt34xendb001:~# dmsetup info /dev/dm-153

Device /dev/dm-153 not found

Command failed

As the 2nd command fails, we know that it's really removed from the system. Remove the remaining devices too:

root@lt34xendb001:~# dmsetup remove /dev/dm-152

root@lt34xendb001:~# dmsetup remove /dev/dm-150

root@lt34xendb001:~# dmsetup remove /dev/dm-142

root@lt34xendb001:~# dmsetup remove /dev/dm-141

root@lt34xendb001:~# dmsetup remove /dev/dm-132

root@lt34xendb001:~# dmsetup remove /dev/dm-128

root@lt34xendb001:~# dmsetup remove /dev/dm-140

root@lt34xendb001:~# dmsetup remove /dev/dm-129

SAN return II

**NOTE:** The san\_return command does **NOT** cover this. We have to manually generate a clean pvinfo output to return the LUNs in STORM. Make sure you're using the correct SAN boxes and LUNs.

root@lt34xendb001:~# pvinfo -i | egrep -w -i '(00:b0|00:b1|01:6a|01:6b|01:6c)' | egrep '(97231|97255)'

No supported HBA found!

Unable to get information.

Possible reasons:

HBAAPI not registered / loaded

driver with different capabilities

a.s.o

/dev/sdkn 00 00 00 CL4-F-1 00:b1 OPEN-V 00097255

/dev/sdkm 00 00 00 CL4-F-1 00:b0 OPEN-V 00097255

/dev/sdkj 00 00 00 CL4-F-1 00:b0 OPEN-V 00097231

/dev/sdkk 00 00 00 CL4-F-1 00:b1 OPEN-V 00097231

/dev/sdke 00 00 00 CL4-E-1 01:6b OPEN-V 00097255

/dev/sdkg 00 00 00 CL4-E-1 01:6c OPEN-V 00097255

/dev/sdjt 00 00 00 CL4-E-1 01:6c OPEN-V 00097231

/dev/sdjs 00 00 00 CL4-E-1 01:6b OPEN-V 00097231

/dev/sdjr 00 00 00 CL3-F-1 00:b1 OPEN-V 00097255

/dev/sdjg 00 00 00 CL3-F-1 00:b1 OPEN-V 00097231

/dev/sdjh 00 00 00 CL3-F-1 00:b0 OPEN-V 00097255

/dev/sdjf 00 00 00 CL3-F-1 00:b0 OPEN-V 00097231

/dev/sdiu 00 00 00 CL3-E-1 01:6c OPEN-V 00097255

/dev/sdit 00 00 00 CL3-E-1 01:6b OPEN-V 00097255

/dev/sdii 00 00 00 CL3-E-1 01:6c OPEN-V 00097231

/dev/sdih 00 00 00 CL3-E-1 01:6b OPEN-V 00097231

/dev/sdjq 00 00 00 CL4-E-1 01:6a OPEN-V 00097255

/dev/sdje 00 00 00 CL4-E-1 01:6a OPEN-V 00097231

/dev/sdis 00 00 00 CL3-E-1 01:6a OPEN-V 00097255

/dev/sdig 00 00 00 CL3-E-1 01:6a OPEN-V 00097231

Now clean up the devices and return them in STORM:

root@lt34xendb002:~# for i in sdkn sdkm sdkk sdkj sdkg sdke sdjt sdjs sdjr sdjh sdjg sdjf sdiu sdit sdii sdih sdjq sdje sdis sdig; do echo 1 > /sys/block/$i/device/delete; done

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Page last modified on Wednesday 16 of October, 2019 16:09:43 CEST. (Version 25)

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] ~ $

[INSTSERV][qxz10kv][lp09instiaas02] /var/tmp/amit/test $

[INSTSERV][qxz10kv][lp09instiaas02] /var/tmp/amit/test $ ansiblectl apply --playbook=OS\_FIX\_lvm.yml --hostlist=IAAS\_NTT\_LI\_UX\_SRV-Test-lp09instiaas02

Info[1]: Verifying user-provided list /var/tmp/amit/test/IAAS\_NTT\_LI\_UX\_SRV-Test-lp09instiaas02

VMWARE FS EXTENSIONS

echo 1 > /sys/block/sdxxx/device/rescan

pvresize /dev/sdxxx

lvextend -l +100%FREE /dev/VG/LV

xfs\_growfs /global/<XFS Mount Point>

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

pvresize /dev/sdb

lvextend -l +100%FREE /dev/dgpbrpdi3401/lvapps

xfs\_growfs /global/pbrpdi34/apps

lpbrp11:~ #

lpbrp11:~ # df -hT /global/pbrpdi34/apps

Filesystem Type Size Used Avail Use% Mounted on

/dev/mapper/dgpbrpdi3401-lvapps xfs 50G 9.8G 41G 20% /global/pbrpdi34/apps

lpbrp11:~ # vgs

VG #PV #LV #SN Attr VSize VFree

dgpbrpdi3401 1 1 0 wz--n- 50.00g 0

dgpbrpdi3402 1 1 0 wz--n- 30.00g 0

dgpbrpdi3403 1 1 0 wz--n- 32.00g 0

vglocal 1 1 0 wz--n- 54.99g 4.99g

lpbrp11:~ # lsblk

NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT

sda 8:0 0 160G 0 disk

├─sda1 8:1 0 1G 0 part /boot

├─sda2 8:2 0 100G 0 part /

├─sda3 8:3 0 4G 0 part [SWAP]

└─sda4 8:4 0 55G 0 part

└─vglocal-lvvarcrash 254:1 0 50G 0 lvm /var/crash

sdb 8:16 0 50G 0 disk

└─dgpbrpdi3401-lvapps 254:2 0 50G 0 lvm /global/pbrpdi34/apps

sdc 8:32 0 30G 0 disk

└─dgpbrpdi3402-lvbrp 254:3 0 30G 0 lvm /usr/sap/BRP

sdd 8:48 0 32G 0 disk

└─dgpbrpdi3403-lvswap 254:0 0 32G 0 lvm [SWAP]

sr0 11:0 1 1024M 0 rom

lpbrp11:~ # pvs

PV VG Fmt Attr PSize PFree

/dev/sda4 vglocal lvm2 a-- 54.99g 4.99g

/dev/sdb dgpbrpdi3401 lvm2 a-- 50.00g 0

/dev/sdc dgpbrpdi3402 lvm2 a-- 30.00g 0

/dev/sdd dgpbrpdi3403 lvm2 a-- 32.00g 0

lpbrp11:~ # lvs

LV VG Attr LSize Pool Origin Data% Meta% Move Log Cpy%Sync Convert

lvapps dgpbrpdi3401 -wi-ao---- 50.00g

lvbrp dgpbrpdi3402 -wi-ao---- 30.00g

lvswap dgpbrpdi3403 -wi-ao---- 32.00g

lvvarcrash vglocal -wi-ao---- 50.00g

lpbrp11:~ #

lpbrp11:~ #

lpbrp11:~ #

lpbrp11:~ #

lpbrp11:~ #

lpbrp11:~ #

lpbrp11:~ # echo 1 > /sys/block/sdb/device/rescan

lpbrp11:~ # pvs

PV VG Fmt Attr PSize PFree

/dev/sda4 vglocal lvm2 a-- 54.99g 4.99g

/dev/sdb dgpbrpdi3401 lvm2 a-- 50.00g 0

/dev/sdc dgpbrpdi3402 lvm2 a-- 30.00g 0

/dev/sdd dgpbrpdi3403 lvm2 a-- 32.00g 0

lpbrp11:~ # pvresize /dev/sdb

Physical volume "/dev/sdb" changed

1 physical volume(s) resized or updated / 0 physical volume(s) not resized

lpbrp11:~ # pvs

PV VG Fmt Attr PSize PFree

/dev/sda4 vglocal lvm2 a-- 54.99g 4.99g

/dev/sdb dgpbrpdi3401 lvm2 a-- 274.00g 224.00g

/dev/sdc dgpbrpdi3402 lvm2 a-- 30.00g 0

/dev/sdd dgpbrpdi3403 lvm2 a-- 32.00g 0

lpbrp11:~ # lvextend -l +100%FREE /dev/dgpbrpdi3401/lvapps

Size of logical volume dgpbrpdi3401/lvapps changed from 50.00 GiB (12799 extents) to 274.00 GiB (70143 extents).

Logical volume dgpbrpdi3401/lvapps successfully resized.

lpbrp11:~ # xfs\_growfs /global/pbrpdi34/apps

meta-data=/dev/mapper/dgpbrpdi3401-lvapps isize=512 agcount=4, agsize=3276544 blks

= sectsz=512 attr=2, projid32bit=1

= crc=1 finobt=0 spinodes=0 rmapbt=0

= reflink=0

data = bsize=4096 blocks=13106176, imaxpct=25

= sunit=0 swidth=0 blks

naming =version 2 bsize=4096 ascii-ci=0 ftype=1

log =internal bsize=4096 blocks=6399, version=2

= sectsz=512 sunit=0 blks, lazy-count=1

realtime =none extsz=4096 blocks=0, rtextents=0

data blocks changed from 13106176 to 71826432

lpbrp11:~ # df -hT /global/pbrpdi34/apps

Filesystem Type Size Used Avail Use% Mounted on

/dev/mapper/dgpbrpdi3401-lvapps xfs 274G 9.8G 265G 4% /global/pbrpdi34/apps

lpbrp11:~ # exit

exit

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

lpbkvvs23:~ # rpm -qa | grep -i vee

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # rpm -qa | grep -i vee

lpbkvvs23:~ # rpm -qa | grep -i vee

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # rpm -qa | grep -i vee

lpbkvvs23:~ # rpm -qa | grep -i vee

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # rudder agent status

rudder-cf-serverd: enabled

rudder-cf-execd: enabled

● rudder-agent.service - Rudder agent umbrella service

Loaded: loaded (/lib/systemd/system/rudder-agent.service; enabled; vendor preset: disabled)

Active: active (exited) since Sat 2022-11-05 18:40:01 CET; 11min ago

Docs: man:rudder(8)

https://docs.rudder.io

Main PID: 693 (code=exited, status=0/SUCCESS)

Tasks: 0 (limit: 512)

CGroup: /system.slice/rudder-agent.service

Nov 05 18:40:01 lpbkvvs23 systemd[1]: Starting Rudder agent umbrella service...

Nov 05 18:40:01 lpbkvvs23 systemd[1]: Started Rudder agent umbrella service.

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # rudder agent update

ok: Rudder agent policies were updated.

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # rudder agent run -u

Rudder agent 6.1.7.release

Node uuid: 0a71423a-d625-4128-b059-5bfd041317a1

ok: Rudder agent policies were updated.

Start execution with config [20221105-183057-f5cdbd6c]

M| State Technique Component Key Message

E| error Install\_MW\_SecFS\_FS\_agent File check if symlink /opt/vormetric/Da| Check if /opt/vormetric/DataSecurityExpert/agent/secfs/.sec/conf/configuration is a symlink could not be repaired

E| repaired PBIS\_Set\_RequireMemberSh| Command execution /opt/pbis/bin/con| Execute the command /opt/pbis/bin/config RequireMemberShipOf "europe.bmw.corp\UNIX\_VVS\_PROD\_OPERATION" was repaired

## Summary #####################################################################

Not all components were displayed because we are not in full compliance mode. Please run with -g to force full compliance mode.

=> 2 components in Enforce mode

-> 1 repaired

-> 1 error

Execution time: 36.70s

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

Reports sent.

lpbkvvs23:~ # rpm -qa | grep -i vee

lpbkvvs23:~ # zypper lr

Repository priorities are without effect. All enabled repositories share the same priority.

# | Alias | Name | Enabled | GPG Check | Refresh

---+----------------------------+----------------------------+---------+-----------+--------

1 | BMW-Custom | BMW-Custom | Yes | (r ) Yes | Yes

2 | BMW-Internal | BMW-Internal | Yes | (r ) Yes | Yes

3 | BMW-Patch-CVE | BMW-Patch-CVE | Yes | (r ) Yes | Yes

4 | BMW-Patch-CVE-2021-3156 | BMW-Patch-CVE-2021-3156 | Yes | (r ) Yes | Yes

5 | BMW-SLES12-SP5 | BMW-SLES12-SP5 | Yes | (r ) Yes | No

6 | BMW-Software-SecFS | BMW-Software-SecFS | Yes | (r ) Yes | No

7 | BMW-Software-Splunk | BMW-Software-Splunk | Yes | (r ) Yes | Yes

8 | BMW-Software-UCMD | BMW-Software-UCMD | Yes | (r ) Yes | Yes

9 | BMW-Software-UserSyncAgent | BMW-Software-UserSyncAgent | Yes | (r ) Yes | Yes

10 | Oracle-client | Oracle-client | Yes | (r ) Yes | Yes

11 | PBIS | PBIS | Yes | (r ) Yes | No

12 | Veritas-netbackup-client | Veritas-netbackup-client | Yes | (r ) Yes | Yes

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # rpm -qa | grep -i vee

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # zypper install vee-fs

Loading repository data...

Reading installed packages...

Resolving package dependencies...

The following NEW package is going to be installed:

vee-fs

The following package has no support information from it's vendor:

vee-fs

1 new package to install.

Overall download size: 13.3 MiB. Already cached: 0 B. After the operation, additional 92.6 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

Retrieving package vee-fs-7.2.0-128.x86\_64 (1/1), 13.3 MiB ( 92.6 MiB unpacked)

Retrieving: vee-fs-7.2.0-128.x86\_64.rpm ...............................................................................................................[done]

Checking for file conflicts: ..........................................................................................................................[done]

(1/1) Installing: vee-fs-7.2.0-128.x86\_64 .............................................................................................................[done]

Additional rpm output:

To register with a Security Manager, please run

/opt/vormetric/DataSecurityExpert/agent/vmd/bin/register\_host

lpbkvvs23:~ # rpm -qa | grep -i vee

vee-fs-7.2.0-128.x86\_64

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # /opt/vormetric/DataSecurityExpert/agent/vmd/bin/register\_host

Welcome to the CipherTrust Transparent Encryption File System Agent

Registration Program.

Agent Type: CipherTrust Transparent Encryption File System Agent

Agent Version: 7.2.0.128

In order to register the CipherTrust Transparent Encryption File System Agent

with a Vormetric Data Security Manager

1) you must know the host name of the machine running the

DSM (the host name is displayed on the

Dashboard window of the Management Console), and

2) unless you intend to use the 'shared secret' registration method,

the agent's host machine must be pre-configured on the DSM as a

host with the 'Reg. Allowed' checkbox enabled for this agent type

on the Hosts window of the Management Console.

In order to register with a CipherTrust Manager you need a valid registration

token from the CM.

Do you want to continue with agent registration? (Y/N) [Y]: N

Operation aborted by user.

Agent registration was unsuccessful.

lpbkvvs23:~ # secfsd -status guard

No guardpoints configured

lpbkvvs23:~ # /opt/vormetric/DataSecurityExpert/agent/vmd/bin/register\_host silent /var/rudder/tmp/hostreg.conf

Welcome to the CipherTrust Transparent Encryption File System Agent

Registration Program.

Agent Type: CipherTrust Transparent Encryption File System Agent

Agent Version: 7.2.0.128

Generating certificate signing request for the kernel component...done.

Signing certificate...done.

Generating EC certificate signing request for the vmd...done.

Signing certificate...done.

Generating EC certificate signing request for the vmd...done.

Signing certificate...done.

The following is the fingerprint of the EC CA certificate.

Please verify that it matches the fingerprint shown on the Dashboard

page of the Management Console. If they do not match, it can indicate an

unsuccessful setup or an attack.

3D:05:0C:00:39:76:B0:C9:F5:27:C4:73:2D:48:18:12:21:E7:31:2C

The following is the fingerprint for this agent on this host.

Please verify that it matches the fingerprint shown for this host on the

Edit Host window of the Management Console.

80:E0:9D:A0:EE:F3:A7:94:C4:86:C4:95:2E:9E:53:55:20:52:8D:86

Successfully registered the CipherTrust Transparent Encryption File System Agent with the

Vormetric Data Security Manager on vorcg08.bmwgroup.net.

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ #

lpbkvvs23:~ # secfsd -status guard

GuardPoint Policy Type ConfigState Status Reason

---------- ------ ---- ----------- ------ ------

/nfs/inf/f02112/VVS/encrypted POL\_PROD\_PROD\_VVS\_DokMA local guarded guarded N/A

/nfs/vvs/vvs2txp/prod VVS\_Policy\_vvs06p local guarded guarded N/A

/nfs/sap/SDBC VVS\_to\_SAP\_Policy\_lpbkvvs06 local guarded guarded N/A

/nfs/sap/KFZS VVS\_to\_SAP\_Policy\_lpbkvvs06 local guarded guarded N/A

/nfs/sap/STAMM VVS\_to\_SAP\_Policy\_lpbkvvs06 local guarded guarded N/A

lpbkvvs23:~ # exit

exit

=================================================================================================================CLUSTER MR============================================================

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rootssh lp03wbp03

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N ONLINE

B pwbpci00 lp03wbp03 Y N ONLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hagrp -offline iwbqci10 -sys lp03wbp04

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N OFFLINE

B pwbpci00 lp03wbp03 Y N ONLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hagrp -offline pwbpci00 -sys lp03wbp03

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N OFFLINE

B pwbpci00 lp03wbp03 Y N OFFLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # haconf -makerw

lp03wbp03:~ # hagrp -freeze iwbqci10 -persistent

lp03wbp03:~ #

lp03wbp03:~ # hagrp -freeze pwbpci00 -persistent

lp03wbp03:~ #

lp03wbp03:~ # haconf -dump -makero

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N OFFLINE

B pwbpci00 lp03wbp03 Y N OFFLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

-- GROUPS FROZEN

-- Group

C iwbqci10

C pwbpci00

-- RESOURCES DISABLED

-- Group Type Resource

H iwbqci10 Application iwbqci10\_wbq\_app

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1001

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1002

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1003

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1004

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1005

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1006

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1007

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1008

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1009

H iwbqci10 IP iwbqci10\_iwbqci10\_ip

H iwbqci10 IP iwbqci10\_iwbqdb10\_ip

H iwbqci10 Mount iwbqci10\_global\_iwbqci10\_apps\_mount

H iwbqci10 Mount iwbqci10\_global\_iwbqci10\_bkup\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mirrlogA\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mirrlogB\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_origlogA\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_origlogB\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata1\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata2\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata3\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata4\_mount

H iwbqci10 Mount iwbqci10\_usr\_sap\_WBQ\_mount

H iwbqci10 Proxy iwbqci10\_nic\_proxy

H pwbpci00 Application pwbpci00\_wbp\_app

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0001

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0002

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0003

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0004

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0005

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0006

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0007

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0008

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0009

H pwbpci00 IP pwbpci00\_pwbpci00\_ip

H pwbpci00 IP pwbpci00\_pwbpdb00\_ip

H pwbpci00 Mount pwbpci00\_global\_pwbpci00\_apps\_mount

H pwbpci00 Mount pwbpci00\_global\_pwbpci00\_bkup\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mirrlogA\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mirrlogB\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_origlogA\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_origlogB\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata1\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata2\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata3\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata4\_mount

H pwbpci00 Mount pwbpci00\_usr\_sap\_WBP\_mount

H pwbpci00 Proxy pwbpci00\_nic\_proxy

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # df -hTP

Filesystem Type Size Used Avail Use% Mounted on

devtmpfs devtmpfs 188G 8.0K 188G 1% /dev

tmpfs tmpfs 188G 8.0K 188G 1% /dev/shm

tmpfs tmpfs 188G 4.7M 188G 1% /run

tmpfs tmpfs 188G 0 188G 0% /sys/fs/cgroup

/dev/sda2 btrfs 101G 33G 67G 34% /

/dev/sda2 btrfs 101G 33G 67G 34% /global/local

/dev/sda2 btrfs 101G 33G 67G 34% /var/opt

/dev/sda2 btrfs 101G 33G 67G 34% /usr/sap/saprootsh

/dev/sda1 ext3 976M 102M 824M 11% /boot

/dev/sda2 btrfs 101G 33G 67G 34% /home

/dev/sda2 btrfs 101G 33G 67G 34% /var/tmp

/dev/sda2 btrfs 101G 33G 67G 34% /lfs

/dev/sda2 btrfs 101G 33G 67G 34% /.snapshots

/dev/sda2 btrfs 101G 33G 67G 34% /opt

/dev/sda2 btrfs 101G 33G 67G 34% /tmp

/dev/sda2 btrfs 101G 33G 67G 34% /var/spool

/dev/sda2 btrfs 101G 33G 67G 34% /var/cache

/dev/sda2 btrfs 101G 33G 67G 34% /var/log

/dev/mapper/vglocal-lvvarcrash xfs 50G 33M 50G 1% /var/crash

tmpfs tmpfs 4.0K 0 4.0K 0% /dev/vx

tmpfs tmpfs 38G 0 38G 0% /run/user/497593

nv03100029.bmwgroup.net:/f06055/t026992/archive\_WB nfs 5.0G 385M 4.7G 8% /nfs/sap/archive\_WB

nv03100029.bmwgroup.net:/f05466/t026988/sapmnt\_WBQ nfs 10G 1.3G 8.8G 13% /nfs/sap/sapmnt\_WBQ

nv03100029.bmwgroup.net:/f05466/t026990/trans\_WB nfs 40G 32G 8.5G 79% /nfs/sap/trans\_WB

nv01502303.bmwgroup.net:/f05546/t026092/scripts nfs 10G 400M 9.7G 4% /nfs/sap/sapscripts

nv01502304.bmwgroup.net:/f05526/t021213/instsap nfs 2.3T 2.0T 320G 87% /nfs/sap/local\_instsap

nv03100029.bmwgroup.net:/f05466/t027020/sapmnt\_WBP nfs 10G 1.5G 8.6G 15% /nfs/sap/sapmnt\_WBP

nv03100029.bmwgroup.net:/f05466/t026989/sapsst\_WBQ nfs 110G 28G 83G 25% /nfs/sap/sapsst\_WBQ

nv03100029.bmwgroup.net:/f05466/t027021/sapsst\_WBP nfs 110G 21G 90G 19% /nfs/sap/sapsst\_WBP

nv03100029.bmwgroup.net:/f05465/t036400 nfs 1.0G 3.0M 1021M 1% /nfs/sap/notfallliste

tmpfs tmpfs 38G 0 38G 0% /run/user/48952

tmpfs tmpfs 38G 0 38G 0% /run/user/66159

tmpfs tmpfs 38G 0 38G 0% /run/user/542870

tmpfs tmpfs 38G 0 38G 0% /run/user/44035

tmpfs tmpfs 38G 0 38G 0% /run/user/0

lp03wbp03:~ # df -hTP | grep -i vxfs

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper ref

Repository 'BMW-Custom' is up to date.

Repository 'BMW-FW-Dell' is up to date.

Repository 'BMW-Internal' is up to date.

Repository 'BMW-Patch-CVE' is up to date.

Repository 'BMW-Patch-CVE-2021-3156' is up to date.

Repository 'BMW-SLES12-SP4' is up to date.

Repository 'BMW-Software-Splunk' is up to date.

Repository 'BMW-Software-UCMD' is up to date.

Repository 'BMW-Software-UserSyncAgent' is up to date.

Repository 'BMW-Software-Veritas' is up to date.

Repository 'PBIS' is up to date.

Repository 'Vendor-Dell' is up to date.

Repository 'Veritas-netbackup-client' is up to date.

Repository 'active-P-SAP-Custom' is up to date.

All repositories have been refreshed.

lp03wbp03:~ # zypper lu

Loading repository data...

Reading installed packages...

S | Repository | Name | Current Version | Available Version | Arch

--+----------------------+------------------------------+-----------------------+-----------------------+-------

v | BMW-FW-Dell | BMW-FW-BLOB-DELL-R740-BIOS | 2.13.3-4 | 2.15.1-4 | noarch

v | BMW-FW-Dell | BMW-FW-BLOB-DELL-R740-iDRAC9 | 5.10.10.00\_Build\_26-4 | 5.10.50.00\_Build\_32-4 | noarch

v | BMW-FW-Dell | BMW-FW-BLOB-Emulex | v0.0.1-41\_gea4585b | v0.0.1-43\_g5fad10e | x86\_64

v | BMW-FW-Dell | BMW-FW-DELL-R740-BIOS | 2.13.3-4 | 2.15.1-4 | noarch

v | BMW-FW-Dell | BMW-FW-DELL-R740-iDRAC9 | 5.10.10.00\_Build\_26-4 | 5.10.50.00\_Build\_32-4 | noarch

v | BMW-FW-Dell | BMW-FW-Emulex | v0.0.1-41\_gea4585b | v0.0.1-43\_g5fad10e | x86\_64

v | BMW-Software-Veritas | VRTSaslapm | 7.4.1.0000-SLES12 | 7.4.1.3300-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSgab | 7.4.1.1100-SLES12 | 7.4.1.3300-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSllt | 7.4.1.1100-SLES12 | 7.4.1.3300-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSodm | 7.4.1.1700-SLES12 | 7.4.1.3400-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSpython | 3.6.6.1-SLES12 | 3.6.6.10-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSsfmh | 7.4.0.200-0 | 7.4.0.1500-0 | x86\_64

v | BMW-Software-Veritas | VRTSvcs | 7.4.1.0000-SLES12 | 7.4.1.3300-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSvcsag | 7.4.1.0000-SLES12 | 7.4.1.3300-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSveki | 7.4.1.1100-SLES12 | 7.4.1.3400-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSvxfen | 7.4.1.1100-SLES12 | 7.4.1.3300-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSvxfs | 7.4.1.1700-SLES12 | 7.4.1.3400-SLES12 | x86\_64

v | BMW-Software-Veritas | VRTSvxvm | 7.4.1.2805-SLES12 | 7.4.1.3401-SLES12 | x86\_64

v | BMW-Patch-CVE | libz1 | 1.2.11-3.6.1 | 1.2.11-3.9.1 | x86\_64

v | PBIS | pbis-enterprise | 10.0.0-576 | 22.2.0-210 | x86\_64

v | BMW-Software-UCMD | ucmd | 6.3.0-4 | 6.7.0-0.1 | x86\_64

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper up VRTSodm|VRTSvxfs|VRTSvxvm

bash: VRTSvxfs: command not found

bash: VRTSvxvm: command not found

lp03wbp03:~ # zypper up VRTSodm VRTSvxfs VRTSvxvm

Loading repository data...

Reading installed packages...

Resolving package dependencies...

The following 3 packages are going to be upgraded:

VRTSodm VRTSvxfs VRTSvxvm

The following 3 packages have no support information from their vendor:

VRTSodm VRTSvxfs VRTSvxvm

3 packages to upgrade.

Overall download size: 135.3 MiB. Already cached: 0 B. After the operation, 8.2 MiB will be freed.

Continue? [y/n/...? shows all options] (y): y

Retrieving package VRTSvxvm-7.4.1.3401-SLES12.x86\_64 (1/3), 128.8 MiB ( 1.05 GiB unpacked)

Retrieving: VRTSvxvm-7.4.1.3401-SLES12.x86\_64.rpm ........................................................................................[done (49.6 MiB/s)]

Retrieving package VRTSvxfs-7.4.1.3400-SLES12.x86\_64 (2/3), 6.3 MiB ( 58.8 MiB unpacked)

Retrieving: VRTSvxfs-7.4.1.3400-SLES12.x86\_64.rpm .....................................................................................................[done]

Retrieving package VRTSodm-7.4.1.3400-SLES12.x86\_64 (3/3), 188.2 KiB ( 1.8 MiB unpacked)

Retrieving: VRTSodm-7.4.1.3400-SLES12.x86\_64.rpm ......................................................................................................[done]

Checking for file conflicts: ..........................................................................................................................[done]

(1/3) Installing: VRTSvxvm-7.4.1.3401-SLES12.x86\_64 ...................................................................................................[done]

Additional rpm output:

stopping vxrelocd

stopping vxattachd

stopping vxcached

stopping vxconfigbackupd

stopping vxvollogd

stopping vxloggerd

stopping vxnotify

stopping vxesd

Stopping vxencryptd

Stopping vxcloudd

stopping vxvvrstatd

stopping vxconfigd

Installing and Enabling VxVM systemd-services

creating VxVM device nodes under /dev

libkmod: kmod\_module\_get\_holders: could not open '/sys/module/dmpaa/holders': No such file or directory

Installing keys for APMs

Starting all VxVM services

(2/3) Installing: VRTSvxfs-7.4.1.3400-SLES12.x86\_64 ...................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvxfs-7.4.1.3400-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Unable to unload the fdd module. A reboot may be required to unload it.

Unable to unload the vxfs module. A reboot may be required to unload it.

Job for vxfs.service failed because the control process exited with error code. See "systemctl status vxfs.service" and "journalctl -xe" for details.

ERROR: No appropriate VxFS drivers found that can be loaded. See VxFS documentation for the list of supported platforms.

(3/3) Installing: VRTSodm-7.4.1.3400-SLES12.x86\_64 ....................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSodm-7.4.1.3400-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Synchronizing state of vxodm.service with SysV init with /usr/lib/systemd/systemd-sysv-install...

Executing /usr/lib/systemd/systemd-sysv-install enable vxodm

There are some running programs that might use files deleted by recent upgrade. You may wish to check and restart some of them. Run 'zypper ps -s' to list these programs.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 2 packages are going to be upgraded:

VRTSgab VRTSllt

The following 2 packages have no support information from their vendor:

VRTSgab VRTSllt

2 packages to upgrade.

Overall download size: 19.0 MiB. Already cached: 0 B. After the operation, additional 28.3 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

Retrieving package VRTSllt-7.4.1.3300-SLES12.x86\_64 (1/2), 15.2 MiB (115.9 MiB unpacked)

Retrieving: VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm ......................................................................................................[done]

Retrieving package VRTSgab-7.4.1.3300-SLES12.x86\_64 (2/2), 3.8 MiB ( 42.3 MiB unpacked)

Retrieving: VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm ......................................................................................................[done]

Checking for file conflicts: ..........................................................................................................................[done]

(1/2) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSllt-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

LLT module is still loaded. Cannot upgrade.

Please unload LLT first (using systemctl stop llt).

error: %pre(VRTSllt-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSllt-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSllt-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following package is going to be upgraded:

VRTSgab

The following package has no support information from it's vendor:

VRTSgab

1 package to upgrade.

Overall download size: 0 B. Already cached: 3.8 MiB. After the operation, additional 5.2 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm (1/1), 3.8 MiB ( 42.3 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/1) Installing: VRTSgab-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSgab-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

GAB module is still loaded. Cannot upgrade.

Please unload GAB (using systemctl stop gab) first.

error: %pre(VRTSgab-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSgab-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSgab-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # systemctl stop llt

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 2 packages are going to be upgraded:

VRTSgab VRTSllt

The following 2 packages have no support information from their vendor:

VRTSgab VRTSllt

2 packages to upgrade.

Overall download size: 0 B. Already cached: 19.0 MiB. After the operation, additional 28.3 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm (1/2), 15.2 MiB (115.9 MiB unpacked)

In cache VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm (2/2), 3.8 MiB ( 42.3 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/2) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSllt-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

LLT module is still loaded. Cannot upgrade.

Please unload LLT first (using systemctl stop llt).

error: %pre(VRTSllt-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSllt-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSllt-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # systemctl disable llt

Removed symlink /etc/systemd/system/multi-user.target.wants/llt.service.

Removed symlink /etc/systemd/system/graphical.target.wants/llt.service.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # systemctl status llt

● llt.service - VERITAS Low Latency Transport (LLT)

Loaded: loaded (/opt/VRTSllt/llt; disabled; vendor preset: disabled)

Active: failed (Result: exit-code) since Sat 2022-11-05 19:24:41 CET; 50s ago

Main PID: 8757 (code=exited, status=0/SUCCESS)

Nov 05 19:24:38 lp03wbp03 llt[20977]: LLT:Warning: lltconfig failed. Retrying [3]

Nov 05 19:24:39 lp03wbp03 llt[20977]: LLT lltconfig ERROR V-14-2-15121 LLT unconfigure aborted, unregister 3 port(s)

Nov 05 19:24:39 lp03wbp03 llt[20977]: LLT:Warning: lltconfig failed. Retrying [4]

Nov 05 19:24:40 lp03wbp03 llt[20977]: LLT lltconfig ERROR V-14-2-15121 LLT unconfigure aborted, unregister 3 port(s)

Nov 05 19:24:40 lp03wbp03 llt[20977]: LLT:Warning: lltconfig failed. Retrying [5]

Nov 05 19:24:41 lp03wbp03 llt[20977]: LLT:Error: lltconfig failed

Nov 05 19:24:41 lp03wbp03 systemd[1]: llt.service: Control process exited, code=exited status=1

Nov 05 19:24:41 lp03wbp03 systemd[1]: Stopped VERITAS Low Latency Transport (LLT).

Nov 05 19:24:41 lp03wbp03 systemd[1]: llt.service: Unit entered failed state.

Nov 05 19:24:41 lp03wbp03 systemd[1]: llt.service: Failed with result 'exit-code'.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 2 packages are going to be upgraded:

VRTSgab VRTSllt

The following 2 packages have no support information from their vendor:

VRTSgab VRTSllt

2 packages to upgrade.

Overall download size: 0 B. Already cached: 19.0 MiB. After the operation, additional 28.3 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm (1/2), 15.2 MiB (115.9 MiB unpacked)

In cache VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm (2/2), 3.8 MiB ( 42.3 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/2) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSllt-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

LLT module is still loaded. Cannot upgrade.

Please unload LLT first (using systemctl stop llt).

error: %pre(VRTSllt-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSllt-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSllt-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # systemctl status llt

● llt.service - VERITAS Low Latency Transport (LLT)

Loaded: loaded (/opt/VRTSllt/llt; disabled; vendor preset: disabled)

Active: failed (Result: exit-code) since Sat 2022-11-05 19:24:41 CET; 2min 13s ago

Main PID: 8757 (code=exited, status=0/SUCCESS)

Nov 05 19:24:38 lp03wbp03 llt[20977]: LLT:Warning: lltconfig failed. Retrying [3]

Nov 05 19:24:39 lp03wbp03 llt[20977]: LLT lltconfig ERROR V-14-2-15121 LLT unconfigure aborted, unregister 3 port(s)

Nov 05 19:24:39 lp03wbp03 llt[20977]: LLT:Warning: lltconfig failed. Retrying [4]

Nov 05 19:24:40 lp03wbp03 llt[20977]: LLT lltconfig ERROR V-14-2-15121 LLT unconfigure aborted, unregister 3 port(s)

Nov 05 19:24:40 lp03wbp03 llt[20977]: LLT:Warning: lltconfig failed. Retrying [5]

Nov 05 19:24:41 lp03wbp03 llt[20977]: LLT:Error: lltconfig failed

Nov 05 19:24:41 lp03wbp03 systemd[1]: llt.service: Control process exited, code=exited status=1

Nov 05 19:24:41 lp03wbp03 systemd[1]: Stopped VERITAS Low Latency Transport (LLT).

Nov 05 19:24:41 lp03wbp03 systemd[1]: llt.service: Unit entered failed state.

Nov 05 19:24:41 lp03wbp03 systemd[1]: llt.service: Failed with result 'exit-code'.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hastop -local -force

lp03wbp03:~ # systemctl stop vcs

lp03wbp03:~ # systemctl stop gab

lp03wbp03:~ # gabconfig -U

GAB gabconfig ERROR V-15-2-25022 gabconfig: open failed : unknown error

lp03wbp03:~ # systemctl stop vxfen

lp03wbp03:~ # systemctl stop llt

lp03wbp03:~ # lltconfig -U

lltconfig: this will attempt to stop and reset LLT. Confirm (y/n)? y

lltconfig: this will attempt to stop and reset LLT. Confirm (y/n)? y

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 2 packages are going to be upgraded:

VRTSgab VRTSllt

The following 2 packages have no support information from their vendor:

VRTSgab VRTSllt

2 packages to upgrade.

Overall download size: 0 B. Already cached: 19.0 MiB. After the operation, additional 28.3 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm (1/2), 15.2 MiB (115.9 MiB unpacked)

In cache VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm (2/2), 3.8 MiB ( 42.3 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/2) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSllt-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

LLT module is still loaded. Cannot upgrade.

Please unload LLT first (using systemctl stop llt).

error: %pre(VRTSllt-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSllt-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSllt-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # systemctl stop syslog

Warning: Stopping syslog.service, but it can still be activated by:

syslog.socket

lp03wbp03:~ # systemctl stop vxodm

lp03wbp03:~ # systemctl stop vxvm-boot

lp03wbp03:~ # systemctl stop vxfs

lp03wbp03:~ # systemctl stop vxodm.service

lp03wbp03:~ # systemctl stop vxfs\_replication.service

lp03wbp03:~ # systemctl stop vxnm-vxnetd.service

lp03wbp03:~ # systemctl stop vxpbx\_exchanged.service

lp03wbp03:~ # systemctl stop vxrsyncd.service

lp03wbp03:~ # systemctl stop vxvm-boot.service

lp03wbp03:~ # systemctl stop vxvm-encrypt.service

lp03wbp03:~ # systemctl stop vxvm-reconfig.service

lp03wbp03:~ # systemctl stop vxvm-recover.service

lp03wbp03:~ # systemctl stop vxodm

lp03wbp03:~ # systemctl stop vxvm-boot

lp03wbp03:~ # systemctl stop vxfs

lp03wbp03:~ # systemctl stop vxodm.service

lp03wbp03:~ # systemctl stop vxfs\_replication.service

lp03wbp03:~ # systemctl stop vxnm-vxnetd.service

lp03wbp03:~ # systemctl stop vxpbx\_exchanged.service

lp03wbp03:~ # systemctl stop vxrsyncd.service

lp03wbp03:~ # systemctl stop vxvm-boot.service

lp03wbp03:~ # systemctl stop vxvm-encrypt.service

lp03wbp03:~ # systemctl stop vxvm-reconfig.service

lp03wbp03:~ # systemctl stop vxvm-recover.service

lp03wbp03:~ # reboot

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ ping lp03wbp03

PING lp03wbp03.bmwgroup.net (160.48.228.17) 56(84) bytes of data.

64 bytes from lp03wbp03.bmwgroup.net (160.48.228.17): icmp\_seq=1 ttl=56 time=18.0 ms

64 bytes from lp03wbp03.bmwgroup.net (160.48.228.17): icmp\_seq=2 ttl=56 time=18.0 ms

^C

--- lp03wbp03.bmwgroup.net ping statistics ---

2 packets transmitted, 2 received, 0% packet loss, time 1002ms

rtt min/avg/max/mdev = 18.020/18.040/18.061/0.135 ms

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rootssh lp03wbp03

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 2 packages are going to be upgraded:

VRTSgab VRTSllt

The following 2 packages have no support information from their vendor:

VRTSgab VRTSllt

2 packages to upgrade.

Overall download size: 0 B. Already cached: 19.0 MiB. After the operation, additional 28.3 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm (1/2), 15.2 MiB (115.9 MiB unpacked)

In cache VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm (2/2), 3.8 MiB ( 42.3 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/2) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ....................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

(2/2) Installing: VRTSgab-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSgab-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

GAB module is still loaded. Cannot upgrade.

Please unload GAB (using systemctl stop gab) first.

error: %pre(VRTSgab-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSgab-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSgab-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # ps -ef | grep -i llt

root 695 27876 0 19:40 pts/0 00:00:00 grep -i llt

lp03wbp03:~ # ps -ef | grep -i gab

root 754 27876 0 19:40 pts/0 00:00:00 grep -i gab

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # systemctl stop vcs

lp03wbp03:~ # systemctl stop gab

lp03wbp03:~ # gabconfig -U

GAB gabconfig ERROR V-15-2-25022 gabconfig: open failed : unknown error

lp03wbp03:~ # systemctl stop vxfen

lp03wbp03:~ # systemctl stop llt

lp03wbp03:~ # lltconfig -U

LLT lltconfig ERROR V-14-2-15000 open /dev/llt failed: No such file or directory

lp03wbp03:~ # rmmod vxfen

lp03wbp03:~ # rmmod gab

rmmod: ERROR: Module gab is not currently loaded

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

No update candidate for 'VRTSllt-7.4.1.3300-SLES12.x86\_64'. The highest available version is already installed.

Resolving package dependencies...

The following package is going to be upgraded:

VRTSgab

The following package has no support information from it's vendor:

VRTSgab

1 package to upgrade.

Overall download size: 0 B. Already cached: 3.8 MiB. After the operation, additional 5.2 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm (1/1), 3.8 MiB ( 42.3 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/1) Installing: VRTSgab-7.4.1.3300-SLES12.x86\_64 ....................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

There are some running programs that might use files deleted by recent upgrade. You may wish to check and restart some of them. Run 'zypper ps -s' to list these programs.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update VRTSllt

Loading repository data...

Reading installed packages...

No update candidate for 'VRTSllt-7.4.1.3300-SLES12.x86\_64'. The highest available version is already installed.

Resolving package dependencies...

Nothing to do.

lp03wbp03:~ # zypper update BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

Nothing to do.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper update `zypper se -is VRTS\* |grep BMW-Software-Veritas |grep -v VRTSllt |grep -v VRTSgab | awk '{print $3}'`

Loading repository data...

Reading installed packages...

No update candidate for 'VRTSvxvm-7.4.1.3401-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvlic-4.01.74.002-SLES.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvxfs-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSperl-5.26.1.1-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSodm-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSfsadv-7.4.1.0000-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSspt-7.4.1.000-SLES12.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 7 packages are going to be upgraded:

VRTSaslapm VRTSpython VRTSsfmh VRTSvcs VRTSvcsag VRTSveki VRTSvxfen

The following 7 packages have no support information from their vendor:

VRTSaslapm VRTSpython VRTSsfmh VRTSvcs VRTSvcsag VRTSveki VRTSvxfen

7 packages to upgrade.

Overall download size: 226.9 MiB. Already cached: 0 B. After the operation, additional 93.9 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

Retrieving package VRTSveki-7.4.1.3400-SLES12.x86\_64 (1/7), 209.9 KiB ( 1.4 MiB unpacked)

Retrieving: VRTSveki-7.4.1.3400-SLES12.x86\_64.rpm .....................................................................................................[done]

Retrieving package VRTSvcs-7.4.1.3300-SLES12.x86\_64 (2/7), 73.3 MiB (223.2 MiB unpacked)

Retrieving: VRTSvcs-7.4.1.3300-SLES12.x86\_64.rpm .........................................................................................[done (43.6 MiB/s)]

Retrieving package VRTSsfmh-7.4.0.1500-0.x86\_64 (3/7), 64.0 MiB (182.5 MiB unpacked)

Retrieving: VRTSsfmh-7.4.0.1500-0.x86\_64.rpm .............................................................................................[done (18.5 MiB/s)]

Retrieving package VRTSaslapm-7.4.1.3300-SLES12.x86\_64 (4/7), 5.6 MiB ( 86.0 MiB unpacked)

Retrieving: VRTSaslapm-7.4.1.3300-SLES12.x86\_64.rpm ...................................................................................................[done]

Retrieving package VRTSvxfen-7.4.1.3300-SLES12.x86\_64 (5/7), 3.8 MiB ( 41.1 MiB unpacked)

Retrieving: VRTSvxfen-7.4.1.3300-SLES12.x86\_64.rpm ....................................................................................................[done]

Retrieving package VRTSpython-3.6.6.10-SLES12.x86\_64 (6/7), 68.0 MiB (423.6 MiB unpacked)

Retrieving: VRTSpython-3.6.6.10-SLES12.x86\_64.rpm ........................................................................................[done (37.8 MiB/s)]

Retrieving package VRTSvcsag-7.4.1.3300-SLES12.x86\_64 (7/7), 12.0 MiB ( 82.6 MiB unpacked)

Retrieving: VRTSvcsag-7.4.1.3300-SLES12.x86\_64.rpm .......................................................................................[done (11.0 MiB/s)]

Checking for file conflicts: ..........................................................................................................................[done]

(1/7) Installing: VRTSveki-7.4.1.3400-SLES12.x86\_64 ...................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSveki-7.4.1.3400-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Job for veki.service failed because the control process exited with error code. See "systemctl status veki.service" and "journalctl -xe" for details.

(2/7) Installing: VRTSvcs-7.4.1.3300-SLES12.x86\_64 ....................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvcs-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

(3/7) Installing: VRTSsfmh-7.4.0.1500-0.x86\_64 ........................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSsfmh-7.4.0.1500-0.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

(4/7) Installing: VRTSaslapm-7.4.1.3300-SLES12.x86\_64 .................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSaslapm-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Installing keys for APMs

(5/7) Installing: VRTSvxfen-7.4.1.3300-SLES12.x86\_64 ..................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvxfen-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

(6/7) Installing: VRTSpython-3.6.6.10-SLES12.x86\_64 ...................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSpython-3.6.6.10-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

The directory '/lfs/qqlinux/.cache/pip/http' or its parent directory is not owned by the current user and the cache has been disabled. Please check the permissions and owner of that directory. If executing pip with sudo, you may want sudo's -H flag.

(7/7) Installing: VRTSvcsag-7.4.1.3300-SLES12.x86\_64 ..................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvcsag-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Copying /etc/VRTSvcs/conf/config/types.cf as /etc/VRTSvcs/conf/config/types.cf.pre-vcs

Please make any type level configuration changes to types.cf.pre-vcs file before you start VCS.

Copying /etc/VRTSvcs/conf/config/main.cf as /etc/VRTSvcs/conf/config/main.cf.pre-vcs

This /etc/VRTSvcs/conf/config/main.cf.pre-vcs file will be copied back as

/etc/VRTSvcs/conf/config/main.cf by next execution of hastart command.

Leaving existing types.cf for configuration

Implement /etc/VRTSvcs/conf/types.cf to utilize resource type updates

Output of VRTSveki-7.4.1.3400-SLES12.x86\_64.rpm %posttrans script:

/var/adm/update-scripts/posttransru8wHd/VRTSveki-7.4.1.3400-SLES12.x86\_64.rpmu4QUa4: line 3: [: -eq: unary operator expected

Output of VRTSpython-3.6.6.10-SLES12.x86\_64.rpm %posttrans script:

/

There are some running programs that might use files deleted by recent upgrade. You may wish to check and restart some of them. Run 'zypper ps -s' to list these programs.

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # rpm -qa --last | grep -i VRTS

VRTSvcsag-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 19:43:46 2022

VRTSpython-3.6.6.10-SLES12.x86\_64 Sat Nov 5 19:43:44 2022

VRTSvxfen-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 19:43:30 2022

VRTSaslapm-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 19:43:29 2022

VRTSsfmh-7.4.0.1500-0.x86\_64 Sat Nov 5 19:43:14 2022

VRTSvcs-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 19:43:10 2022

VRTSveki-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 19:43:03 2022

VRTSgab-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 19:41:10 2022

VRTSllt-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 19:39:48 2022

VRTSodm-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 19:22:03 2022

VRTSvxfs-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 19:21:56 2022

VRTSvxvm-7.4.1.3401-SLES12.x86\_64 Sat Nov 5 19:21:15 2022

VRTSpddea-12.0.0.0-0140.x86\_64 Mon Nov 2 12:33:54 2020

VRTSnbcfg-8.2.0.0-1561464065.x86\_64 Mon Nov 2 12:33:54 2020

VRTSnbclt-8.2.0.0-1561464178.x86\_64 Mon Nov 2 12:33:25 2020

VRTSpbx-1.11.17.1-1.x86\_64 Mon Nov 2 12:33:05 2020

VRTSnbpck-8.2.0.0-1561464233.x86\_64 Mon Nov 2 12:32:59 2020

VRTSfsadv-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:55:39 2020

VRTSvlic-4.01.74.002-SLES.x86\_64 Sat Oct 24 16:55:03 2020

VRTSperl-5.26.1.1-SLES12.x86\_64 Sat Oct 24 16:54:55 2020

VRTSspt-7.4.1.000-SLES12.noarch Sat Oct 24 16:54:54 2020

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper lu VRTSfsadv

Too many arguments.

Usage:

list-updates (lu) [options]

List all available updates.

Command options:

-t, --type <type> Type of package (package, patch, pattern, product).

Default: package.

-r, --repo <alias|#|URI> List only updates from the specified repository.

--best-effort Do a 'best effort' approach to update. Updates

to a lower than the latest version are

also acceptable.

-a, --all List all packages for which newer versions are

available, regardless whether they are

installable or not.

lp03wbp03:~ # zypper lu

Loading repository data...

Reading installed packages...

S | Repository | Name | Current Version | Available Version | Arch

--+-------------------+------------------------------+-----------------------+-----------------------+-------

v | BMW-FW-Dell | BMW-FW-BLOB-DELL-R740-BIOS | 2.13.3-4 | 2.15.1-4 | noarch

v | BMW-FW-Dell | BMW-FW-BLOB-DELL-R740-iDRAC9 | 5.10.10.00\_Build\_26-4 | 5.10.50.00\_Build\_32-4 | noarch

v | BMW-FW-Dell | BMW-FW-BLOB-Emulex | v0.0.1-41\_gea4585b | v0.0.1-43\_g5fad10e | x86\_64

v | BMW-FW-Dell | BMW-FW-DELL-R740-BIOS | 2.13.3-4 | 2.15.1-4 | noarch

v | BMW-FW-Dell | BMW-FW-DELL-R740-iDRAC9 | 5.10.10.00\_Build\_26-4 | 5.10.50.00\_Build\_32-4 | noarch

v | BMW-FW-Dell | BMW-FW-Emulex | v0.0.1-41\_gea4585b | v0.0.1-43\_g5fad10e | x86\_64

v | BMW-Patch-CVE | libz1 | 1.2.11-3.6.1 | 1.2.11-3.9.1 | x86\_64

v | PBIS | pbis-enterprise | 10.0.0-576 | 22.2.0-210 | x86\_64

v | BMW-Software-UCMD | ucmd | 6.3.0-4 | 6.7.0-0.1 | x86\_64

lp03wbp03:~ # rpm -qa --last | grep -i VRTS | wc -l

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lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # zypper se -s VRTS\* | grep BMW-Software-Veritas

| VRTSamf | package | 7.4.1.3400-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSamf | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSaslapm | package | 7.4.1.3300-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSaslapm | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTScavf | package | 7.4.1.3400-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTScavf | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTScps | package | 7.4.1.3100-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTScps | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSdbac | package | 7.4.1.1700-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSdbac | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSdbed | package | 7.4.1.3100-SLES | x86\_64 | BMW-Software-Veritas

| VRTSdbed | package | 7.4.1.0000-SLES | x86\_64 | BMW-Software-Veritas

i+ | VRTSfsadv | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSfssdk | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSgab | package | 7.4.1.3300-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSgab | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSglm | package | 7.4.1.2800-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSglm | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSgms | package | 7.4.1.3400-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSgms | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSllt | package | 7.4.1.3300-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSllt | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSodm | package | 7.4.1.3400-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSodm | package | 7.4.1.1700-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSodm | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

i | VRTSperl | package | 5.26.1.1-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSpython | package | 3.6.6.10-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSpython | package | 3.6.6.1-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSsfcpi | package | 7.4.1.3100-GENERIC | noarch | BMW-Software-Veritas

| VRTSsfcpi | package | 7.4.1.0000-GENERIC | noarch | BMW-Software-Veritas

i+ | VRTSsfmh | package | 7.4.0.1500-0 | x86\_64 | BMW-Software-Veritas

v | VRTSsfmh | package | 7.4.0.200-0 | x86\_64 | BMW-Software-Veritas

i+ | VRTSspt | package | 7.4.1.000-SLES12 | noarch | BMW-Software-Veritas

| VRTSvbs | package | 7.4.1.0000-GA\_Linux | x86\_64 | BMW-Software-Veritas

i+ | VRTSvcs | package | 7.4.1.3300-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvcs | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSvcsag | package | 7.4.1.3300-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvcsag | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSvcsea | package | 7.4.1.3300-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSvcsea | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

| VRTSvcswiz | package | 7.4.1.0000-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSveki | package | 7.4.1.3400-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSveki | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

i | VRTSvlic | package | 4.01.74.002-SLES | x86\_64 | BMW-Software-Veritas

i+ | VRTSvxfen | package | 7.4.1.3300-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxfen | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSvxfs | package | 7.4.1.3400-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxfs | package | 7.4.1.1700-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxfs | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

i+ | VRTSvxvm | package | 7.4.1.3401-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxvm | package | 7.4.1.3300-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxvm | package | 7.4.1.2805-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxvm | package | 7.4.1.2705-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxvm | package | 7.4.1.2100-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxvm | package | 7.4.1.1409-SLES12 | x86\_64 | BMW-Software-Veritas

v | VRTSvxvm | package | 7.4.1.1100-SLES12 | x86\_64 | BMW-Software-Veritas

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # rpm -qa | egrep -E "VRTSodm|VRTSvxfs|VRTSvxvm"

VRTSvxvm-7.4.1.3401-SLES12.x86\_64

VRTSvxfs-7.4.1.3400-SLES12.x86\_64

VRTSodm-7.4.1.3400-SLES12.x86\_64

lp03wbp03:~ # zypper lu

Loading repository data...

Reading installed packages...

S | Repository | Name | Current Version | Available Version | Arch

--+-------------------+-----------------+-----------------+-------------------+-------

v | PBIS | pbis-enterprise | 10.0.0-576 | 22.2.0-210 | x86\_64

v | BMW-Software-UCMD | ucmd | 6.3.0-4 | 6.7.0-0.1 | x86\_64

lp03wbp03:~ # reboot

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ zypper se -s VRTS\* | grep BMW-Software-Veritas | grep -i VRTSfsadv

Error building the cache:

[BMW-SLES12|https://cm-repo-emea.bmwgroup.net/active-P-2022Q03.00-BMW-SLES12-SP5/] Valid metadata not found at specified URL

Some of the repositories have not been refreshed because of an error.

Repository 'BMW-Custom' is invalid.

[BMW-Custom|https://cm-repo-emea.bmwgroup.net/active-P-BMW-Custom-SLES12/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'BMW-Custom'

Repository 'BMW-Internal' is invalid.

[BMW-Internal|https://cm-repo-emea.bmwgroup.net/active-P-BMW-Internal-SLES12/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'BMW-Internal'

Resolvables from 'BMW-Internal' not loaded because of error.

Repository 'BMW-Patch-CVE' is invalid.

[BMW-Patch-CVE|https://linux-repo.bmwgroup.net/active-P-BMW-Patch-CVE-SLES12SP5/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'BMW-Patch-CVE'

Resolvables from 'BMW-Patch-CVE' not loaded because of error.

Repository 'BMW-Software-VMC' is invalid.

[BMW-Software-VMC|https://cm-repo-emea.bmwgroup.net/active-P-BMW-Software-VMC-SLES12/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'BMW-Software-VMC'

Repository 'PBIS' is invalid.

[PBIS|https://cm-repo-emea.bmwgroup.net/active-P-PBIS10-SLES12/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'PBIS'

Repository 'Repo-BMW-Software-Splunk' is invalid.

[Repo-BMW-Software-Splunk|https://cm-repo-emea.bmwgroup.net/active-P-BMW-Software-Splunk-SLES12/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'Repo-BMW-Software-Splunk'

Resolvables from 'Repo-BMW-Software-Splunk' not loaded because of error.

Repository 'Software-LSSP-Executor' is invalid.

[Software-LSSP-Executor|https://cm-repo-emea.bmwgroup.net/active-P-BMW-Software-LSSP-Executor/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'Software-LSSP-Executor'

Resolvables from 'Software-LSSP-Executor' not loaded because of error.

Repository 'Software-UserSyncAgent' is invalid.

[Software-UserSyncAgent|https://cm-repo-emea.bmwgroup.net/active-P-BMW-Software-UserSyncAgent/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'Software-UserSyncAgent'

Repository 'Veritas-netbackup-client' is invalid.

[Veritas-netbackup-client|https://cm-repo-emea.bmwgroup.net/active-P-netbackup-client/] Valid metadata not found at specified URL

Please check if the URIs defined for this repository are pointing to a valid repository.

Problem loading data from 'Veritas-netbackup-client'

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ zypper se -s VRTS\* | grep BMW-Software-Veritas | grep -i VRTSfsadv^C

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ ping lp03wbp03

PING lp03wbp03.bmwgroup.net (160.48.228.17) 56(84) bytes of data.

64 bytes from lp03wbp03.bmwgroup.net (160.48.228.17): icmp\_seq=1 ttl=56 time=18.0 ms

64 bytes from lp03wbp03.bmwgroup.net (160.48.228.17): icmp\_seq=2 ttl=56 time=17.9 ms

64 bytes from lp03wbp03.bmwgroup.net (160.48.228.17): icmp\_seq=3 ttl=56 time=18.0 ms

^C

--- lp03wbp03.bmwgroup.net ping statistics ---

3 packets transmitted, 3 received, 0% packet loss, time 2003ms

rtt min/avg/max/mdev = 17.990/18.036/18.066/0.158 ms

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rootssh lp03wbp03

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N OFFLINE

B pwbpci00 lp03wbp03 Y N OFFLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

-- GROUPS FROZEN

-- Group

C iwbqci10

C pwbpci00

-- RESOURCES DISABLED

-- Group Type Resource

H iwbqci10 Application iwbqci10\_wbq\_app

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1001

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1002

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1003

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1004

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1005

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1006

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1007

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1008

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1009

H iwbqci10 IP iwbqci10\_iwbqci10\_ip

H iwbqci10 IP iwbqci10\_iwbqdb10\_ip

H iwbqci10 Mount iwbqci10\_global\_iwbqci10\_apps\_mount

H iwbqci10 Mount iwbqci10\_global\_iwbqci10\_bkup\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mirrlogA\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mirrlogB\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_origlogA\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_origlogB\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata1\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata2\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata3\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata4\_mount

H iwbqci10 Mount iwbqci10\_usr\_sap\_WBQ\_mount

H iwbqci10 Proxy iwbqci10\_nic\_proxy

H pwbpci00 Application pwbpci00\_wbp\_app

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0001

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0002

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0003

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0004

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0005

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0006

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0007

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0008

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0009

H pwbpci00 IP pwbpci00\_pwbpci00\_ip

H pwbpci00 IP pwbpci00\_pwbpdb00\_ip

H pwbpci00 Mount pwbpci00\_global\_pwbpci00\_apps\_mount

H pwbpci00 Mount pwbpci00\_global\_pwbpci00\_bkup\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mirrlogA\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mirrlogB\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_origlogA\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_origlogB\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata1\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata2\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata3\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata4\_mount

H pwbpci00 Mount pwbpci00\_usr\_sap\_WBP\_mount

H pwbpci00 Proxy pwbpci00\_nic\_proxy

lp03wbp03:~ # haconf -makerw

lp03wbp03:~ # hagrp -unfreeze iwbqci10

VCS WARNING V-16-1-40201 Group is not temporarily frozen

lp03wbp03:~ # hagrp -unfreeze iwbqci10 -persistent

lp03wbp03:~ # hagrp -unfreeze pwbpci00 -persistent

lp03wbp03:~ # haconf -dump -makero

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N OFFLINE

B pwbpci00 lp03wbp03 Y N OFFLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hagrp -online iwbqci10 -sys lp03wbp04

lp03wbp03:~ #

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N STARTING|PARTIAL

B pwbpci00 lp03wbp03 Y N OFFLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

-- RESOURCES ONLINING

-- Group Type Resource System IState

F iwbqci10 Application iwbqci10\_wbq\_app lp03wbp04 W\_ONLINE

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N ONLINE

B pwbpci00 lp03wbp03 Y N OFFLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp03:~ # hagrp -online pwbpci00 -sys lp03wbp03

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # cat /etc/BMW-release

IMAGE\_KIWI\_NAME="BMW-SLES12SP2"

IMAGE\_KIWI\_PROFILE="HW\_DELL"

IMAGE\_KIWI\_VERSION="2.4.0"

IMAGE\_KIWI\_BUILD\_DATE="2020-01-10"

IMAGE\_KIWI\_BUILD\_ID="8299b5457d8f-98635d5"

IMAGE\_BMW\_MR="2020Q01.00"

IMAGE\_BMW\_STATUS="RELEASE"

INSTALL\_DATE="2020-02-13"

LAST\_IPU\_VERSION="ipu\_12.2\_12.4"

LAST\_IPU\_DATE="1603551123 2020-10-24 16:52:03 +0200"

HISTORY\_MR\_VERSION+=("2020Q04.00")

HISTORY\_MR\_VERSION+=("2021Q03.00")

HISTORY\_MR\_DATE+=("1633234154 2021-10-03 06:09:14 +0200")

HISTORY\_MR\_VERSION+=("2021Q04.00")

HISTORY\_MR\_DATE+=("1637426451 2021-11-20 17:40:51 +0100")

HISTORY\_MR\_VERSION+=("2022Q02.00")

HISTORY\_MR\_DATE+=("1652548559 2022-05-14 19:15:59 +0200")

CURRENT\_MR\_VERSION="2022Q04.00"

CURRENT\_MR\_DATE="1667675146 2022-11-05 20:05:46 +0100"

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N ONLINE

B pwbpci00 lp03wbp03 Y N ONLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # df -hT

Filesystem Type Size Used Avail Use% Mounted on

devtmpfs devtmpfs 188G 8.0K 188G 1% /dev

tmpfs tmpfs 188G 8.0K 188G 1% /dev/shm

tmpfs tmpfs 188G 4.7M 188G 1% /run

tmpfs tmpfs 188G 0 188G 0% /sys/fs/cgroup

/dev/sda2 btrfs 101G 35G 65G 35% /

/dev/sda2 btrfs 101G 35G 65G 35% /.snapshots

/dev/sda2 btrfs 101G 35G 65G 35% /global/local

/dev/sda2 btrfs 101G 35G 65G 35% /var/cache

/dev/sda2 btrfs 101G 35G 65G 35% /var/log

/dev/sda2 btrfs 101G 35G 65G 35% /tmp

/dev/sda1 ext3 976M 103M 823M 12% /boot

/dev/sda2 btrfs 101G 35G 65G 35% /usr/sap/saprootsh

/dev/sda2 btrfs 101G 35G 65G 35% /home

/dev/sda2 btrfs 101G 35G 65G 35% /var/tmp

/dev/sda2 btrfs 101G 35G 65G 35% /opt

/dev/sda2 btrfs 101G 35G 65G 35% /var/opt

/dev/sda2 btrfs 101G 35G 65G 35% /var/spool

/dev/sda2 btrfs 101G 35G 65G 35% /lfs

/dev/mapper/vglocal-lvvarcrash xfs 50G 33M 50G 1% /var/crash

tmpfs tmpfs 4.0K 0 4.0K 0% /dev/vx

nv03100029.bmwgroup.net:/f05465/t036400 nfs 1.0G 3.0M 1021M 1% /nfs/sap/notfallliste

nv03100029.bmwgroup.net:/f05466/t026988/sapmnt\_WBQ nfs 10G 1.3G 8.8G 13% /nfs/sap/sapmnt\_WBQ

nv03100029.bmwgroup.net:/f05466/t027020/sapmnt\_WBP nfs 10G 1.5G 8.6G 15% /nfs/sap/sapmnt\_WBP

nv03100029.bmwgroup.net:/f06055/t026992/archive\_WB nfs 5.0G 385M 4.7G 8% /nfs/sap/archive\_WB

nv01502304.bmwgroup.net:/f05526/t021213/instsap nfs 2.3T 2.0T 320G 87% /nfs/sap/local\_instsap

nv03100029.bmwgroup.net:/f05466/t026989/sapsst\_WBQ nfs 110G 28G 83G 25% /nfs/sap/sapsst\_WBQ

nv01502303.bmwgroup.net:/f05546/t026092/scripts nfs 10G 400M 9.7G 4% /nfs/sap/sapscripts

nv03100029.bmwgroup.net:/f05466/t027021/sapsst\_WBP nfs 110G 21G 90G 19% /nfs/sap/sapsst\_WBP

nv03100029.bmwgroup.net:/f05466/t026990/trans\_WB nfs 40G 32G 8.5G 79% /nfs/sap/trans\_WB

tmpfs tmpfs 38G 0 38G 0% /run/user/79337

tmpfs tmpfs 38G 0 38G 0% /run/user/66159

tmpfs tmpfs 38G 0 38G 0% /run/user/48952

tmpfs tmpfs 38G 0 38G 0% /run/user/589049

tmpfs tmpfs 38G 0 38G 0% /run/user/44035

/dev/vx/dsk/dgpwbpci0001/lvapps vxfs 66G 2.7G 60G 5% /global/pwbpci00/apps

/dev/vx/dsk/dgpwbpci0001/lvsapWBP vxfs 46G 4.7G 39G 11% /usr/sap/WBP

/dev/vx/dsk/dgpwbpci0005/lvWBP vxfs 113G 15G 92G 14% /oracle/WBP

/dev/vx/dsk/dgpwbpci0002/lvbkup vxfs 451G 185G 249G 43% /global/pwbpci00/bkup

/dev/vx/dsk/dgpwbpci0007/lvsapdata2 vxfs 169G 91G 79G 54% /oracle/WBP/sapdata2

/dev/vx/dsk/dgpwbpci0006/lvsapdata1 vxfs 169G 78G 91G 46% /oracle/WBP/sapdata1

/dev/vx/dsk/dgpwbpci0008/lvsapdata3 vxfs 169G 91G 79G 54% /oracle/WBP/sapdata3

/dev/vx/dsk/dgpwbpci0009/lvsapdata4 vxfs 169G 70G 99G 42% /oracle/WBP/sapdata4

/dev/vx/dsk/dgpwbpci0004/lvoriglogB vxfs 29G 25G 3.8G 87% /oracle/WBP/origlogB

/dev/vx/dsk/dgpwbpci0003/lvmirrlogB vxfs 29G 25G 3.9G 87% /oracle/WBP/mirrlogB

/dev/vx/dsk/dgpwbpci0004/lvmirrlogA vxfs 29G 25G 3.9G 87% /oracle/WBP/mirrlogA

/dev/vx/dsk/dgpwbpci0003/lvoriglogA vxfs 29G 25G 3.8G 87% /oracle/WBP/origlogA

lp03wbp03:~ #

lp03wbp03:~ #

lp03wbp03:~ # mount -a

lp03wbp03:~ # zypper lu

Loading repository data...

Reading installed packages...

S | Repository | Name | Current Version | Available Version | Arch

--+-------------------+-----------------+-----------------+-------------------+-------

v | PBIS | pbis-enterprise | 10.0.0-576 | 22.2.0-210 | x86\_64

v | BMW-Software-UCMD | ucmd | 6.3.0-4 | 6.7.0-0.1 | x86\_64

lp03wbp03:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N ONLINE

B pwbpci00 lp03wbp03 Y N ONLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp03:~ # exit

exit

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ downtime -a -h 2 -c "TAS000006681488 qxz10kv" lpbkvvs23.bmwgroup.net

Argument: lpbkvvs23.bmwgroup.net

[1667668178] SCHEDULE\_HOST\_DOWNTIME;lpbkvvs23.bmwgroup.net;1667668178;1667675378;1;0;7200;remote;TAS000006681488 qxz10kv

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ downtime -l lpbkvvs23.bmwgroup.net

129720 : host lpbkvvs23.bmwgroup.net down between Sat Nov 5 18:09:38 2022 and Sat Nov 5 20:09:38 2022

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rudderswinst -t TAS000006681488 update lpbkvvs23.bmwgroup.net

info prep: mr-versions taken from command line: 2022Q02.00 2022Q04.00

info prep: found BMW repo 'BMW-Custom'

info prep: found BMW repo 'BMW-Internal'

info prep: found OS repo 'BMW-SLES12-SP5'

info prep: 9 repos skipped. Use option --repo= to include on of 'BMW-Patch-CVE-2021-3156' 'BMW-Patch-CVE' 'BMW-Software-SecFS' 'BMW-Software-Splunk' 'BMW-Software-UCMD' 'BMW-Software-UserSyncAgent' 'Oracle-client' 'PBIS' 'Veritas-netbackup-client'

info run : Rudder agent state: Agent is enabled

info run : trying to update. found 214 downloaded rpm(s) in cache.

info run : update was installed, output at /var/log/run\_zypper\_mr\_up.sh.log

info run : reboot required

info run : no more upgrades found.

info post: Rudder agent enable: ok: Rudder agent has been enabled but not started, wait for next cron run.

info post: Please don't forget to reboot the system

info post: end of run\_zypper\_mr\_up.sh, run status was good

Info[1]: Skipping on Xen VM

Info[1]: Skipping on Xen VM

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rshut -r lpbkvvs23.bmwgroup.net

##### lpbkvvs23.bmwgroup.net #####

searching host-downtime for server: OK

there is a host-downtime set between Sat Nov 5 18:09:38 2022 and Sat Nov 5 20:09:38 2022 for this server

91 minutes are left

module: Bank

hardware type: XEN-VM

checking ssh: OK

link to manual downtime check: https://lpnaggui.bmwgroup.net/gui/thruk/#cgi-bin/status.cgi?hidesearch=2&s0\_op=~&s0\_type=search&s0\_value=lpbkvvs23

IMPORTANT: do not forget to monitor server reboot process

fetching list of XEN DOM0s from DCODB OK

state of XEN-VM RUNNING

link to manual downtime check: https://lpnaggui.bmwgroup.net/gui/thruk/#cgi-bin/status.cgi?hidesearch=2&s0\_op=~&s0\_type=search&s0\_value=lpbkvvs23

IMPORTANT: do not forget to monitor server reboot process

are you sure to reboot lpbkvvs23.bmwgroup.net? [y|n] y

executing "/lfs/xen/sbin/vmc reboot lpbkvvs23" on XEN-DOM0 lpbkxen46:

18:38:06 Checking free config space on lpbkxen45 OK

18:38:07 Checking free config space on lpbkxen46 OK

18:38:07 Locking VM lpbkvvs23: Automatic Lock - stop OK

18:38:12 Stopping VM lpbkvvs23 on lpbkxen45 OK

18:39:03 Waiting for udev to settle on lpbkxen45 OK

18:39:04 Stopping MD device /dev/md/lpbkvvs23\_1 on lpbkxen45 FAILED

18:39:04 child exited with code 1

18:39:04 Waiting for udev to settle on lpbkxen45 OK

18:39:05 Unlocking VM lpbkvvs23 OK

18:39:08 Locking VM lpbkvvs23: Automatic Lock - start OK

18:39:09 Starting MD device /dev/md/lpbkvvs23 on lpbkxen45 OK

18:39:12 Waiting for udev to settle on lpbkxen45 OK

18:39:14 Starting VM lpbkvvs23 on lpbkxen45 OK

18:39:24 Unlocking VM lpbkvvs23 OK

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rudderswinst -t TAS000006681488 install lpbkvvs23.bmwgroup.net MW-SecFS

software 'MW-SecFS' has been successfully activated at server 'lpbkvvs23.bmwgroup.net'

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rootssh lp03wbp04

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N ONLINE

B pwbpci00 lp03wbp03 Y N ONLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 EXITED 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N OFFLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N OFFLINE

B pwbpci00 lp03wbp03 Y N OFFLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

-- GROUPS FROZEN

-- Group

C iwbqci10

C pwbpci00

-- RESOURCES DISABLED

-- Group Type Resource

H iwbqci10 Application iwbqci10\_wbq\_app

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1001

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1002

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1003

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1004

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1005

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1006

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1007

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1008

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1009

H iwbqci10 IP iwbqci10\_iwbqci10\_ip

H iwbqci10 IP iwbqci10\_iwbqdb10\_ip

H iwbqci10 Mount iwbqci10\_global\_iwbqci10\_apps\_mount

H iwbqci10 Mount iwbqci10\_global\_iwbqci10\_bkup\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mirrlogA\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mirrlogB\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_origlogA\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_origlogB\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata1\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata2\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata3\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata4\_mount

H iwbqci10 Mount iwbqci10\_usr\_sap\_WBQ\_mount

H iwbqci10 Proxy iwbqci10\_nic\_proxy

H pwbpci00 Application pwbpci00\_wbp\_app

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0001

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0002

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0003

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0004

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0005

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0006

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0007

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0008

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0009

H pwbpci00 IP pwbpci00\_pwbpci00\_ip

H pwbpci00 IP pwbpci00\_pwbpdb00\_ip

H pwbpci00 Mount pwbpci00\_global\_pwbpci00\_apps\_mount

H pwbpci00 Mount pwbpci00\_global\_pwbpci00\_bkup\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mirrlogA\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mirrlogB\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_origlogA\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_origlogB\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata1\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata2\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata3\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata4\_mount

H pwbpci00 Mount pwbpci00\_usr\_sap\_WBP\_mount

H pwbpci00 Proxy pwbpci00\_nic\_proxy

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # hastop -local -force

lp03wbp04:~ # systemctl stop vcs

lp03wbp04:~ # systemctl stop gab

lp03wbp04:~ # gabconfig -U

GAB gabconfig ERROR V-15-2-25022 gabconfig: open failed : unknown error

lp03wbp04:~ # systemctl stop vxfen

lp03wbp04:~ # systemctl stop llt

lp03wbp04:~ # lltconfig -U

LLT lltconfig ERROR V-14-2-15000 open /dev/llt failed: No such file or directory

lp03wbp04:~ # rmmod vxfen

lp03wbp04:~ # rmmod gab

rmmod: ERROR: Module gab is not currently loaded

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # systemctl stop syslog

Warning: Stopping syslog.service, but it can still be activated by:

syslog.socket

lp03wbp04:~ # systemctl stop vxodm

lp03wbp04:~ # systemctl stop vxvm-boot

lp03wbp04:~ # systemctl stop vxfs

lp03wbp04:~ # systemctl stop vxodm.service

lp03wbp04:~ # systemctl stop vxfs\_replication.service

lp03wbp04:~ # systemctl stop vxnm-vxnetd.service

lp03wbp04:~ # systemctl stop vxpbx\_exchanged.service

lp03wbp04:~ # systemctl stop vxrsyncd.service

lp03wbp04:~ # systemctl stop vxvm-boot.service

lp03wbp04:~ # systemctl stop vxvm-encrypt.service

lp03wbp04:~ # systemctl stop vxvm-reconfig.service

lp03wbp04:~ # systemctl stop vxvm-recover.service

lp03wbp04:~ # systemctl stop vxodm

lp03wbp04:~ # systemctl stop vxvm-boot

lp03wbp04:~ # systemctl stop vxfs

lp03wbp04:~ # systemctl stop vxodm.service

lp03wbp04:~ # systemctl stop vxfs\_replication.service

lp03wbp04:~ # systemctl stop vxnm-vxnetd.service

lp03wbp04:~ # systemctl stop vxpbx\_exchanged.service

lp03wbp04:~ # systemctl stop vxrsyncd.service

lp03wbp04:~ # systemctl stop vxvm-boot.service

lp03wbp04:~ # systemctl stop vxvm-encrypt.service

lp03wbp04:~ # systemctl stop vxvm-reconfig.service

lp03wbp04:~ # systemctl stop vxvm-recover.service

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # rpm -qa --last | grep -i VRTS

VRTSvxvm-7.4.1.2805-SLES12.x86\_64 Sun Oct 3 05:45:07 2021

VRTSpddea-12.0.0.0-0140.x86\_64 Tue Oct 27 14:52:40 2020

VRTSnbcfg-8.2.0.0-1561464065.x86\_64 Tue Oct 27 14:52:40 2020

VRTSnbclt-8.2.0.0-1561464178.x86\_64 Tue Oct 27 14:52:12 2020

VRTSpbx-1.11.17.1-1.x86\_64 Tue Oct 27 14:51:53 2020

VRTSnbpck-8.2.0.0-1561464233.x86\_64 Tue Oct 27 14:51:46 2020

VRTSodm-7.4.1.1700-SLES12.x86\_64 Sat Oct 24 16:45:05 2020

VRTSfsadv-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:39 2020

VRTSvxfs-7.4.1.1700-SLES12.x86\_64 Sat Oct 24 16:42:32 2020

VRTSvxfen-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:42:28 2020

VRTSvcsag-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:28 2020

VRTSaslapm-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:27 2020

VRTSgab-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:42:26 2020

VRTSvcs-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:25 2020

VRTSllt-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:42:08 2020

VRTSvlic-4.01.74.002-SLES.x86\_64 Sat Oct 24 16:42:07 2020

VRTSveki-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:41:59 2020

VRTSperl-5.26.1.1-SLES12.x86\_64 Sat Oct 24 16:41:58 2020

VRTSspt-7.4.1.000-SLES12.noarch Sat Oct 24 16:41:57 2020

VRTSsfmh-7.4.0.200-0.x86\_64 Sat Oct 24 16:41:40 2020

VRTSpython-3.6.6.1-SLES12.x86\_64 Sat Oct 24 16:41:33 2020

lp03wbp04:~ # zypper up VRTSodm|VRTSvxfs|VRTSvxvm

bash: VRTSvxfs: command not found

bash: VRTSvxvm: command not found

lp03wbp04:~ # zypper up VRTSodm VRTSvxfs VRTSvxvm

Loading repository data...

Reading installed packages...

Resolving package dependencies...

The following 3 packages are going to be upgraded:

VRTSodm VRTSvxfs VRTSvxvm

The following 3 packages have no support information from their vendor:

VRTSodm VRTSvxfs VRTSvxvm

3 packages to upgrade.

Overall download size: 135.3 MiB. Already cached: 0 B. After the operation, 8.2 MiB will be freed.

Continue? [y/n/...? shows all options] (y): y

Retrieving package VRTSvxvm-7.4.1.3401-SLES12.x86\_64 (1/3), 128.8 MiB ( 1.05 GiB unpacked)

Retrieving: VRTSvxvm-7.4.1.3401-SLES12.x86\_64.rpm ........................................................................................[done (44.2 MiB/s)]

Retrieving package VRTSvxfs-7.4.1.3400-SLES12.x86\_64 (2/3), 6.3 MiB ( 58.8 MiB unpacked)

Retrieving: VRTSvxfs-7.4.1.3400-SLES12.x86\_64.rpm .........................................................................................[done (3.4 MiB/s)]

Retrieving package VRTSodm-7.4.1.3400-SLES12.x86\_64 (3/3), 188.2 KiB ( 1.8 MiB unpacked)

Retrieving: VRTSodm-7.4.1.3400-SLES12.x86\_64.rpm ......................................................................................................[done]

Checking for file conflicts: ..........................................................................................................................[done]

(1/3) Installing: VRTSvxvm-7.4.1.3401-SLES12.x86\_64 ...................................................................................................[done]

Additional rpm output:

stopping vxnotify

Stopping vxcloudd

stopping vxconfigd

Installing and Enabling VxVM systemd-services

creating VxVM device nodes under /dev

modprobe: FATAL: Module vxspec is in use.

modprobe: FATAL: Module vxdmp is in use.

ERROR: No appropriate modules found. Error in loading module "vxdmp". See documentation.

WARNING: Unable to load new drivers.

You should reboot the system to ensure that new drivers

get loaded.

(2/3) Installing: VRTSvxfs-7.4.1.3400-SLES12.x86\_64 ...................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvxfs-7.4.1.3400-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Unable to unload the fdd module. A reboot may be required to unload it.

Unable to unload the vxfs module. A reboot may be required to unload it.

Job for vxfs.service failed because the control process exited with error code. See "systemctl status vxfs.service" and "journalctl -xe" for details.

ERROR: No appropriate VxFS drivers found that can be loaded. See VxFS documentation for the list of supported platforms.

(3/3) Installing: VRTSodm-7.4.1.3400-SLES12.x86\_64 ....................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSodm-7.4.1.3400-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Synchronizing state of vxodm.service with SysV init with /usr/lib/systemd/systemd-sysv-install...

Executing /usr/lib/systemd/systemd-sysv-install enable vxodm

There are some running programs that might use files deleted by recent upgrade. You may wish to check and restart some of them. Run 'zypper ps -s' to list these programs.

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 2 packages are going to be upgraded:

VRTSgab VRTSllt

The following 2 packages have no support information from their vendor:

VRTSgab VRTSllt

2 packages to upgrade.

Overall download size: 19.0 MiB. Already cached: 0 B. After the operation, additional 28.3 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

Retrieving package VRTSllt-7.4.1.3300-SLES12.x86\_64 (1/2), 15.2 MiB (115.9 MiB unpacked)

Retrieving: VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm .........................................................................................[done (11.9 MiB/s)]

Retrieving package VRTSgab-7.4.1.3300-SLES12.x86\_64 (2/2), 3.8 MiB ( 42.3 MiB unpacked)

Retrieving: VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm ......................................................................................................[done]

Checking for file conflicts: ..........................................................................................................................[done]

(1/2) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSllt-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

LLT module is still loaded. Cannot upgrade.

Please unload LLT first (using systemctl stop llt).

error: %pre(VRTSllt-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSllt-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSllt-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # systemctl stop llt

lp03wbp04:~ #

lp03wbp04:~ # zypper update VRTSllt

Loading repository data...

Reading installed packages...

Resolving package dependencies...

The following package is going to be upgraded:

VRTSllt

The following package has no support information from it's vendor:

VRTSllt

1 package to upgrade.

Overall download size: 0 B. Already cached: 15.2 MiB. After the operation, additional 23.1 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm (1/1), 15.2 MiB (115.9 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/1) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSllt-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

LLT module is still loaded. Cannot upgrade.

Please unload LLT first (using systemctl stop llt).

error: %pre(VRTSllt-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSllt-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSllt-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp04:~ #

lp03wbp04:~ # systemctl disable llt

Removed symlink /etc/systemd/system/multi-user.target.wants/llt.service.

Removed symlink /etc/systemd/system/graphical.target.wants/llt.service.

lp03wbp04:~ #

lp03wbp04:~ # zypper update VRTSllt

Loading repository data...

Reading installed packages...

Resolving package dependencies...

The following package is going to be upgraded:

VRTSllt

The following package has no support information from it's vendor:

VRTSllt

1 package to upgrade.

Overall download size: 0 B. Already cached: 15.2 MiB. After the operation, additional 23.1 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm (1/1), 15.2 MiB (115.9 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/1) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSllt-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

LLT module is still loaded. Cannot upgrade.

Please unload LLT first (using systemctl stop llt).

error: %pre(VRTSllt-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSllt-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSllt-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # rpm -qa --last

VRTSodm-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:36:11 2022

VRTSvxfs-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:36:05 2022

VRTSvxvm-7.4.1.3401-SLES12.x86\_64 Sat Nov 5 20:36:00 2022

BMW-FW-Emulex-v0.0.1-43\_g5fad10e.x86\_64 Sat Nov 5 20:34:05 2022

BMW-FW-DELL-R740-PERC\_H730P\_Mini-25.5.9.0001-4.noarch Sat Nov 5 20:33:59 2022

BMW-FW-DELL-R740-iDRAC9-5.10.50.00\_Build\_32-4.noarch Sat Nov 5 20:33:58 2022

BMW-FW-DELL-R740-BIOS-2.15.1-4.noarch Sat Nov 5 20:33:56 2022

BMW-FW-BLOB-DELL-R740-BIOS-2.15.1-4.noarch Sat Nov 5 20:11:32 2022

BMW-FW-BLOB-DELL-R740-iDRAC9-5.10.50.00\_Build\_32-4.noarch Sat Nov 5 20:11:30 2022

BMW-FW-BLOB-Emulex-v0.0.1-43\_g5fad10e.x86\_64 Sat Nov 5 20:11:18 2022

sapconf-5.0.4-40.71.1.noarch Sat Nov 5 20:11:17 2022

bind-utils-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:17 2022

BMW-SW-SAP-OS-Scripts-1.3-1.x86\_64 Sat Nov 5 20:11:17 2022

dnsmasq-2.78-18.18.1.x86\_64 Sat Nov 5 20:11:16 2022

docker-20.10.17\_ce-98.83.1.x86\_64 Sat Nov 5 20:11:15 2022

systemd-sysvinit-228-150.101.3.x86\_64 Sat Nov 5 20:11:13 2022

rsyslog-8.24.0-3.58.2.x86\_64 Sat Nov 5 20:11:13 2022

zypper-1.13.62-21.46.5.x86\_64 Sat Nov 5 20:11:12 2022

uuidd-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:11:12 2022

util-linux-systemd-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:11:12 2022

libbind9-161-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:12 2022

udev-228-150.101.3.x86\_64 Sat Nov 5 20:11:11 2022

python-bind-9.11.22-3.40.1.noarch Sat Nov 5 20:11:11 2022

libzypp-16.22.4-36.2.x86\_64 Sat Nov 5 20:11:11 2022

libisccfg163-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:11 2022

systemd-228-150.101.3.x86\_64 Sat Nov 5 20:11:10 2022

python-2.7.18-33.11.1.x86\_64 Sat Nov 5 20:11:10 2022

libstdc++6-32bit-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:11:10 2022

libsolv-tools-0.6.39-2.39.2.x86\_64 Sat Nov 5 20:11:10 2022

grub2-snapper-plugin-2.02-143.2.noarch Sat Nov 5 20:11:10 2022

suse-build-key-12.0-7.15.1.noarch Sat Nov 5 20:11:09 2022

libisccc161-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:09 2022

libdns1110-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:09 2022

containerd-1.6.6-16.62.1.x86\_64 Sat Nov 5 20:11:09 2022

glibc-locale-2.22-114.19.1.x86\_64 Sat Nov 5 20:11:07 2022

e2fsprogs-1.43.8-3.17.1.x86\_64 Sat Nov 5 20:11:07 2022

kernel-default-4.12.14-95.102.1.x86\_64 Sat Nov 5 20:10:58 2022

timezone-2022a-74.58.1.x86\_64 Sat Nov 5 20:10:54 2022

systemd-rpm-macros-11-10.36.1.noarch Sat Nov 5 20:10:54 2022

nfs-client-1.3.0-34.34.2.x86\_64 Sat Nov 5 20:10:54 2022

xorg-x11-server-1.19.6-4.31.1.x86\_64 Sat Nov 5 20:10:53 2022

util-linux-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:10:53 2022

libpcre1-32bit-8.45-8.12.1.x86\_64 Sat Nov 5 20:10:53 2022

libitm1-32bit-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:53 2022

libgomp1-32bit-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:53 2022

libgcc\_s1-32bit-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:53 2022

libatomic1-32bit-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:53 2022

glibc-devel-32bit-2.22-114.19.1.x86\_64 Sat Nov 5 20:10:53 2022

libuuid1-32bit-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:10:52 2022

libudev1-32bit-228-150.101.3.x86\_64 Sat Nov 5 20:10:52 2022

python-xml-2.7.18-33.11.1.x86\_64 Sat Nov 5 20:10:50 2022

python-curses-2.7.18-33.11.1.x86\_64 Sat Nov 5 20:10:50 2022

grub2-i386-pc-2.02-143.2.x86\_64 Sat Nov 5 20:10:50 2022

xorg-x11-server-extra-1.19.6-4.31.1.x86\_64 Sat Nov 5 20:10:49 2022

python3-3.4.10-25.93.1.x86\_64 Sat Nov 5 20:10:49 2022

libxml2-tools-2.9.4-46.54.3.x86\_64 Sat Nov 5 20:10:49 2022

libtsan0-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:49 2022

libtiff5-4.0.9-44.45.1.x86\_64 Sat Nov 5 20:10:49 2022

libpq5-14.3-3.9.3.x86\_64 Sat Nov 5 20:10:49 2022

libisc1107-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:10:49 2022

libapr-util1-1.5.3-8.4.1.x86\_64 Sat Nov 5 20:10:49 2022

gpg2-2.0.24-9.11.1.x86\_64 Sat Nov 5 20:10:49 2022

git-core-2.26.2-27.57.1.x86\_64 Sat Nov 5 20:10:49 2022

coreutils-8.25-13.13.1.x86\_64 Sat Nov 5 20:10:49 2022

bash-doc-4.3-83.33.1.noarch Sat Nov 5 20:10:49 2022

python-base-2.7.18-33.11.1.x86\_64 Sat Nov 5 20:10:48 2022

openssl-1\_0\_0-1.0.2p-3.56.1.x86\_64 Sat Nov 5 20:10:48 2022

gzip-1.6-9.9.1.x86\_64 Sat Nov 5 20:10:48 2022

grub2-2.02-143.2.x86\_64 Sat Nov 5 20:10:48 2022

glibc-devel-2.22-114.19.1.x86\_64 Sat Nov 5 20:10:48 2022

glibc-32bit-2.22-114.19.1.x86\_64 Sat Nov 5 20:10:48 2022

python3-base-3.4.10-25.93.1.x86\_64 Sat Nov 5 20:10:47 2022

xz-5.0.5-6.7.1.x86\_64 Sat Nov 5 20:10:46 2022

tcpdump-4.9.2-14.20.1.x86\_64 Sat Nov 5 20:10:46 2022

libxml2-2-2.9.4-46.54.3.x86\_64 Sat Nov 5 20:10:46 2022

libsystemd0-228-150.101.3.x86\_64 Sat Nov 5 20:10:46 2022

libstdc++6-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:46 2022

libopenssl1\_0\_0-1.0.2p-3.56.1.x86\_64 Sat Nov 5 20:10:46 2022

libmount1-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:10:46 2022

libldap-2\_4-2-2.4.41-22.10.1.x86\_64 Sat Nov 5 20:10:46 2022

libfdisk1-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:10:46 2022

libext2fs2-1.43.8-3.17.1.x86\_64 Sat Nov 5 20:10:46 2022

libexpat1-2.1.0-21.22.1.x86\_64 Sat Nov 5 20:10:46 2022

libcom\_err2-1.43.8-3.17.1.x86\_64 Sat Nov 5 20:10:46 2022

libblkid1-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:10:46 2022

libaudit1-2.8.1-10.14.1.x86\_64 Sat Nov 5 20:10:46 2022

libatomic1-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:46 2022

expat-2.1.0-21.22.1.x86\_64 Sat Nov 5 20:10:46 2022

cyrus-sasl-2.1.26-14.5.1.x86\_64 Sat Nov 5 20:10:46 2022

bash-4.3-83.33.1.x86\_64 Sat Nov 5 20:10:46 2022

runc-1.1.3-16.21.1.x86\_64 Sat Nov 5 20:10:45 2022

libz1-1.2.11-3.9.1.x86\_64 Sat Nov 5 20:10:45 2022

libuuid1-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:10:45 2022

libudev1-228-150.101.3.x86\_64 Sat Nov 5 20:10:45 2022

libsmartcols1-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:10:45 2022

libsasl2-3-2.1.26-14.5.1.x86\_64 Sat Nov 5 20:10:45 2022

libreadline6-6.3-83.33.1.x86\_64 Sat Nov 5 20:10:45 2022

libpython3\_4m1\_0-3.4.10-25.93.1.x86\_64 Sat Nov 5 20:10:45 2022

libpython2\_7-1\_0-2.7.18-33.11.1.x86\_64 Sat Nov 5 20:10:45 2022

libpcre2-8-0-10.34-1.10.1.x86\_64 Sat Nov 5 20:10:45 2022

libpcre16-0-8.45-8.12.1.x86\_64 Sat Nov 5 20:10:45 2022

libpcre1-8.45-8.12.1.x86\_64 Sat Nov 5 20:10:45 2022

liblzma5-5.0.5-6.7.1.x86\_64 Sat Nov 5 20:10:45 2022

liblwres161-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:10:45 2022

libitm1-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:45 2022

libirs161-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:10:45 2022

libgomp1-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:45 2022

libgcrypt20-1.6.1-16.80.1.x86\_64 Sat Nov 5 20:10:45 2022

libgcc\_s1-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:10:45 2022

systemd-bash-completion-228-150.101.3.noarch Sat Nov 5 20:10:44 2022

glibc-i18ndata-2.22-114.19.1.noarch Sat Nov 5 20:10:44 2022

glibc-2.22-114.19.1.x86\_64 Sat Nov 5 20:10:44 2022

splunkforwarder-bmw-8.2.7.1-c2b65bc24aea.sles12.x86\_64 Tue Sep 27 22:39:52 2022

BMW-CLIB-1.9.8-0\_ge677ec9.noarch Thu Aug 11 10:05:50 2022

BMW-Inventory-Scanner-6.1-1\_4\_g5fe36df.x86\_64 Wed Jul 20 17:06:09 2022

BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch Wed Jul 20 17:05:53 2022

BMW-netbackup-config-1.0-8\_gedcfd81.x86\_64 Tue Jun 28 17:21:41 2022

libxcb1-32bit-1.10-4.5.1.x86\_64 Tue Jun 14 11:06:14 2022

libXi6-32bit-1.7.4-18.6.1.x86\_64 Tue Jun 14 11:06:14 2022

libXext6-32bit-1.3.2-4.3.1.x86\_64 Tue Jun 14 11:06:14 2022

libXau6-32bit-1.0.8-4.58.x86\_64 Tue Jun 14 11:06:14 2022

libX11-6-32bit-1.6.2-12.21.1.x86\_64 Tue Jun 14 11:06:14 2022

patterns-sles-Minimal-12-7.3.1.x86\_64 Sat May 14 19:56:15 2022

BMW-kwom-lrsq-client-1.0.061-1\_g5e58d9b.x86\_64 Sat May 14 19:56:15 2022

net-snmp-5.7.3-6.9.1.x86\_64 Sat May 14 19:56:14 2022

binutils-2.37-9.44.1.x86\_64 Sat May 14 19:56:14 2022

rsync-3.1.0-13.16.1.x86\_64 Sat May 14 19:56:13 2022

perl-SNMP-5.7.3-6.9.1.x86\_64 Sat May 14 19:56:13 2022

curl-7.60.0-4.33.1.x86\_64 Sat May 14 19:56:13 2022

openssh-7.2p2-78.13.1.x86\_64 Sat May 14 19:56:12 2022

libctf0-2.37-9.44.1.x86\_64 Sat May 14 19:56:12 2022

openslp-2.0.0-24.2.1.x86\_64 Sat May 14 19:56:07 2022

libsnmp30-5.7.3-6.9.1.x86\_64 Sat May 14 19:56:07 2022

file-5.22-10.21.1.x86\_64 Sat May 14 19:56:07 2022

libssh2-1-1.4.3-26.2.1.x86\_64 Sat May 14 19:56:06 2022

libevent-2\_0-5-2.0.21-12.2.1.x86\_64 Sat May 14 19:56:06 2022

libesmtp-1.0.6-23.2.1.x86\_64 Sat May 14 19:56:06 2022

libcurl4-7.60.0-4.33.1.x86\_64 Sat May 14 19:56:06 2022

libarchive13-3.3.3-32.2.1.x86\_64 Sat May 14 19:56:06 2022

pam-1.1.8-24.46.1.x86\_64 Sat May 14 19:56:05 2022

kernel-default-4.12.14-95.83.2.x86\_64 Sat May 14 19:55:56 2022

bzip2-1.0.6-30.14.1.x86\_64 Sat May 14 19:55:53 2022

sqlite3-3.36.0-9.18.1.x86\_64 Sat May 14 19:55:51 2022

permissions-20170707-3.30.1.x86\_64 Sat May 14 19:55:51 2022

libmagic1-5.22-10.21.1.x86\_64 Sat May 14 19:55:51 2022

libctf-nobfd0-2.37-9.44.1.x86\_64 Sat May 14 19:55:51 2022

sles-release-12.4-6.8.2.x86\_64 Sat May 14 19:55:50 2022

libsqlite3-0-3.36.0-9.18.1.x86\_64 Sat May 14 19:55:50 2022

libbz2-1-1.0.6-30.14.1.x86\_64 Sat May 14 19:55:50 2022

cpio-2.11-36.15.1.x86\_64 Sat May 14 19:55:50 2022

suse-module-tools-12.6.1-27.6.1.x86\_64 Sat May 14 19:55:48 2022

snmp-mibs-5.7.3-6.9.1.x86\_64 Sat May 14 19:55:48 2022

sles-release-POOL-12.4-6.8.2.x86\_64 Sat May 14 19:55:48 2022

ca-certificates-mozilla-2.44-12.34.1.noarch Sat May 14 19:55:47 2022

file-magic-5.22-10.21.1.x86\_64 Sat May 14 19:55:46 2022

perl-BMW-Storage-1.01-1.noarch Thu Mar 31 04:22:12 2022

BMW-systemdctl-3.2.4-0\_gabfa0c1.noarch Thu Mar 24 10:36:11 2022

elxlinlpcfg-12.6.240.40-1.x86\_64 Fri Mar 11 11:11:53 2022

pbis-enterprise-upgrade-10.0.0-576.x86\_64 Sun Jan 16 23:16:55 2022

pbis-enterprise-10.0.0-576.x86\_64 Sun Jan 16 23:16:55 2022

BMW-FW-BLOB-DELL-R740-PERC\_H730P\_Mini-25.5.9.0001-4.noarch Sat Nov 20 17:47:39 2021

python-cryptography-2.8-7.37.8.x86\_64 Tue Nov 9 07:22:20 2021

dbus-1-x11-1.8.22-29.21.1.x86\_64 Tue Nov 9 07:22:18 2021

dbus-1-1.8.22-29.21.1.x86\_64 Tue Nov 9 07:22:18 2021

kernel-default-4.12.14-95.80.1.x86\_64 Tue Nov 9 07:22:10 2021

xterm-308-5.3.1.x86\_64 Tue Nov 9 07:22:06 2021

supportutils-3.0.10-95.48.1.noarch Tue Nov 9 07:22:06 2021

python-six-1.14.0-13.6.1.noarch Tue Nov 9 07:22:06 2021

libhogweed2-2.7.1-13.6.1.x86\_64 Tue Nov 9 07:22:04 2021

libX11-xcb1-1.6.2-12.21.1.x86\_64 Tue Nov 9 07:22:04 2021

libX11-6-1.6.2-12.21.1.x86\_64 Tue Nov 9 07:22:04 2021

python-cffi-1.11.5-5.16.2.x86\_64 Tue Nov 9 07:22:03 2021

libnettle4-2.7.1-13.6.1.x86\_64 Tue Nov 9 07:22:03 2021

libdbus-1-3-1.8.22-29.21.1.x86\_64 Tue Nov 9 07:22:02 2021

libX11-data-1.6.2-12.21.1.noarch Tue Nov 9 07:22:02 2021

lvm2-2.02.180-9.51.1.x86\_64 Sun Oct 3 06:03:30 2021

xorg-x11-Xvnc-1.6.0-22.17.1.x86\_64 Sun Oct 3 06:03:18 2021

python-setuptools-40.6.2-4.18.1.noarch Sun Oct 3 06:03:18 2021

python-MarkupSafe-0.23-16.6.1.x86\_64 Sun Oct 3 06:03:18 2021

kdump-0.8.16-11.10.1.x86\_64 Sun Oct 3 06:03:18 2021

device-mapper-1.02.149-9.51.1.x86\_64 Sun Oct 3 06:03:17 2021

sudo-1.8.20p2-3.23.1.x86\_64 Sun Oct 3 06:03:15 2021

libgthread-2\_0-0-2.48.2-12.22.1.x86\_64 Sun Oct 3 06:03:15 2021

glib2-tools-2.48.2-12.22.1.x86\_64 Sun Oct 3 06:03:15 2021

libproxy1-0.4.13-18.3.1.x86\_64 Sun Oct 3 06:03:14 2021

libgio-2\_0-0-2.48.2-12.22.1.x86\_64 Sun Oct 3 06:03:14 2021

libcap-progs-2.26-14.6.1.x86\_64 Sun Oct 3 06:03:13 2021

libgobject-2\_0-0-2.48.2-12.22.1.x86\_64 Sun Oct 3 06:03:12 2021

libgmodule-2\_0-0-2.48.2-12.22.1.x86\_64 Sun Oct 3 06:03:12 2021

libcap2-32bit-2.26-14.6.1.x86\_64 Sun Oct 3 06:03:08 2021

libnghttp2-14-1.39.2-3.5.1.x86\_64 Sun Oct 3 06:03:06 2021

libjasper1-1.900.14-195.25.1.x86\_64 Sun Oct 3 06:03:06 2021

libglib-2\_0-0-2.48.2-12.22.1.x86\_64 Sun Oct 3 06:03:06 2021

libfreetype6-2.6.3-7.18.1.x86\_64 Sun Oct 3 06:03:06 2021

libcap2-2.26-14.6.1.x86\_64 Sun Oct 3 06:03:06 2021

libXvnc1-1.6.0-22.17.1.x86\_64 Sun Oct 3 06:03:06 2021

krb5-1.12.5-40.40.2.x86\_64 Sun Oct 3 06:03:06 2021

tcsh-6.18.01-8.17.1.x86\_64 Sun Oct 3 06:03:04 2021

screen-4.0.4-23.6.1.x86\_64 Sun Oct 3 06:03:04 2021

mdadm-4.0-8.12.1.x86\_64 Sun Oct 3 06:03:04 2021

perl-XML-Twig-3.44-5.3.1.noarch Sun Oct 3 06:03:03 2021

rudder-mr-scripts-1.7-8.noarch Tue Aug 10 11:36:13 2021

BMW-appfs-restore-1.1-8\_g6f7ad2b.x86\_64 Tue Jun 22 18:06:17 2021

libXss1-1.2.2-8.54.x86\_64 Tue Jun 1 16:35:47 2021

BMW-FW-DELL-R740-Lifecycle\_Controller\_2-4.40.10.00-4.noarch Wed May 26 01:38:27 2021

BMW-FW-BLOB-DELL-R740-Lifecycle\_Controller\_2-4.40.10.00-4.noarch Wed May 26 01:27:12 2021

rudder-agent-6.1.7.release-1.SLES.12.x86\_64 Fri Feb 12 13:19:30 2021

libyaml-0-2-0.1.6-7.1.x86\_64 Fri Feb 12 13:19:28 2021

VRTSpddea-12.0.0.0-0140.x86\_64 Tue Oct 27 14:52:40 2020

VRTSnbcfg-8.2.0.0-1561464065.x86\_64 Tue Oct 27 14:52:40 2020

VRTSnbclt-8.2.0.0-1561464178.x86\_64 Tue Oct 27 14:52:12 2020

VRTSpbx-1.11.17.1-1.x86\_64 Tue Oct 27 14:51:53 2020

VRTSnbpck-8.2.0.0-1561464233.x86\_64 Tue Oct 27 14:51:46 2020

smartmontools-6.6-6.6.3.x86\_64 Sat Oct 24 16:59:56 2020

rsocket-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:55 2020

rdma-core-devel-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:55 2020

librdmacm1-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:55 2020

libmlx5-1-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:55 2020

libmlx4-1-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:55 2020

libibverbs1-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:55 2020

libibverbs-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:55 2020

libibumad3-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:55 2020

rdma-core-16.9-3.3.1.x86\_64 Sat Oct 24 16:59:53 2020

pixz-1.0.2-6.23.x86\_64 Sat Oct 24 16:59:51 2020

libjpeg62-turbo-1.5.3-31.19.1.x86\_64 Sat Oct 24 16:59:49 2020

libjpeg62-62.2.0-31.19.1.x86\_64 Sat Oct 24 16:59:48 2020

libjpeg-turbo-1.5.3-31.19.1.x86\_64 Sat Oct 24 16:59:46 2020

libturbojpeg0-8.1.2-31.19.1.x86\_64 Sat Oct 24 16:59:44 2020

libelf-devel-0.158-7.13.3.x86\_64 Sat Oct 24 16:59:43 2020

libcap-ng-utils-0.7.3-4.125.x86\_64 Sat Oct 24 16:59:41 2020

syscfg-6.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:21 2020

srvadmin-storelib-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:21 2020

srvadmin-storage-cli-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:21 2020

srvadmin-storage-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:21 2020

srvadmin-realssd-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:21 2020

raidcfg-6.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:21 2020

srvadmin-omacore-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:20 2020

srvadmin-ominst-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:18 2020

srvadmin-omcommon-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:18 2020

srvadmin-omacs-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:18 2020

srvadmin-isvc-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:18 2020

srvadmin-idracadm7-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:17 2020

srvadmin-omilcore-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:16 2020

srvadmin-deng-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:16 2020

srvadmin-hapi-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:45:14 2020

libbind9-160-9.11.2-3.17.1.x86\_64 Sat Oct 24 16:45:05 2020

ipmitool-1.8.18-5.9.1.x86\_64 Sat Oct 24 16:45:05 2020

libisccfg160-9.11.2-3.17.1.x86\_64 Sat Oct 24 16:45:02 2020

xf86-video-vesa-2.4.0-1.30.x86\_64 Sat Oct 24 16:45:01 2020

xf86-video-fbdev-0.4.4-9.29.x86\_64 Sat Oct 24 16:45:01 2020

python-pyOpenSSL-17.1.0-4.23.1.noarch Sat Oct 24 16:45:01 2020

libisccc160-9.11.2-3.17.1.x86\_64 Sat Oct 24 16:45:01 2020

libdns169-9.11.2-3.17.1.x86\_64 Sat Oct 24 16:45:01 2020

mcelog-1.48-1.13.x86\_64 Sat Oct 24 16:45:00 2020

xdm-1.1.11-41.22.3.x86\_64 Sat Oct 24 16:44:59 2020

postfix-3.2.10-3.21.2.x86\_64 Sat Oct 24 16:44:56 2020

libcairo2-1.15.2-25.3.2.x86\_64 Sat Oct 24 16:44:56 2020

parted-3.1-37.19.x86\_64 Sat Oct 24 16:44:53 2020

multipath-tools-0.7.3+153+suse.80d9ed4-2.16.1.x86\_64 Sat Oct 24 16:44:53 2020

libisc166-9.11.2-3.17.1.x86\_64 Sat Oct 24 16:44:53 2020

snapper-zypp-plugin-0.5.0-6.16.noarch Sat Oct 24 16:44:52 2020

btrfsmaintenance-0.2-18.1.noarch Sat Oct 24 16:44:52 2020

wicked-service-0.6.60-2.21.1.x86\_64 Sat Oct 24 16:44:51 2020

logrotate-3.11.0-2.14.1.x86\_64 Sat Oct 24 16:44:51 2020

Mesa-libGL1-18.0.2-8.3.2.x86\_64 Sat Oct 24 16:44:51 2020

libparted0-3.1-37.19.x86\_64 Sat Oct 24 16:44:50 2020

kpartx-0.7.3+153+suse.80d9ed4-2.16.1.x86\_64 Sat Oct 24 16:44:50 2020

zypp-plugin-python-0.6.3-3.6.1.noarch Sat Oct 24 16:44:47 2020

subversion-1.8.19-25.9.1.x86\_64 Sat Oct 24 16:44:47 2020

iotop-0.6-5.4.1.noarch Sat Oct 24 16:44:47 2020

cronie-1.4.11-59.13.1.x86\_64 Sat Oct 24 16:44:46 2020

wicked-0.6.60-2.21.1.x86\_64 Sat Oct 24 16:44:36 2020

Mesa-dri-18.0.2-8.3.2.x86\_64 Sat Oct 24 16:44:36 2020

libserf-1-1-1.3.7-3.5.1.x86\_64 Sat Oct 24 16:44:35 2020

Mesa-libEGL1-18.0.2-8.3.2.x86\_64 Sat Oct 24 16:44:35 2020

OpenIPMI-2.0.21-10.6.24.x86\_64 Sat Oct 24 16:44:34 2020

cron-4.2-59.13.1.x86\_64 Sat Oct 24 16:44:33 2020

at-3.1.14-8.6.1.x86\_64 Sat Oct 24 16:44:33 2020

apparmor-parser-2.8.2-51.21.5.x86\_64 Sat Oct 24 16:44:33 2020

kexec-tools-2.0.16-1.18.x86\_64 Sat Oct 24 16:44:32 2020

ntp-4.2.8p15-88.1.x86\_64 Sat Oct 24 16:44:29 2020

rpcbind-0.2.3-24.9.1.x86\_64 Sat Oct 24 16:42:58 2020

tuned-2.4.1-9.6.2.noarch Sat Oct 24 16:42:56 2020

sysstat-12.0.2-10.36.1.x86\_64 Sat Oct 24 16:42:56 2020

lftp-4.7.4-3.6.1.x86\_64 Sat Oct 24 16:42:55 2020

gdb-8.3.1-2.14.1.x86\_64 Sat Oct 24 16:42:55 2020

Mesa-18.0.2-8.3.2.x86\_64 Sat Oct 24 16:42:55 2020

libgbm1-18.0.2-8.3.2.x86\_64 Sat Oct 24 16:42:54 2020

dracut-044.2-10.32.1.x86\_64 Sat Oct 24 16:42:42 2020

openssl-1.0.2p-1.13.noarch Sat Oct 24 16:42:40 2020

nfsidmap-0.25-7.3.1.x86\_64 Sat Oct 24 16:42:40 2020

libmysqlclient18-10.0.40.4-2.20.1.x86\_64 Sat Oct 24 16:42:40 2020

nmap-6.46-3.6.1.x86\_64 Sat Oct 24 16:42:39 2020

libssh4-0.6.3-12.12.1.x86\_64 Sat Oct 24 16:42:39 2020

VRTSfsadv-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:39 2020

srvadmin-smcommon-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:42:30 2020

srvadmin-xmlsup-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:42:29 2020

srvadmin-sysfsutils-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:42:29 2020

srvadmin-storelib-sysfs-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:42:29 2020

srvadmin-nvme-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:42:29 2020

srvadmin-marvellib-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:42:29 2020

srvadmin-cm-9.3.0-19.04.00.x86\_64 Sat Oct 24 16:42:29 2020

srvadmin-argtable2-9.3.0-3465.14818.sles12.x86\_64 Sat Oct 24 16:42:29 2020

VRTSvxfen-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:42:28 2020

VRTSvcsag-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:28 2020

VRTSaslapm-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:27 2020

VRTSgab-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:42:26 2020

VRTSvcs-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:25 2020

VRTSllt-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:42:08 2020

VRTSvlic-4.01.74.002-SLES.x86\_64 Sat Oct 24 16:42:07 2020

VRTSveki-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:41:59 2020

VRTSperl-5.26.1.1-SLES12.x86\_64 Sat Oct 24 16:41:58 2020

VRTSspt-7.4.1.000-SLES12.noarch Sat Oct 24 16:41:57 2020

VRTSsfmh-7.4.0.200-0.x86\_64 Sat Oct 24 16:41:40 2020

VRTSpython-3.6.6.1-SLES12.x86\_64 Sat Oct 24 16:41:33 2020

kmod-compat-25-3.4.1.x86\_64 Sat Oct 24 16:41:23 2020

shadow-4.2.1-27.19.1.x86\_64 Sat Oct 24 16:41:22 2020

fonts-config-20180430-6.8.1.noarch Sat Oct 24 16:41:22 2020

desktop-file-utils-0.22-10.3.1.x86\_64 Sat Oct 24 16:41:22 2020

snapper-0.5.0-6.16.x86\_64 Sat Oct 24 16:41:21 2020

libstdc++48-devel-32bit-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:21 2020

kmod-25-3.4.1.x86\_64 Sat Oct 24 16:41:21 2020

gcc48-locale-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:21 2020

gcc48-c++-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:21 2020

gcc48-32bit-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:21 2020

aaa\_base-13.2+git20140911.61c1681-38.22.1.x86\_64 Sat Oct 24 16:41:21 2020

libstdc++48-devel-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:20 2020

libsnapper4-0.5.0-6.16.x86\_64 Sat Oct 24 16:41:20 2020

icewm-lite-1.3.12-11.90.1.x86\_64 Sat Oct 24 16:41:20 2020

gcc48-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:20 2020

elfutils-0.158-7.13.3.x86\_64 Sat Oct 24 16:41:20 2020

kbd-2.0.4-8.10.2.x86\_64 Sat Oct 24 16:41:19 2020

wallpaper-branding-SLE-12-13.3.1.noarch Sat Oct 24 16:41:18 2020

unzip-6.00-33.13.3.x86\_64 Sat Oct 24 16:41:18 2020

sysvinit-tools-2.88+-101.3.1.x86\_64 Sat Oct 24 16:41:18 2020

pciutils-3.2.1-11.3.1.x86\_64 Sat Oct 24 16:41:18 2020

man-2.6.6-4.3.1.x86\_64 Sat Oct 24 16:41:18 2020

makedumpfile-1.6.3-3.3.1.x86\_64 Sat Oct 24 16:41:18 2020

libicu52\_1-52.1-8.10.1.x86\_64 Sat Oct 24 16:41:18 2020

libasm1-0.158-7.13.3.x86\_64 Sat Oct 24 16:41:18 2020

iproute2-4.12-15.6.21.x86\_64 Sat Oct 24 16:41:18 2020

icewm-1.3.12-11.90.1.x86\_64 Sat Oct 24 16:41:18 2020

libboost\_thread1\_54\_0-1.54.0-26.9.1.x86\_64 Sat Oct 24 16:41:17 2020

libLLVM6-6.0.0-2.3.2.x86\_64 Sat Oct 24 16:41:17 2020

libLLVM-3.8.0-8.1.x86\_64 Sat Oct 24 16:41:17 2020

vim-7.4.326-17.6.1.x86\_64 Sat Oct 24 16:41:16 2020

psmisc-22.21-6.13.1.x86\_64 Sat Oct 24 16:41:16 2020

procps-3.3.9-11.21.1.x86\_64 Sat Oct 24 16:41:16 2020

procinfo-18-221.3.1.x86\_64 Sat Oct 24 16:41:16 2020

ncurses-utils-5.9-72.1.x86\_64 Sat Oct 24 16:41:16 2020

libgdk\_pixbuf-2\_0-0-2.34.0-19.17.1.x86\_64 Sat Oct 24 16:41:16 2020

python-packaging-17.1-2.5.1.noarch Sat Oct 24 16:41:15 2020

p11-kit-tools-0.20.7-3.6.1.x86\_64 Sat Oct 24 16:41:15 2020

libebl1-0.158-7.13.3.x86\_64 Sat Oct 24 16:41:15 2020

freeipmi-1.5.7-2.15.x86\_64 Sat Oct 24 16:41:15 2020

ebtables-2.0.10.4-13.3.1.x86\_64 Sat Oct 24 16:41:15 2020

blog-2.19-4.3.2.x86\_64 Sat Oct 24 16:41:15 2020

groff-1.22.2-7.3.1.x86\_64 Sat Oct 24 16:41:14 2020

sg3\_utils-1.43+46.4b09c76-16.23.1.x86\_64 Sat Oct 24 16:41:13 2020

perl-Bootloader-0.923-1.7.x86\_64 Sat Oct 24 16:41:13 2020

pciutils-ids-2019.08.30-12.6.1.noarch Sat Oct 24 16:41:13 2020

linux-glibc-devel-4.12-3.3.1.noarch Sat Oct 24 16:41:13 2020

xkeyboard-config-2.20-1.13.noarch Sat Oct 24 16:41:12 2020

xfsprogs-4.15.0-3.3.1.x86\_64 Sat Oct 24 16:41:12 2020

vim-data-7.4.326-17.6.1.noarch Sat Oct 24 16:41:12 2020

update-alternatives-1.18.4-16.3.1.x86\_64 Sat Oct 24 16:41:12 2020

systemd-presets-branding-SLE-12.2-10.3.1.noarch Sat Oct 24 16:41:12 2020

python-pyudev-0.16.1-3.2.1.noarch Sat Oct 24 16:41:11 2020

python-pyparsing-2.2.0-3.3.1.noarch Sat Oct 24 16:41:11 2020

python-pycparser-2.10-5.6.1.noarch Sat Oct 24 16:41:11 2020

python-pyasn1-0.1.9-4.6.1.noarch Sat Oct 24 16:41:11 2020

python-ply-3.4-3.3.1.noarch Sat Oct 24 16:41:11 2020

python-libteam-1.21-5.3.1.x86\_64 Sat Oct 24 16:41:11 2020

python-ipaddress-1.0.18-3.13.1.noarch Sat Oct 24 16:41:11 2020

python-enum34-1.1.3-8.3.3.noarch Sat Oct 24 16:41:11 2020

python-asn1crypto-0.24.0-2.5.1.noarch Sat Oct 24 16:41:11 2020

libtirpc3-1.0.1-17.13.1.x86\_64 Sat Oct 24 16:41:11 2020

libteam-tools-1.21-5.3.1.x86\_64 Sat Oct 24 16:41:11 2020

libncurses6-5.9-72.1.x86\_64 Sat Oct 24 16:41:11 2020

libncurses5-5.9-72.1.x86\_64 Sat Oct 24 16:41:11 2020

libipmiconsole2-1.5.7-2.15.x86\_64 Sat Oct 24 16:41:11 2020

libboost\_system1\_54\_0-1.54.0-26.9.1.x86\_64 Sat Oct 24 16:41:11 2020

btrfsprogs-4.5.3-17.11.2.x86\_64 Sat Oct 24 16:41:11 2020

xrdb-1.1.0-5.5.1.x86\_64 Sat Oct 24 16:41:10 2020

xdg-utils-20140630-6.3.1.noarch Sat Oct 24 16:41:10 2020

tar-1.27.1-15.3.7.x86\_64 Sat Oct 24 16:41:10 2020

perl-IO-Socket-SSL-2.052-4.3.1.noarch Sat Oct 24 16:41:10 2020

p11-kit-0.20.7-3.6.1.x86\_64 Sat Oct 24 16:41:10 2020

libxslt1-1.1.28-17.9.1.x86\_64 Sat Oct 24 16:41:10 2020

libsemanage1-2.5-9.3.1.x86\_64 Sat Oct 24 16:41:10 2020

libgnutls28-3.3.27-3.3.1.x86\_64 Sat Oct 24 16:41:10 2020

libdw1-0.158-7.13.3.x86\_64 Sat Oct 24 16:41:10 2020

libcroco-0\_6-3-0.6.11-12.3.1.x86\_64 Sat Oct 24 16:41:10 2020

libaugeas0-1.2.0-17.3.1.x86\_64 Sat Oct 24 16:41:10 2020

libXi6-1.7.4-18.6.1.x86\_64 Sat Oct 24 16:41:10 2020

libXcursor1-1.1.14-4.6.1.x86\_64 Sat Oct 24 16:41:10 2020

libXaw7-1.0.12-5.3.1.x86\_64 Sat Oct 24 16:41:10 2020

iptables-1.4.21-6.1.x86\_64 Sat Oct 24 16:41:10 2020

cpupower-4.10-3.3.1.x86\_64 Sat Oct 24 16:41:10 2020

acl-2.2.52-7.3.1.x86\_64 Sat Oct 24 16:41:10 2020

libteamdctl0-1.21-5.3.1.x86\_64 Sat Oct 24 16:41:09 2020

libfreeipmi17-1.5.7-2.15.x86\_64 Sat Oct 24 16:41:09 2020

libdrm\_radeon1-2.4.91-1.20.x86\_64 Sat Oct 24 16:41:09 2020

libdrm\_nouveau2-2.4.91-1.20.x86\_64 Sat Oct 24 16:41:09 2020

libdrm\_intel1-2.4.91-1.20.x86\_64 Sat Oct 24 16:41:09 2020

libdrm\_amdgpu1-2.4.91-1.20.x86\_64 Sat Oct 24 16:41:09 2020

libasan0-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:09 2020

libasan0-32bit-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:09 2020

libtasn1-4.9-3.10.1.x86\_64 Sat Oct 24 16:41:08 2020

libreiserfscore0-3.6.24-7.7.1.x86\_64 Sat Oct 24 16:41:08 2020

libbtrfs0-4.5.3-17.11.2.x86\_64 Sat Oct 24 16:41:08 2020

libapr1-1.5.1-4.5.1.x86\_64 Sat Oct 24 16:41:08 2020

hwinfo-21.63-2.17.1.x86\_64 Sat Oct 24 16:41:08 2020

xtables-plugins-1.4.21-6.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-xv0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-xkb1-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-xfixes0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-xf86dri0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-sync1-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-shm0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-shape0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-render0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-randr0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-present0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-glx0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-dri3-0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libxcb-dri2-0-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:07 2020

libXfont2-2-2.0.3-1.19.x86\_64 Sat Oct 24 16:41:07 2020

libGeoIP1-1.5.1-5.3.1.x86\_64 Sat Oct 24 16:41:07 2020

cpp48-4.8.5-31.23.2.x86\_64 Sat Oct 24 16:41:07 2020

perl-5.18.2-12.23.1.x86\_64 Sat Oct 24 16:41:06 2020

libpng16-16-1.6.8-15.5.2.x86\_64 Sat Oct 24 16:41:06 2020

libpci3-3.2.1-11.3.1.x86\_64 Sat Oct 24 16:41:06 2020

libkmod2-25-3.4.1.x86\_64 Sat Oct 24 16:41:06 2020

libelf1-0.158-7.13.3.x86\_64 Sat Oct 24 16:41:06 2020

libfuse2-2.9.3-6.3.1.x86\_64 Sat Oct 24 16:41:05 2020

libfastjson4-0.99.4-1.14.x86\_64 Sat Oct 24 16:41:05 2020

libdrm2-2.4.91-1.20.x86\_64 Sat Oct 24 16:41:05 2020

libcpupower0-4.10-3.3.1.x86\_64 Sat Oct 24 16:41:05 2020

libapparmor1-2.8.2-51.21.5.x86\_64 Sat Oct 24 16:41:05 2020

libadns1-1.4-103.3.1.x86\_64 Sat Oct 24 16:41:05 2020

libacl1-2.2.52-7.3.1.x86\_64 Sat Oct 24 16:41:05 2020

libXdmcp6-1.1.1-12.1.x86\_64 Sat Oct 24 16:41:05 2020

libICE6-1.0.8-12.1.x86\_64 Sat Oct 24 16:41:05 2020

gdk-pixbuf-query-loaders-2.34.0-19.17.1.x86\_64 Sat Oct 24 16:41:05 2020

ethtool-4.13-14.3.7.x86\_64 Sat Oct 24 16:41:05 2020

ed-1.9-4.4.5.x86\_64 Sat Oct 24 16:41:05 2020

dmidecode-3.0-10.3.1.x86\_64 Sat Oct 24 16:41:05 2020

Mesa-libglapi0-18.0.2-8.3.2.x86\_64 Sat Oct 24 16:41:05 2020

libtasn1-6-4.9-3.10.1.x86\_64 Sat Oct 24 16:41:04 2020

libsgutils2-2-1.43+46.4b09c76-16.23.1.x86\_64 Sat Oct 24 16:41:04 2020

libprocps3-3.3.9-11.21.1.x86\_64 Sat Oct 24 16:41:04 2020

libp11-kit0-0.20.7-3.6.1.x86\_64 Sat Oct 24 16:41:04 2020

liblwres160-9.11.2-3.17.1.x86\_64 Sat Oct 24 16:41:04 2020

libjansson4-2.12-3.5.1.x86\_64 Sat Oct 24 16:41:04 2020

libirs160-9.11.2-3.17.1.x86\_64 Sat Oct 24 16:41:04 2020

libiptc0-1.4.21-6.1.x86\_64 Sat Oct 24 16:41:04 2020

libipmidetect0-1.5.7-2.15.x86\_64 Sat Oct 24 16:41:04 2020

libidn11-1.28-5.6.1.x86\_64 Sat Oct 24 16:41:04 2020

libguile-2\_0-22-2.0.9-9.3.1.x86\_64 Sat Oct 24 16:41:04 2020

traceroute-2.0.19-3.3.1.x86\_64 Sat Oct 24 16:41:03 2020

perl-base-5.18.2-12.23.1.x86\_64 Sat Oct 24 16:41:03 2020

patch-2.7.5-8.5.1.x86\_64 Sat Oct 24 16:41:03 2020

libxtables10-1.4.21-6.1.x86\_64 Sat Oct 24 16:41:03 2020

libxcb1-1.10-4.5.1.x86\_64 Sat Oct 24 16:41:03 2020

libx86emu1-1.11-1.7.x86\_64 Sat Oct 24 16:41:03 2020

libverto1-0.2.6-3.2.2.x86\_64 Sat Oct 24 16:41:03 2020

libunwind-1.1-11.3.1.x86\_64 Sat Oct 24 16:41:03 2020

libteam5-1.21-5.3.1.x86\_64 Sat Oct 24 16:41:03 2020

terminfo-base-5.9-72.1.x86\_64 Sat Oct 24 16:41:02 2020

terminfo-5.9-72.1.x86\_64 Sat Oct 24 16:41:02 2020

python-rpm-macros-20200207.5feb6c1-3.19.1.noarch Sat Oct 24 16:41:02 2020

man-pages-4.02-6.6.1.noarch Sat Oct 24 16:41:02 2020

libtirpc-netconfig-1.0.1-17.13.1.x86\_64 Sat Oct 24 16:41:02 2020

libicu52\_1-data-52.1-8.10.1.x86\_64 Sat Oct 24 16:41:02 2020

kbd-legacy-2.0.4-8.10.2.noarch Sat Oct 24 16:41:01 2020

guile-modules-2\_0-2.0.9-9.3.1.x86\_64 Sat Oct 24 16:41:01 2020

gcc48-info-4.8.5-31.23.2.noarch Sat Oct 24 16:41:01 2020

filesystem-13.1-14.15.x86\_64 Sat Oct 24 16:41:01 2020

btrfsprogs-udev-rules-4.5.3-17.11.2.noarch Sat Oct 24 16:41:00 2020

boost-license1\_54\_0-1.54.0-26.9.1.noarch Sat Oct 24 16:41:00 2020

BMW-cacerts-2.2-1\_ga3ca588.noarch Wed Oct 7 10:47:11 2020

BMW-ssh-jumpkey-1.0-3\_g66383bd.x86\_64 Thu Sep 3 14:33:38 2020

BMW-santools-2.8.1-0\_g65aaaca.noarch Mon Aug 31 18:16:27 2020

xdg-menu-0.2-214.18.noarch Thu Feb 13 10:43:36 2020

icewm-theme-branding-1.2.2-9.1.noarch Thu Feb 13 10:43:36 2020

desktop-data-SLE-12-5.3.1.noarch Thu Feb 13 10:43:36 2020

alsa-1.0.27.2-15.1.x86\_64 Thu Feb 13 10:43:36 2020

xinetd-2.3.15-8.8.1.x86\_64 Thu Feb 13 10:43:35 2020

python-idna-2.5-3.10.2.noarch Thu Feb 13 10:43:35 2020

perl-gettext-1.05-163.126.x86\_64 Thu Feb 13 10:43:35 2020

perl-X11-Protocol-0.56-12.19.x86\_64 Thu Feb 13 10:43:35 2020

perl-Net-DBus-1.0.0-8.53.x86\_64 Thu Feb 13 10:43:35 2020

libsamplerate0-0.1.8-11.137.x86\_64 Thu Feb 13 10:43:35 2020

libjbig2-2.0-12.13.x86\_64 Thu Feb 13 10:43:35 2020

libdialog11-1.2-5.36.x86\_64 Thu Feb 13 10:43:35 2020

libasound2-1.0.27.2-15.1.x86\_64 Thu Feb 13 10:43:35 2020

libXrandr2-1.5.0-6.2.x86\_64 Thu Feb 13 10:43:35 2020

hicolor-icon-theme-0.15-4.1.noarch Thu Feb 13 10:43:35 2020

dmz-icon-theme-cursors-11.2.0-15.18.noarch Thu Feb 13 10:43:35 2020

dialog-1.2-5.36.x86\_64 Thu Feb 13 10:43:35 2020

alsa-utils-1.0.27.2-9.2.x86\_64 Thu Feb 13 10:43:35 2020

xorg-x11-driver-video-7.6\_1-14.30.x86\_64 Thu Feb 13 10:43:30 2020

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libdmx1-1.1.3-3.52.x86\_64 Thu Feb 13 10:43:28 2020

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libXfont1-1.5.1-11.3.12.x86\_64 Thu Feb 13 10:43:26 2020

xorg-x11-fonts-7.6-29.45.noarch Thu Feb 13 10:43:22 2020

xorg-x11-fonts-core-7.6-29.45.noarch Thu Feb 13 10:43:08 2020

xorg-x11-libs-7.6-45.14.noarch Thu Feb 13 10:43:05 2020

xsetroot-1.1.1-3.57.x86\_64 Thu Feb 13 10:43:03 2020

xset-1.2.3-3.58.x86\_64 Thu Feb 13 10:43:03 2020

xprop-1.2.2-3.55.x86\_64 Thu Feb 13 10:43:03 2020

xorg-x11-essentials-7.6\_1-14.17.noarch Thu Feb 13 10:43:03 2020

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xmodmap-1.0.8-3.57.x86\_64 Thu Feb 13 10:43:03 2020

xmessage-1.0.4-5.58.x86\_64 Thu Feb 13 10:43:03 2020

xli-20061110-146.22.x86\_64 Thu Feb 13 10:43:03 2020

xkbcomp-1.2.4-9.59.x86\_64 Thu Feb 13 10:43:03 2020

xinit-1.3.3-9.1.x86\_64 Thu Feb 13 10:43:03 2020

xconsole-1.0.6-3.54.x86\_64 Thu Feb 13 10:43:03 2020

setxkbmap-1.3.0-7.58.x86\_64 Thu Feb 13 10:43:03 2020

sessreg-1.0.8-3.53.x86\_64 Thu Feb 13 10:43:03 2020

rgb-1.0.5-5.55.x86\_64 Thu Feb 13 10:43:03 2020

mkfontscale-1.1.1-3.65.x86\_64 Thu Feb 13 10:43:03 2020

mkfontdir-1.0.7-8.9.x86\_64 Thu Feb 13 10:43:03 2020

libxkbfile1-1.0.8-11.1.x86\_64 Thu Feb 13 10:43:03 2020

libjpeg8-8.1.2-31.19.1.x86\_64 Thu Feb 13 10:43:03 2020

libfontenc1-1.1.2-3.56.x86\_64 Thu Feb 13 10:43:03 2020

libXxf86misc1-1.0.3-10.54.x86\_64 Thu Feb 13 10:43:03 2020

libXinerama1-1.1.3-3.55.x86\_64 Thu Feb 13 10:43:03 2020

libXfontcache1-1.0.5-10.55.x86\_64 Thu Feb 13 10:43:03 2020

iceauth-1.0.6-3.59.x86\_64 Thu Feb 13 10:43:03 2020

ucmd-6.3.0-4.x86\_64 Thu Feb 13 10:43:00 2020

perl-libwww-perl-6.05-5.2.noarch Thu Feb 13 10:42:56 2020

perl-WWW-RobotRules-6.02-7.17.noarch Thu Feb 13 10:42:56 2020

perl-URI-1.60-7.19.noarch Thu Feb 13 10:42:56 2020

perl-Net-SSLeay-1.64-3.2.x86\_64 Thu Feb 13 10:42:56 2020

perl-Net-HTTP-6.06-5.2.noarch Thu Feb 13 10:42:56 2020

perl-LWP-Protocol-https-6.04-5.4.noarch Thu Feb 13 10:42:56 2020

perl-LWP-MediaTypes-6.02-7.19.noarch Thu Feb 13 10:42:56 2020

perl-IO-HTML-1.00-3.19.noarch Thu Feb 13 10:42:56 2020

perl-HTTP-Negotiate-6.01-7.11.noarch Thu Feb 13 10:42:56 2020

perl-HTTP-Message-6.06-3.14.noarch Thu Feb 13 10:42:56 2020

perl-HTTP-Date-6.02-7.19.noarch Thu Feb 13 10:42:56 2020

perl-HTTP-Daemon-6.01-7.11.noarch Thu Feb 13 10:42:56 2020

perl-HTTP-Cookies-6.01-7.11.noarch Thu Feb 13 10:42:56 2020

perl-HTML-Tagset-3.20-71.19.noarch Thu Feb 13 10:42:56 2020

perl-HTML-Parser-3.71-1.178.x86\_64 Thu Feb 13 10:42:56 2020

perl-File-Listing-6.04-7.15.noarch Thu Feb 13 10:42:56 2020

perl-Crypt-SSLeay-0.64-3.57.x86\_64 Thu Feb 13 10:42:56 2020

perl-Encode-Locale-1.03-7.19.noarch Thu Feb 13 10:42:55 2020

libXtst6-1.2.2-7.1.x86\_64 Thu Feb 13 10:42:50 2020

sap-locale-1.0-92.4.x86\_64 Thu Feb 13 10:42:49 2020

python-decorator-3.4.0-1.6.noarch Thu Feb 13 10:42:46 2020

python-configobj-5.0.6-20.3.1.noarch Thu Feb 13 10:42:46 2020

hdparm-9.43-8.1.x86\_64 Thu Feb 13 10:42:46 2020

libcap1-1.10-61.1.x86\_64 Thu Feb 13 10:42:44 2020

libstdc++-devel-32bit-4.8-6.189.x86\_64 Thu Feb 13 10:42:41 2020

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libaio-devel-0.3.109-17.15.x86\_64 Thu Feb 13 10:42:37 2020

libstdc++-devel-4.8-6.189.x86\_64 Thu Feb 13 10:42:36 2020

gcc-locale-4.8-6.189.x86\_64 Thu Feb 13 10:42:35 2020

gcc-info-4.8-6.189.x86\_64 Thu Feb 13 10:42:33 2020

gcc-c++-4.8-6.189.x86\_64 Thu Feb 13 10:42:31 2020

libselinux1-32bit-2.5-8.79.x86\_64 Thu Feb 13 10:40:20 2020

BMW-vcsctl-1.5-0\_ge94950b.x86\_64 Thu Feb 13 10:39:56 2020

BMW-Group-nrpe-plugins-2.2-2\_SLES12SP2.x86\_64 Thu Feb 13 10:39:04 2020

BMW-Group-nrpe-daemon-3.0.1-2\_SLES12SP2.x86\_64 Thu Feb 13 10:39:03 2020

python-Jinja2-2.8-20.1.noarch Thu Feb 13 10:38:48 2020

gpg-pubkey-c9ceecef-53763abd Thu Feb 13 10:38:41 2020

BMW-SW-dnsmasq-2.0-10\_g914d08c.noarch Thu Feb 13 10:38:36 2020

nethogs-0.8.1-4.1.x86\_64 Thu Feb 13 10:38:35 2020

gpg-pubkey-b37b98a9-4be01a1a Fri Jan 10 14:24:15 2020

gpg-pubkey-372d3541-560100ee Fri Jan 10 14:24:15 2020

install\_config-1.1.1-2\_g38ac61d.x86\_64 Fri Jan 10 14:22:23 2020

BMW-SW-UserSyncAgent-Rollout-0.2.7-9.noarch Fri Jan 10 14:22:23 2020

BMW-SW-UserSyncAgent-Base-0.2.7-9.noarch Fri Jan 10 14:22:23 2020

BMW-SW-PBIS-tools-1.2-201704271417.noarch Fri Jan 10 14:22:09 2020

dcism-3.2.0-1234.sles12.x86\_64 Fri Jan 10 14:20:04 2020

BMW-dell-boss-mvcli-0.1-0\_g51c8b82.x86\_64 Fri Jan 10 14:20:04 2020

storcli-007.0409.0000.0000-1.noarch Fri Jan 10 14:20:01 2020

collectl-4.1.3-52.0.noarch Fri Jan 10 14:19:58 2020

perl-Moo-2.002005-34.1.noarch Fri Jan 10 14:19:57 2020

perl-Devel-GlobalDestruction-0.14-25.1.noarch Fri Jan 10 14:19:57 2020

htop-2.0.2-50.1.x86\_64 Fri Jan 10 14:19:54 2020

atop-daemon-2.2-2.1.x86\_64 Fri Jan 10 14:19:54 2020

BMWfwmgr-0.2-4\_g3243cd5.x86\_64 Fri Jan 10 14:19:54 2020

perl-BMW-Helper-0.84-3.noarch Fri Jan 10 14:19:51 2020

lldpd-0.9.5-2.1.x86\_64 Fri Jan 10 14:19:51 2020

perl-Role-Tiny-2.000005-23.1.noarch Fri Jan 10 14:19:49 2020

cpupower-management-1.0-0\_gf238f4c.x86\_64 Fri Jan 10 14:19:49 2020

perl-Sub-Exporter-Progressive-0.001013-10.1.noarch Fri Jan 10 14:19:48 2020

perl-Module-Runtime-0.014-19.1.noarch Fri Jan 10 14:19:48 2020

perl-Class-Method-Modifiers-2.12-29.1.noarch Fri Jan 10 14:19:48 2020

pbzip2-1.1.13-31.1.x86\_64 Fri Jan 10 14:19:48 2020

BMW-snap-0-11.1.x86\_64 Fri Jan 10 14:19:48 2020

BMW-SW-rootsh-1.0-0\_gb22237f.x86\_64 Fri Jan 10 14:19:48 2020

atop-2.2-2.1.x86\_64 Fri Jan 10 14:19:47 2020

MegaCli-8.07.14-1.noarch Fri Jan 10 14:19:47 2020

typelib-1\_0-Pango-1\_0-1.40.1-9.5.x86\_64 Fri Jan 10 14:19:46 2020

python-gobject-3.20.1-8.2.x86\_64 Fri Jan 10 14:19:46 2020

python-dbus-python-1.2.4-2.5.2.x86\_64 Fri Jan 10 14:19:46 2020

libgirepository-1\_0-1-1.48.0-11.2.x86\_64 Fri Jan 10 14:19:43 2020

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dbus-1-glib-0.100.2-3.58.x86\_64 Fri Jan 10 14:19:40 2020

syslog-service-2.0-778.1.noarch Fri Jan 10 14:19:39 2020

libpango-1\_0-0-1.40.1-9.5.x86\_64 Fri Jan 10 14:19:39 2020

gio-branding-SLE-12-14.5.noarch Fri Jan 10 14:19:38 2020

rpm-build-4.11.2-16.21.1.x86\_64 Fri Jan 10 14:19:33 2020

perl-XML-Simple-2.20-4.2.noarch Fri Jan 10 14:19:30 2020

sca-patterns-sle12-1.0-24.1.noarch Fri Jan 10 14:19:29 2020

gcc-4.8-6.189.x86\_64 Fri Jan 10 14:19:16 2020

xauth-1.0.8-1.51.x86\_64 Fri Jan 10 14:19:15 2020

perl-XML-SAX-Expat-0.50-3.8.noarch Fri Jan 10 14:19:15 2020

perl-XML-LibXML-2.0019-6.3.5.x86\_64 Fri Jan 10 14:19:15 2020

libXxf86vm1-1.1.3-3.54.x86\_64 Fri Jan 10 14:19:15 2020

libXmu6-1.1.2-3.60.x86\_64 Fri Jan 10 14:19:15 2020

libXft2-2.3.1-9.32.x86\_64 Fri Jan 10 14:19:15 2020

sca-patterns-base-1.3-37.1.noarch Fri Jan 10 14:19:11 2020

sysconfig-netconfig-0.84.0-13.1.x86\_64 Fri Jan 10 14:19:06 2020

cpp-4.8-6.189.x86\_64 Fri Jan 10 14:18:59 2020

gettext-tools-0.19.2-1.103.x86\_64 Fri Jan 10 14:18:58 2020

perl-XML-SAX-0.99-22.8.x86\_64 Fri Jan 10 14:18:52 2020

libXdamage1-1.1.4-7.54.x86\_64 Fri Jan 10 14:18:49 2020

libXt6-1.1.4-3.59.x86\_64 Fri Jan 10 14:18:48 2020

libXrender1-0.9.8-7.1.x86\_64 Fri Jan 10 14:18:48 2020

libXpm4-3.5.11-5.1.x86\_64 Fri Jan 10 14:18:48 2020

libXmuu1-1.1.2-3.60.x86\_64 Fri Jan 10 14:18:48 2020

libXfixes3-5.0.1-7.1.x86\_64 Fri Jan 10 14:18:48 2020

libXext6-1.3.2-4.3.1.x86\_64 Fri Jan 10 14:18:48 2020

os-prober-1.61-29.1.x86\_64 Fri Jan 10 14:18:41 2020

libharfbuzz0-1.4.5-7.5.x86\_64 Fri Jan 10 14:18:37 2020

fontconfig-2.11.1-7.1.x86\_64 Fri Jan 10 14:18:37 2020

sysconfig-0.84.0-13.1.x86\_64 Fri Jan 10 14:18:36 2020

libpcap1-1.8.1-10.3.1.x86\_64 Fri Jan 10 14:18:36 2020

update-desktop-files-12.1-25.13.noarch Fri Jan 10 14:18:31 2020

ipset-6.21.1-6.4.24.x86\_64 Fri Jan 10 14:18:31 2020

gettext-runtime-0.19.2-1.103.x86\_64 Fri Jan 10 14:18:31 2020

perl-Term-ReadKey-2.31-1.152.x86\_64 Fri Jan 10 14:18:30 2020

perl-Socket6-0.25-1.34.x86\_64 Fri Jan 10 14:18:30 2020

perl-NetAddr-IP-4.071-1.159.x86\_64 Fri Jan 10 14:18:30 2020

perl-JSON-2.90-2.15.noarch Fri Jan 10 14:18:30 2020

perl-Error-0.17021-1.18.noarch Fri Jan 10 14:18:30 2020

perl-XML-SAX-Base-1.08-8.20.noarch Fri Jan 10 14:18:29 2020

perl-XML-Parser-2.41-21.140.x86\_64 Fri Jan 10 14:18:29 2020

perl-XML-NamespaceSupport-1.11-21.13.x86\_64 Fri Jan 10 14:18:29 2020

expect-5.45-18.56.x86\_64 Fri Jan 10 14:18:22 2020

strace-4.10-3.1.x86\_64 Fri Jan 10 14:18:08 2020

socat-1.7.2.4-3.1.x86\_64 Fri Jan 10 14:18:08 2020

libthai0-0.1.25-4.2.x86\_64 Fri Jan 10 14:18:07 2020

libsmi2-0.4.8-18.63.x86\_64 Fri Jan 10 14:18:07 2020

libnl3-200-3.2.23-2.21.x86\_64 Fri Jan 10 14:18:02 2020

libnetfilter\_conntrack3-1.0.4-3.60.x86\_64 Fri Jan 10 14:18:02 2020

libmpc3-1.0.2-1.123.x86\_64 Fri Jan 10 14:18:02 2020

libedit0-3.1.snap20140620-1.13.x86\_64 Fri Jan 10 14:18:02 2020

libipset3-6.21.1-6.4.24.x86\_64 Fri Jan 10 14:18:01 2020

libcloog-isl4-0.18.1-1.124.x86\_64 Fri Jan 10 14:18:01 2020

haveged-1.9.1-16.1.x86\_64 Fri Jan 10 14:17:59 2020

netcat-openbsd-1.89-92.3.1.x86\_64 Fri Jan 10 14:17:58 2020

shared-mime-info-1.6-11.3.x86\_64 Fri Jan 10 14:17:57 2020

libSM6-1.2.2-3.59.x86\_64 Fri Jan 10 14:17:53 2020

dmraid-1.0.0.rc16-35.3.1.x86\_64 Fri Jan 10 14:17:48 2020

zip-3.0-16.3.1.x86\_64 Fri Jan 10 14:17:44 2020

xbitmaps-1.1.1-10.9.noarch Fri Jan 10 14:17:44 2020

whois-5.1.1-1.17.x86\_64 Fri Jan 10 14:17:43 2020

which-2.20-3.180.x86\_64 Fri Jan 10 14:17:43 2020

wget-1.14-21.10.1.x86\_64 Fri Jan 10 14:17:43 2020

vlan-1.9-144.1.x86\_64 Fri Jan 10 14:17:42 2020

usbutils-008-9.2.x86\_64 Fri Jan 10 14:17:36 2020

time-1.7-5.13.x86\_64 Fri Jan 10 14:17:34 2020

termcap-2.0.8-1042.61.x86\_64 Fri Jan 10 14:17:33 2020

telnet-1.2-165.63.x86\_64 Fri Jan 10 14:17:33 2020

tcl-8.6.7-3.3.3.x86\_64 Fri Jan 10 14:17:33 2020

sysfsutils-2.1.0-151.65.x86\_64 Fri Jan 10 14:17:32 2020

sharutils-4.11.1-14.64.x86\_64 Fri Jan 10 14:17:31 2020

recode-3.6-663.62.x86\_64 Fri Jan 10 14:17:31 2020

procmail-3.22-269.3.5.x86\_64 Fri Jan 10 14:17:30 2020

p7zip-9.20.1-7.3.1.x86\_64 Fri Jan 10 14:17:29 2020

net-tools-1.60-765.5.4.x86\_64 Fri Jan 10 14:17:29 2020

mksh-50f-5.1.x86\_64 Fri Jan 10 14:17:29 2020

make-4.0-4.1.x86\_64 Fri Jan 10 14:17:24 2020

mailx-12.5-28.1.x86\_64 Fri Jan 10 14:17:24 2020

luit-2.0\_20130217-4.57.x86\_64 Fri Jan 10 14:17:21 2020

lsscsi-0.29-7.3.1.x86\_64 Fri Jan 10 14:17:21 2020

lsof-4.89-27.5.1.x86\_64 Fri Jan 10 14:17:21 2020

lsb-release-2.0-28.1.noarch Fri Jan 10 14:17:21 2020

libxshmfence1-1.1-1.28.x86\_64 Fri Jan 10 14:17:20 2020

libwrap0-7.6-886.3.x86\_64 Fri Jan 10 14:17:19 2020

liburcu0-0.8.8-3.2.x86\_64 Fri Jan 10 14:17:19 2020

libunistring0-0.9.3-20.1.x86\_64 Fri Jan 10 14:17:19 2020

libthai-data-0.1.25-4.2.x86\_64 Fri Jan 10 14:17:19 2020

libsnappy1-1.1.3-1.2.x86\_64 Fri Jan 10 14:17:18 2020

libsmi-0.4.8-18.63.x86\_64 Fri Jan 10 14:17:18 2020

libsensors4-3.4.0-8.1.x86\_64 Fri Jan 10 14:17:18 2020

libpixman-1-0-0.34.0-6.1.x86\_64 Fri Jan 10 14:17:17 2020

libpipeline1-1.2.6-1.20.x86\_64 Fri Jan 10 14:17:17 2020

libpciaccess0-0.13.2-5.1.x86\_64 Fri Jan 10 14:17:17 2020

libnuma1-2.0.9-9.1.x86\_64 Fri Jan 10 14:17:16 2020

libnl1-1.1.4-4.21.x86\_64 Fri Jan 10 14:17:16 2020

libnl-config-3.2.23-2.21.noarch Fri Jan 10 14:17:16 2020

libnfnetlink0-1.0.1-6.58.x86\_64 Fri Jan 10 14:17:16 2020

libmpfr4-3.1.2-7.1.x86\_64 Fri Jan 10 14:17:16 2020

libmnl0-1.0.3-9.18.x86\_64 Fri Jan 10 14:17:15 2020

liblzo2-2-2.08-1.13.x86\_64 Fri Jan 10 14:17:15 2020

liblua5\_2-5.2.4-6.1.x86\_64 Fri Jan 10 14:17:15 2020

libltdl7-2.4.2-17.4.1.x86\_64 Fri Jan 10 14:17:15 2020

liblogging0-1.0.4-1.6.x86\_64 Fri Jan 10 14:17:15 2020

libjson-c2-0.11-2.22.x86\_64 Fri Jan 10 14:17:15 2020

libisl10-0.12.2-1.121.x86\_64 Fri Jan 10 14:17:15 2020

libhavege1-1.9.1-16.1.x86\_64 Fri Jan 10 14:17:14 2020

libgraphite2-3-1.3.1-10.3.1.x86\_64 Fri Jan 10 14:17:14 2020

libgdbm4-1.10-9.70.x86\_64 Fri Jan 10 14:17:14 2020

libgc1-7.2d-5.1.x86\_64 Fri Jan 10 14:17:14 2020

libestr0-0.1.9-1.54.x86\_64 Fri Jan 10 14:17:13 2020

libelf0-0.8.13-18.64.x86\_64 Fri Jan 10 14:17:13 2020

libdb-4\_8-4.8.30-29.6.x86\_64 Fri Jan 10 14:17:13 2020

libdatrie1-0.2.4-17.19.x86\_64 Fri Jan 10 14:17:12 2020

libdaemon0-0.14-14.57.x86\_64 Fri Jan 10 14:17:12 2020

libXau6-1.0.8-4.58.x86\_64 Fri Jan 10 14:17:12 2020

libHX28-3.18-1.19.x86\_64 Fri Jan 10 14:17:11 2020

less-458-5.13.x86\_64 Fri Jan 10 14:17:11 2020

ksh-93vu-18.1.x86\_64 Fri Jan 10 14:17:11 2020

keyutils-1.5.9-3.29.x86\_64 Fri Jan 10 14:17:11 2020

iputils-s20121221-2.19.x86\_64 Fri Jan 10 14:17:10 2020

gpart-0.1h-642.63.x86\_64 Fri Jan 10 14:17:09 2020

finger-1.3-163.62.x86\_64 Fri Jan 10 14:17:08 2020

dos2unix-6.0.4-1.133.x86\_64 Fri Jan 10 14:17:08 2020

deltarpm-3.6.1-5.1.x86\_64 Fri Jan 10 14:17:07 2020

catatonit-0.1.3-1.3.1.x86\_64 Fri Jan 10 14:17:07 2020

bridge-utils-1.5-17.56.x86\_64 Fri Jan 10 14:17:05 2020

bc-1.06.95-6.56.x86\_64 Fri Jan 10 14:17:05 2020

bash-completion-2.1-12.13.1.noarch Fri Jan 10 14:17:05 2020

attr-2.4.47-3.143.x86\_64 Fri Jan 10 14:17:04 2020

libcryptsetup4-1.6.4-4.1.x86\_64 Fri Jan 10 14:16:08 2020

netcfg-11.5-29.1.noarch Fri Jan 10 14:16:07 2020

pam-config-0.89-5.3.2.x86\_64 Fri Jan 10 14:16:05 2020

libutempter0-1.1.6-5.114.x86\_64 Fri Jan 10 14:16:04 2020

ca-certificates-1\_201403302107-6.2.noarch Fri Jan 10 14:16:04 2020

gawk-4.1.0-3.663.x86\_64 Fri Jan 10 14:16:01 2020

rpm-4.11.2-16.21.1.x86\_64 Fri Jan 10 14:15:55 2020

dirmngr-1.1.1-13.1.x86\_64 Fri Jan 10 14:15:53 2020

diffutils-3.3-5.40.x86\_64 Fri Jan 10 14:15:53 2020

pinentry-0.8.3-4.27.x86\_64 Fri Jan 10 14:15:52 2020

grep-2.16-3.1.x86\_64 Fri Jan 10 14:15:52 2020

findutils-4.5.12-7.1.x86\_64 Fri Jan 10 14:15:52 2020

sed-4.2.2-7.3.1.x86\_64 Fri Jan 10 14:15:51 2020

info-4.13a-37.229.x86\_64 Fri Jan 10 14:15:51 2020

cracklib-2.9.0-7.1.x86\_64 Fri Jan 10 14:15:51 2020

libusb-0\_1-4-0.1.13-29.13.x86\_64 Fri Jan 10 14:15:50 2020

libcrack2-2.9.0-7.1.x86\_64 Fri Jan 10 14:15:50 2020

libusb-1\_0-0-1.0.20-5.3.x86\_64 Fri Jan 10 14:15:49 2020

libmodman1-2.0.1-15.75.x86\_64 Fri Jan 10 14:15:49 2020

fipscheck-1.2.0-9.3.x86\_64 Fri Jan 10 14:15:49 2020

libfipscheck1-1.2.0-9.3.x86\_64 Fri Jan 10 14:15:47 2020

libzio1-1.00-9.188.x86\_64 Fri Jan 10 14:15:46 2020

libassuan0-2.1.1-3.217.x86\_64 Fri Jan 10 14:15:46 2020

libselinux1-2.5-8.79.x86\_64 Fri Jan 10 14:15:45 2020

libksba8-1.3.0-23.1.x86\_64 Fri Jan 10 14:15:45 2020

pigz-2.3-5.1.x86\_64 Fri Jan 10 14:15:44 2020

libaio1-0.3.109-17.15.x86\_64 Fri Jan 10 14:15:44 2020

insserv-compat-0.1-14.3.1.noarch Fri Jan 10 14:15:44 2020

hardlink-1.0-6.45.x86\_64 Fri Jan 10 14:15:44 2020

fillup-1.42-270.64.x86\_64 Fri Jan 10 14:15:44 2020

libcap-ng0-0.7.3-4.125.x86\_64 Fri Jan 10 14:15:43 2020

libattr1-2.4.47-3.143.x86\_64 Fri Jan 10 14:15:43 2020

libgpg-error0-1.13-1.79.x86\_64 Fri Jan 10 14:15:42 2020

libgmp10-5.1.3-2.121.x86\_64 Fri Jan 10 14:15:42 2020

libffi4-5.3.1+r233831-12.1.x86\_64 Fri Jan 10 14:15:42 2020

liblua5\_1-5.1.5-8.3.1.x86\_64 Fri Jan 10 14:15:41 2020

libkeyutils1-1.5.9-3.29.x86\_64 Fri Jan 10 14:15:41 2020

libsepol1-2.5-3.143.x86\_64 Fri Jan 10 14:15:40 2020

libseccomp2-2.4.1-11.3.2.x86\_64 Fri Jan 10 14:15:40 2020

libqrencode3-3.4.3-1.31.x86\_64 Fri Jan 10 14:15:40 2020

libpth20-2.0.7-140.1.x86\_64 Fri Jan 10 14:15:40 2020

libpopt0-1.16-26.128.x86\_64 Fri Jan 10 14:15:40 2020

libustr-1\_0-1-1.0.4-31.197.x86\_64 Fri Jan 10 14:15:39 2020

pkg-config-0.28-6.98.x86\_64 Fri Jan 10 14:15:38 2020

cracklib-dict-full-2.8.12-63.17.x86\_64 Fri Jan 10 14:15:37 2020

gpg-pubkey-50a3dd1c-50f35137 Fri Jan 10 14:15:14 2020

gpg-pubkey-39db7c82-5847eb1f Fri Jan 10 14:15:14 2020

lp03wbp04:~ # rpm -qa --last | more

VRTSodm-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:36:11 2022

VRTSvxfs-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:36:05 2022

VRTSvxvm-7.4.1.3401-SLES12.x86\_64 Sat Nov 5 20:36:00 2022

BMW-FW-Emulex-v0.0.1-43\_g5fad10e.x86\_64 Sat Nov 5 20:34:05 2022

BMW-FW-DELL-R740-PERC\_H730P\_Mini-25.5.9.0001-4.noarch Sat Nov 5 20:33:59 2022

BMW-FW-DELL-R740-iDRAC9-5.10.50.00\_Build\_32-4.noarch Sat Nov 5 20:33:58 2022

BMW-FW-DELL-R740-BIOS-2.15.1-4.noarch Sat Nov 5 20:33:56 2022

BMW-FW-BLOB-DELL-R740-BIOS-2.15.1-4.noarch Sat Nov 5 20:11:32 2022

BMW-FW-BLOB-DELL-R740-iDRAC9-5.10.50.00\_Build\_32-4.noarch Sat Nov 5 20:11:30 2022

BMW-FW-BLOB-Emulex-v0.0.1-43\_g5fad10e.x86\_64 Sat Nov 5 20:11:18 2022

sapconf-5.0.4-40.71.1.noarch Sat Nov 5 20:11:17 2022

bind-utils-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:17 2022

BMW-SW-SAP-OS-Scripts-1.3-1.x86\_64 Sat Nov 5 20:11:17 2022

dnsmasq-2.78-18.18.1.x86\_64 Sat Nov 5 20:11:16 2022

docker-20.10.17\_ce-98.83.1.x86\_64 Sat Nov 5 20:11:15 2022

systemd-sysvinit-228-150.101.3.x86\_64 Sat Nov 5 20:11:13 2022

rsyslog-8.24.0-3.58.2.x86\_64 Sat Nov 5 20:11:13 2022

zypper-1.13.62-21.46.5.x86\_64 Sat Nov 5 20:11:12 2022

uuidd-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:11:12 2022

util-linux-systemd-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:11:12 2022

libbind9-161-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:12 2022

udev-228-150.101.3.x86\_64 Sat Nov 5 20:11:11 2022

python-bind-9.11.22-3.40.1.noarch Sat Nov 5 20:11:11 2022

libzypp-16.22.4-36.2.x86\_64 Sat Nov 5 20:11:11 2022

libisccfg163-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:11 2022

systemd-228-150.101.3.x86\_64 Sat Nov 5 20:11:10 2022

python-2.7.18-33.11.1.x86\_64 Sat Nov 5 20:11:10 2022

libstdc++6-32bit-11.3.0+git1637-1.10.1.x86\_64 Sat Nov 5 20:11:10 2022

libsolv-tools-0.6.39-2.39.2.x86\_64 Sat Nov 5 20:11:10 2022

grub2-snapper-plugin-2.02-143.2.noarch Sat Nov 5 20:11:10 2022

suse-build-key-12.0-7.15.1.noarch Sat Nov 5 20:11:09 2022

libisccc161-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:09 2022

libdns1110-9.11.22-3.40.1.x86\_64 Sat Nov 5 20:11:09 2022

containerd-1.6.6-16.62.1.x86\_64 Sat Nov 5 20:11:09 2022

glibc-locale-2.22-114.19.1.x86\_64 Sat Nov 5 20:11:07 2022

e2fsprogs-1.43.8-3.17.1.x86\_64 Sat Nov 5 20:11:07 2022

kernel-default-4.12.14-95.102.1.x86\_64 Sat Nov 5 20:10:58 2022

timezone-2022a-74.58.1.x86\_64 Sat Nov 5 20:10:54 2022

systemd-rpm-macros-11-10.36.1.noarch Sat Nov 5 20:10:54 2022

nfs-client-1.3.0-34.34.2.x86\_64 Sat Nov 5 20:10:54 2022

xorg-x11-server-1.19.6-4.31.1.x86\_64 Sat Nov 5 20:10:53 2022

util-linux-2.29.2-9.17.1.x86\_64 Sat Nov 5 20:10:53 2022

libpcre1-32bit-8.45-8.12.1.x86\_64 Sat Nov 5 20:10:53 2022

lp03wbp04:~ # rpm -qa --last | grep -i llt

VRTSllt-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:42:08 2020

lp03wbp04:~ # rpm -qa --last | grep -i gab

BMW-systemdctl-3.2.4-0\_gabfa0c1.noarch Thu Mar 24 10:36:11 2022

VRTSgab-7.4.1.1100-SLES12.x86\_64 Sat Oct 24 16:42:26 2020

lp03wbp04:~ # zypper update BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

Nothing to do.

lp03wbp04:~ # zypper update `zypper se -is VRTS\* |grep BMW-Software-Veritas |grep -v VRTSllt |grep -v VRTSgab | awk '{print $3}'`

Loading repository data...

Reading installed packages...

No update candidate for 'VRTSvxvm-7.4.1.3401-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvlic-4.01.74.002-SLES.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvxfs-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSperl-5.26.1.1-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSodm-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSfsadv-7.4.1.0000-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSspt-7.4.1.000-SLES12.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 7 packages are going to be upgraded:

VRTSaslapm VRTSpython VRTSsfmh VRTSvcs VRTSvcsag VRTSveki VRTSvxfen

The following 7 packages have no support information from their vendor:

VRTSaslapm VRTSpython VRTSsfmh VRTSvcs VRTSvcsag VRTSveki VRTSvxfen

7 packages to upgrade.

Overall download size: 226.9 MiB. Already cached: 0 B. After the operation, additional 93.9 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

Retrieving package VRTSveki-7.4.1.3400-SLES12.x86\_64 (1/7), 209.9 KiB ( 1.4 MiB unpacked)

Retrieving: VRTSveki-7.4.1.3400-SLES12.x86\_64.rpm .....................................................................................................[done]

Retrieving package VRTSvcs-7.4.1.3300-SLES12.x86\_64 (2/7), 73.3 MiB (223.2 MiB unpacked)

Retrieving: VRTSvcs-7.4.1.3300-SLES12.x86\_64.rpm .........................................................................................[done (37.9 MiB/s)]

Retrieving package VRTSsfmh-7.4.0.1500-0.x86\_64 (3/7), 64.0 MiB (182.5 MiB unpacked)

Retrieving: VRTSsfmh-7.4.0.1500-0.x86\_64.rpm .............................................................................................[done (28.3 MiB/s)]

Retrieving package VRTSaslapm-7.4.1.3300-SLES12.x86\_64 (4/7), 5.6 MiB ( 86.0 MiB unpacked)

Retrieving: VRTSaslapm-7.4.1.3300-SLES12.x86\_64.rpm ...................................................................................................[done]

Retrieving package VRTSvxfen-7.4.1.3300-SLES12.x86\_64 (5/7), 3.8 MiB ( 41.1 MiB unpacked)

Retrieving: VRTSvxfen-7.4.1.3300-SLES12.x86\_64.rpm ....................................................................................................[done]

Retrieving package VRTSpython-3.6.6.10-SLES12.x86\_64 (6/7), 68.0 MiB (423.6 MiB unpacked)

Retrieving: VRTSpython-3.6.6.10-SLES12.x86\_64.rpm ........................................................................................[done (28.7 MiB/s)]

Retrieving package VRTSvcsag-7.4.1.3300-SLES12.x86\_64 (7/7), 12.0 MiB ( 82.6 MiB unpacked)

Retrieving: VRTSvcsag-7.4.1.3300-SLES12.x86\_64.rpm ....................................................................................................[done]

Checking for file conflicts: ..........................................................................................................................[done]

(1/7) Installing: VRTSveki-7.4.1.3400-SLES12.x86\_64 ...................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSveki-7.4.1.3400-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Job for veki.service failed because the control process exited with error code. See "systemctl status veki.service" and "journalctl -xe" for details.

(2/7) Installing: VRTSvcs-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSvcs-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvcs-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

/opt/VRTSvcs/bin/hashadow: 6190e

VCS process 'hashadow' is running. Cannot uninstall the package.

error: %pre(VRTSvcs-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSvcs-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSvcs-7.4.1.0000-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Warning: %posttrans scripts skipped while aborting:

VRTSveki-7.4.1.3400-SLES12.x86\_64.rpm

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp04:~ # systemctl stop vcs

lp03wbp04:~ # systemctl stop gab

lp03wbp04:~ # gabconfig -U

GAB gabconfig ERROR V-15-2-25022 gabconfig: open failed : unknown error

lp03wbp04:~ # systemctl stop vxfen

lp03wbp04:~ # systemctl stop llt

lp03wbp04:~ # lltconfig -U

lltconfig: this will attempt to stop and reset LLT. Confirm (y/n)?

lltconfig: this will attempt to stop and reset LLT. Confirm (y/n)? y

lp03wbp04:~ # rmmod gab

rmmod: ERROR: Module gab is not currently loaded

lp03wbp04:~ # systemctl stop syslog

Warning: Stopping syslog.service, but it can still be activated by:

syslog.socket

lp03wbp04:~ # systemctl stop vxodm

lp03wbp04:~ # systemctl stop vxvm-boot

lp03wbp04:~ # systemctl stop vxfs

lp03wbp04:~ # systemctl stop vxodm.service

lp03wbp04:~ # systemctl stop vxfs\_replication.service

lp03wbp04:~ # systemctl stop vxnm-vxnetd.service

lp03wbp04:~ # systemctl stop vxpbx\_exchanged.service

lp03wbp04:~ # systemctl stop vxrsyncd.service

lp03wbp04:~ # systemctl stop vxvm-boot.service

lp03wbp04:~ # systemctl stop vxvm-encrypt.service

lp03wbp04:~ # systemctl stop vxvm-reconfig.service

lp03wbp04:~ # systemctl stop vxvm-recover.service

lp03wbp04:~ # systemctl stop vxodm

lp03wbp04:~ # systemctl stop vxvm-boot

lp03wbp04:~ # systemctl stop vxfs

lp03wbp04:~ # systemctl stop vxodm.service

lp03wbp04:~ # systemctl stop vxfs\_replication.service

lp03wbp04:~ # systemctl stop vxnm-vxnetd.service

lp03wbp04:~ # systemctl stop vxpbx\_exchanged.service

lp03wbp04:~ # systemctl stop vxrsyncd.service

lp03wbp04:~ # systemctl stop vxvm-boot.service

lp03wbp04:~ # systemctl stop vxvm-encrypt.service

lp03wbp04:~ # systemctl stop vxvm-reconfig.service

lp03wbp04:~ # systemctl stop vxvm-recover.service

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # zypper update VRTSllt VRTSgab BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 2 packages are going to be upgraded:

VRTSgab VRTSllt

The following 2 packages have no support information from their vendor:

VRTSgab VRTSllt

2 packages to upgrade.

Overall download size: 0 B. Already cached: 19.0 MiB. After the operation, additional 28.3 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm (1/2), 15.2 MiB (115.9 MiB unpacked)

In cache VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm (2/2), 3.8 MiB ( 42.3 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/2) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSllt-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

LLT module is still loaded. Cannot upgrade.

Please unload LLT first (using systemctl stop llt).

error: %pre(VRTSllt-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSllt-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSllt-7.4.1.1100-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # reboot

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ ping lp03wbp04

PING lp03wbp04.bmwgroup.net (160.48.228.30) 56(84) bytes of data.

64 bytes from lp03wbp04.bmwgroup.net (160.48.228.30): icmp\_seq=1 ttl=56 time=17.9 ms

64 bytes from lp03wbp04.bmwgroup.net (160.48.228.30): icmp\_seq=2 ttl=56 time=18.0 ms

64 bytes from lp03wbp04.bmwgroup.net (160.48.228.30): icmp\_seq=3 ttl=56 time=17.9 ms

^C

--- lp03wbp04.bmwgroup.net ping statistics ---

3 packets transmitted, 3 received, 0% packet loss, time 2002ms

rtt min/avg/max/mdev = 17.962/17.989/18.031/0.157 ms

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rootssh lp03wbp04

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # uptime

20:57pm up 0:01, 1 user, load average: 9.17, 3.31, 1.19

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # hastop -local -force

VCS ERROR V-16-1-10600 Cannot connect to VCS engine

lp03wbp04:~ # systemctl stop vcs

lp03wbp04:~ # systemctl stop gab

lp03wbp04:~ # gabconfig -U

GAB gabconfig ERROR V-15-2-25022 gabconfig: open failed : unknown error

lp03wbp04:~ # systemctl stop vxfen

lp03wbp04:~ # systemctl stop llt

lp03wbp04:~ # lltconfig -U

LLT lltconfig ERROR V-14-2-15000 open /dev/llt failed: No such file or directory

lp03wbp04:~ # rmmod vxfen

lp03wbp04:~ # rmmod gab

rmmod: ERROR: Module gab is not currently loaded

lp03wbp04:~ # systemctl stop syslog

Warning: Stopping syslog.service, but it can still be activated by:

syslog.socket

lp03wbp04:~ # systemctl stop vxodm

lp03wbp04:~ # systemctl stop vxvm-boot

lp03wbp04:~ # systemctl stop vxfs

lp03wbp04:~ # systemctl stop vxodm.service

lp03wbp04:~ # systemctl stop vxfs\_replication.service

lp03wbp04:~ # systemctl stop vxnm-vxnetd.service

lp03wbp04:~ # systemctl stop vxpbx\_exchanged.service

lp03wbp04:~ # systemctl stop vxrsyncd.service

lp03wbp04:~ # systemctl stop vxvm-boot.service

lp03wbp04:~ # systemctl stop vxvm-encrypt.service

lp03wbp04:~ # systemctl stop vxvm-reconfig.service

lp03wbp04:~ # systemctl stop vxvm-recover.service

lp03wbp04:~ # systemctl stop vxodm

lp03wbp04:~ # systemctl stop vxvm-boot

lp03wbp04:~ # systemctl stop vxfs

lp03wbp04:~ # systemctl stop vxodm.service

lp03wbp04:~ # systemctl stop vxfs\_replication.service

lp03wbp04:~ # systemctl stop vxnm-vxnetd.service

lp03wbp04:~ # systemctl stop vxpbx\_exchanged.service

lp03wbp04:~ # systemctl stop vxrsyncd.service

lp03wbp04:~ # systemctl stop vxvm-boot.service

lp03wbp04:~ # systemctl stop vxvm-encrypt.service

lp03wbp04:~ # systemctl stop vxvm-reconfig.service

lp03wbp04:~ # systemctl stop vxvm-recover.service

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # zypper update VRTSllt

Loading repository data...

Reading installed packages...

Resolving package dependencies...

The following package is going to be upgraded:

VRTSllt

The following package has no support information from it's vendor:

VRTSllt

1 package to upgrade.

Overall download size: 0 B. Already cached: 15.2 MiB. After the operation, additional 23.1 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm (1/1), 15.2 MiB (115.9 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/1) Installing: VRTSllt-7.4.1.3300-SLES12.x86\_64 ....................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSllt-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

lp03wbp04:~ # systemctl stop vxvm-recov^C.service

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # zypper update VRTSgab

Loading repository data...

Reading installed packages...

Resolving package dependencies...

The following package is going to be upgraded:

VRTSgab

The following package has no support information from it's vendor:

VRTSgab

1 package to upgrade.

Overall download size: 0 B. Already cached: 3.8 MiB. After the operation, additional 5.2 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm (1/1), 3.8 MiB ( 42.3 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/1) Installing: VRTSgab-7.4.1.3300-SLES12.x86\_64 ....................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSgab-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

There are some running programs that might use files deleted by recent upgrade. You may wish to check and restart some of them. Run 'zypper ps -s' to list these programs.

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # zypper update BMW-SW-Veritas-Helpers

Loading repository data...

Reading installed packages...

No update candidate for 'BMW-SW-Veritas-Helpers-1.0.16-284414.git.ea23062.noarch'. The highest available version is already installed.

Resolving package dependencies...

Nothing to do.

lp03wbp04:~ # zypper update `zypper se -is VRTS\* |grep BMW-Software-Veritas |grep -v VRTSllt |grep -v VRTSgab | awk '{print $3}'`

Loading repository data...

Reading installed packages...

No update candidate for 'VRTSveki-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvxvm-7.4.1.3401-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvlic-4.01.74.002-SLES.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvxfs-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSperl-5.26.1.1-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSodm-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSfsadv-7.4.1.0000-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSspt-7.4.1.000-SLES12.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 6 packages are going to be upgraded:

VRTSaslapm VRTSpython VRTSsfmh VRTSvcs VRTSvcsag VRTSvxfen

The following 6 packages have no support information from their vendor:

VRTSaslapm VRTSpython VRTSsfmh VRTSvcs VRTSvcsag VRTSvxfen

6 packages to upgrade.

Overall download size: 0 B. Already cached: 226.7 MiB. After the operation, additional 93.6 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSvcs-7.4.1.3300-SLES12.x86\_64.rpm (1/6), 73.3 MiB (223.2 MiB unpacked)

In cache VRTSsfmh-7.4.0.1500-0.x86\_64.rpm (2/6), 64.0 MiB (182.5 MiB unpacked)

In cache VRTSaslapm-7.4.1.3300-SLES12.x86\_64.rpm (3/6), 5.6 MiB ( 86.0 MiB unpacked)

In cache VRTSvxfen-7.4.1.3300-SLES12.x86\_64.rpm (4/6), 3.8 MiB ( 41.1 MiB unpacked)

In cache VRTSpython-3.6.6.10-SLES12.x86\_64.rpm (5/6), 68.0 MiB (423.6 MiB unpacked)

In cache VRTSvcsag-7.4.1.3300-SLES12.x86\_64.rpm (6/6), 12.0 MiB ( 82.6 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/6) Installing: VRTSvcs-7.4.1.3300-SLES12.x86\_64 ...................................................................................................[error]

Installation of VRTSvcs-7.4.1.3300-SLES12.x86\_64 failed:

Error: Subprocess failed. Error: RPM failed: warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvcs-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

/opt/VRTSvcs/bin/hashadow: 17499e

VCS process 'hashadow' is running. Cannot uninstall the package.

error: %pre(VRTSvcs-7.4.1.3300-SLES12.x86\_64) scriptlet failed, exit status 1

error: VRTSvcs-7.4.1.3300-SLES12.x86\_64: install failed

error: VRTSvcs-7.4.1.0000-SLES12.x86\_64: erase skipped

Abort, retry, ignore? [a/r/i] (a): a

Problem occurred during or after installation or removal of packages:

Installation aborted by user

Please see the above error message for a hint.

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # zypper update `zypper se -is VRTS\* |grep BMW-Software-Veritas |grep -v VRTSllt |grep -v VRTSgab | awk '{print $3}'`

Loading repository data...

Reading installed packages...

No update candidate for 'VRTSveki-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvxvm-7.4.1.3401-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvlic-4.01.74.002-SLES.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSvxfs-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSperl-5.26.1.1-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSodm-7.4.1.3400-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSfsadv-7.4.1.0000-SLES12.x86\_64'. The highest available version is already installed.

No update candidate for 'VRTSspt-7.4.1.000-SLES12.noarch'. The highest available version is already installed.

Resolving package dependencies...

The following 6 packages are going to be upgraded:

VRTSaslapm VRTSpython VRTSsfmh VRTSvcs VRTSvcsag VRTSvxfen

The following 6 packages have no support information from their vendor:

VRTSaslapm VRTSpython VRTSsfmh VRTSvcs VRTSvcsag VRTSvxfen

6 packages to upgrade.

Overall download size: 0 B. Already cached: 226.7 MiB. After the operation, additional 93.6 MiB will be used.

Continue? [y/n/...? shows all options] (y): y

In cache VRTSvcs-7.4.1.3300-SLES12.x86\_64.rpm (1/6), 73.3 MiB (223.2 MiB unpacked)

In cache VRTSsfmh-7.4.0.1500-0.x86\_64.rpm (2/6), 64.0 MiB (182.5 MiB unpacked)

In cache VRTSaslapm-7.4.1.3300-SLES12.x86\_64.rpm (3/6), 5.6 MiB ( 86.0 MiB unpacked)

In cache VRTSvxfen-7.4.1.3300-SLES12.x86\_64.rpm (4/6), 3.8 MiB ( 41.1 MiB unpacked)

In cache VRTSpython-3.6.6.10-SLES12.x86\_64.rpm (5/6), 68.0 MiB (423.6 MiB unpacked)

In cache VRTSvcsag-7.4.1.3300-SLES12.x86\_64.rpm (6/6), 12.0 MiB ( 82.6 MiB unpacked)

Checking for file conflicts: ..........................................................................................................................[done]

(1/6) Installing: VRTSvcs-7.4.1.3300-SLES12.x86\_64 ....................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvcs-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

(2/6) Installing: VRTSsfmh-7.4.0.1500-0.x86\_64 ........................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSsfmh-7.4.0.1500-0.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

(3/6) Installing: VRTSaslapm-7.4.1.3300-SLES12.x86\_64 .................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSaslapm-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Installing keys for APMs

(4/6) Installing: VRTSvxfen-7.4.1.3300-SLES12.x86\_64 ..................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvxfen-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

(5/6) Installing: VRTSpython-3.6.6.10-SLES12.x86\_64 ...................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSpython-3.6.6.10-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

The directory '/lfs/qqlinux/.cache/pip/http' or its parent directory is not owned by the current user and the cache has been disabled. Please check the permissions and owner of that directory. If executing pip with sudo, you may want sudo's -H flag.

(6/6) Installing: VRTSvcsag-7.4.1.3300-SLES12.x86\_64 ..................................................................................................[done]

Additional rpm output:

warning: /var/cache/zypp/packages/BMW-Software-Veritas/VRTSvcsag-7.4.1.3300-SLES12.x86\_64.rpm: Header V4 RSA/SHA1 Signature, key ID cc633953: NOKEY

Copying /etc/VRTSvcs/conf/config/types.cf as /etc/VRTSvcs/conf/config/types.cf.pre-vcs

Please make any type level configuration changes to types.cf.pre-vcs file before you start VCS.

Copying /etc/VRTSvcs/conf/config/main.cf as /etc/VRTSvcs/conf/config/main.cf.pre-vcs

This /etc/VRTSvcs/conf/config/main.cf.pre-vcs file will be copied back as

/etc/VRTSvcs/conf/config/main.cf by next execution of hastart command.

Leaving existing types.cf for configuration

Implement /etc/VRTSvcs/conf/types.cf to utilize resource type updates

Output of VRTSpython-3.6.6.10-SLES12.x86\_64.rpm %posttrans script:

/

There are some running programs that might use files deleted by recent upgrade. You may wish to check and restart some of them. Run 'zypper ps -s' to list these programs.

lp03wbp04:~ # rpm -qa --last | grep -i VRTS

VRTSvcsag-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 21:01:05 2022

VRTSpython-3.6.6.10-SLES12.x86\_64 Sat Nov 5 21:01:03 2022

VRTSvxfen-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 21:00:46 2022

VRTSaslapm-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 21:00:45 2022

VRTSsfmh-7.4.0.1500-0.x86\_64 Sat Nov 5 21:00:30 2022

VRTSvcs-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 21:00:26 2022

VRTSgab-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 20:59:02 2022

VRTSllt-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 20:58:29 2022

VRTSveki-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:40:08 2022

VRTSodm-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:36:11 2022

VRTSvxfs-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:36:05 2022

VRTSvxvm-7.4.1.3401-SLES12.x86\_64 Sat Nov 5 20:36:00 2022

VRTSpddea-12.0.0.0-0140.x86\_64 Tue Oct 27 14:52:40 2020

VRTSnbcfg-8.2.0.0-1561464065.x86\_64 Tue Oct 27 14:52:40 2020

VRTSnbclt-8.2.0.0-1561464178.x86\_64 Tue Oct 27 14:52:12 2020

VRTSpbx-1.11.17.1-1.x86\_64 Tue Oct 27 14:51:53 2020

VRTSnbpck-8.2.0.0-1561464233.x86\_64 Tue Oct 27 14:51:46 2020

VRTSfsadv-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:39 2020

VRTSvlic-4.01.74.002-SLES.x86\_64 Sat Oct 24 16:42:07 2020

VRTSperl-5.26.1.1-SLES12.x86\_64 Sat Oct 24 16:41:58 2020

VRTSspt-7.4.1.000-SLES12.noarch Sat Oct 24 16:41:57 2020

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # zypper lu

Loading repository data...

Reading installed packages...

S | Repository | Name | Current Version | Available Version | Arch

--+---------------------+-----------------------+-----------------+-------------------+-------

v | active-P-SAP-Custom | BMW-SW-SAP-OS-Scripts | 1.3-1 | 1.4-1 | x86\_64

v | PBIS | pbis-enterprise | 10.0.0-576 | 22.2.0-210 | x86\_64

v | BMW-Software-UCMD | ucmd | 6.3.0-4 | 6.7.0-0.1 | x86\_64

lp03wbp04:~ # reboot

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ rootssh lp03wbp04

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # vxconfigd k

V-5-1-14485 Usage:

vxconfigd [-dkf] [-r reset] [-m mode] [-x <arg>]

[-R request\_portal] [-D diag\_portal] [-I inquiry\_portal]

Recognized options:

-d set initial mode to disabled for transactions

-k kill the existing configuration daemon process and start a new one

-f operate in foreground; default is to operate in background

-r reset reset kernel state; requires 'reset' option argument

-m mode set vxconfigd's operating mode

modes: boot, disable, enable

-x <arg> set debug and control parameters:

<debug\_level> set debug level to 0-9. 0 to turn off

cleartempdir remove and recreate temporary config data

log log messages to /etc/vx/vxconfigd.log

logfile=<file> set a specific log file

nolog disable log messages

mtimestamp attach a millisecond timestamp to messages

nosyslog/syslog disable/enable logging messages to syslog

timestamp attach a timestamp to messages

nothreads start in single threaded mode

-R file set filename for client request rendezvous

-D file set filename for client diag request rendezvous

-I file set filename for client inquiry request rendezvous

lp03wbp04:~ # vxconfigd -k

lp03wbp04:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 LOCAL\_BUILD 0

A lp03wbp04 CURRENT\_PEER\_WAIT 0

lp03wbp04:~ # vxdisk scandisk

VxVM vxdisk INFO V-5-1-9632

vxdisk - define and manage Veritas Volume Manager disks

Usage: vxdisk [-f] keyword arg ...

Recognized keywords:

[-g diskgroup] addregion region-type disk offset length

[-g diskgroup] check disk ...

checklvmdisk

[-g diskgroup] [-o clearkey=key] clearhost ...

clearimport accessname ...

define accessname [attribute ...]

destroy accessname ...

[-o alldisks] [-o local] export [accessname ...]

flush accessname ...

getctlr accessname

init accessname [attribute ...]

[-g diskgroup] [-o cluster] [-o alldgs] [-o listreserve] [-o mfd] [-o thin | -o ssd] [-o fssize] [-o size] [-o udid] [-o dg] [-o dgid] [-o node] [-o free] [ -o mediatype={ssd|hdd}] [-x attr,...] [-bpeqsv] [-o tag=name|~name[=value|~value] [-u h|unit] list [disk ...]

[-g diskgroup] [-o tag=name|~name[=value|~value] listtag [disk ...]

map {disk... | -o dg dgname...}

[-l filename] offline [accessname ...]

[-a] [-l filename] online [accessname ...]

path

[-o full] [-o ssd | -o thin] reclaim <diskgroup> | <disk> | <enclosure> [[<diskgroup> | <disk> | <enclosure>] ...]

[-g diskgroup] resize {accessname|medianame} [length=value]

rm accessname ...

[-g diskgroup] rmregion region-type disk offset [length]

[-g diskgroup] rmtag <tagname>[=<tagvalue>] <disk>|encl:<enclosure> ...

[-f] scandisks [ [!]device=...| [!]ctlr=...| [!]pctlr=...|new|fabric]

[-g diskgroup] set disk [attribute ...]

[-g diskgroup] settag <tagname>[=<tagvalue>] <disk>|encl:<enclosure> ...

[-o alldisks] [-o local] unexport [accessname ...]

unmap {disk... | -o dg dgname...}

[-Cfc] updateudid disk ...

lp03wbp04:~ # vxdisk scandisks

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N OFFLINE

B pwbpci00 lp03wbp03 Y N OFFLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

-- GROUPS FROZEN

-- Group

C iwbqci10

C pwbpci00

-- RESOURCES DISABLED

-- Group Type Resource

H iwbqci10 Application iwbqci10\_wbq\_app

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1001

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1002

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1003

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1004

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1005

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1006

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1007

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1008

H iwbqci10 DiskGroup iwbqci10\_dgiwbqci1009

H iwbqci10 IP iwbqci10\_iwbqci10\_ip

H iwbqci10 IP iwbqci10\_iwbqdb10\_ip

H iwbqci10 Mount iwbqci10\_global\_iwbqci10\_apps\_mount

H iwbqci10 Mount iwbqci10\_global\_iwbqci10\_bkup\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mirrlogA\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mirrlogB\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_origlogA\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_origlogB\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata1\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata2\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata3\_mount

H iwbqci10 Mount iwbqci10\_oracle\_WBQ\_sapdata4\_mount

H iwbqci10 Mount iwbqci10\_usr\_sap\_WBQ\_mount

H iwbqci10 Proxy iwbqci10\_nic\_proxy

H pwbpci00 Application pwbpci00\_wbp\_app

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0001

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0002

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0003

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0004

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0005

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0006

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0007

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0008

H pwbpci00 DiskGroup pwbpci00\_dgpwbpci0009

H pwbpci00 IP pwbpci00\_pwbpci00\_ip

H pwbpci00 IP pwbpci00\_pwbpdb00\_ip

H pwbpci00 Mount pwbpci00\_global\_pwbpci00\_apps\_mount

H pwbpci00 Mount pwbpci00\_global\_pwbpci00\_bkup\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mirrlogA\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mirrlogB\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_origlogA\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_origlogB\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata1\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata2\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata3\_mount

H pwbpci00 Mount pwbpci00\_oracle\_WBP\_sapdata4\_mount

H pwbpci00 Mount pwbpci00\_usr\_sap\_WBP\_mount

H pwbpci00 Proxy pwbpci00\_nic\_proxy

lp03wbp04:~ # cat /etc/BMW-release

IMAGE\_KIWI\_NAME="BMW-SLES12SP2"

IMAGE\_KIWI\_PROFILE="HW\_DELL"

IMAGE\_KIWI\_VERSION="2.4.0"

IMAGE\_KIWI\_BUILD\_DATE="2020-01-10"

IMAGE\_KIWI\_BUILD\_ID="8299b5457d8f-98635d5"

IMAGE\_BMW\_MR="2020Q01.00"

IMAGE\_BMW\_STATUS="RELEASE"

INSTALL\_DATE="2020-02-13"

LAST\_IPU\_VERSION="ipu\_12.2\_12.4"

LAST\_IPU\_DATE="1603550351 2020-10-24 16:39:11 +0200"

HISTORY\_MR\_VERSION+=("2020Q04.00")

HISTORY\_MR\_VERSION+=("2021Q03.00")

HISTORY\_MR\_DATE+=("1633233846 2021-10-03 06:04:06 +0200")

HISTORY\_MR\_VERSION+=("2021Q04.00")

HISTORY\_MR\_DATE+=("1636438962 2021-11-09 07:22:42 +0100")

HISTORY\_MR\_VERSION+=("2021Q04.00")

HISTORY\_MR\_DATE+=("1637426860 2021-11-20 17:47:40 +0100")

HISTORY\_MR\_VERSION+=("2022Q02.00")

HISTORY\_MR\_DATE+=("1652550980 2022-05-14 19:56:20 +0200")

CURRENT\_MR\_VERSION="2022Q04.00"

CURRENT\_MR\_DATE="1667676563 2022-11-05 20:29:23 +0100"

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # mount -a

lp03wbp04:~ #

lp03wbp04:~ #

lp03wbp04:~ # hastatus -sum

-- SYSTEM STATE

-- System State Frozen

A lp03wbp03 RUNNING 0

A lp03wbp04 RUNNING 0

-- GROUP STATE

-- Group System Probed AutoDisabled State

B NIC lp03wbp03 Y N ONLINE

B NIC lp03wbp04 Y N ONLINE

B iwbqci10 lp03wbp03 Y N OFFLINE

B iwbqci10 lp03wbp04 Y N ONLINE

B pwbpci00 lp03wbp03 Y N ONLINE

B pwbpci00 lp03wbp04 Y N OFFLINE

lp03wbp04:~ # rpm -qa --last | grep -i VRTS

VRTSvcsag-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 21:01:05 2022

VRTSpython-3.6.6.10-SLES12.x86\_64 Sat Nov 5 21:01:03 2022

VRTSvxfen-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 21:00:46 2022

VRTSaslapm-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 21:00:45 2022

VRTSsfmh-7.4.0.1500-0.x86\_64 Sat Nov 5 21:00:30 2022

VRTSvcs-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 21:00:26 2022

VRTSgab-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 20:59:02 2022

VRTSllt-7.4.1.3300-SLES12.x86\_64 Sat Nov 5 20:58:29 2022

VRTSveki-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:40:08 2022

VRTSodm-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:36:11 2022

VRTSvxfs-7.4.1.3400-SLES12.x86\_64 Sat Nov 5 20:36:05 2022

VRTSvxvm-7.4.1.3401-SLES12.x86\_64 Sat Nov 5 20:36:00 2022

VRTSpddea-12.0.0.0-0140.x86\_64 Tue Oct 27 14:52:40 2020

VRTSnbcfg-8.2.0.0-1561464065.x86\_64 Tue Oct 27 14:52:40 2020

VRTSnbclt-8.2.0.0-1561464178.x86\_64 Tue Oct 27 14:52:12 2020

VRTSpbx-1.11.17.1-1.x86\_64 Tue Oct 27 14:51:53 2020

VRTSnbpck-8.2.0.0-1561464233.x86\_64 Tue Oct 27 14:51:46 2020

VRTSfsadv-7.4.1.0000-SLES12.x86\_64 Sat Oct 24 16:42:39 2020

VRTSvlic-4.01.74.002-SLES.x86\_64 Sat Oct 24 16:42:07 2020

VRTSperl-5.26.1.1-SLES12.x86\_64 Sat Oct 24 16:41:58 2020

VRTSspt-7.4.1.000-SLES12.noarch Sat Oct 24 16:41:57 2020

lp03wbp04:~ # zypper lu

Loading repository data...

Reading installed packages...

S | Repository | Name | Current Version | Available Version | Arch

--+-------------------+-----------------+-----------------+-------------------+-------

v | PBIS | pbis-enterprise | 10.0.0-576 | 22.2.0-210 | x86\_64

v | BMW-Software-UCMD | ucmd | 6.3.0-4 | 6.7.0-0.1 | x86\_64

lp03wbp04:~ # exit

exit

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

./movexenvm -V lp01dynffzw1vm -A MIGRATE -C TAS000006305588 -T lp01xen31

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ cat checkmodul.sh

#!/bin/bash

for i in `cat bk1`

do

echo "$i=`cmdb $i | grep -i "description"`"

done

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ cat 20febansible.sh

#!/bin/bash

for i in `cat bk`

do

echo "$i=`cmdb $i | grep -i "service contract:" && grep -i "service contract:" && grep -i "Instserv:"`"

done

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ cat checkfullfqdn.sh

#!/bin/bash

for i in `cat bk`

do

echo "$i=`cmdb $i | grep Server:`"

done

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ cat checkins.sh

#!/bin/bash

for i in `cat bk`

do

echo "$i=`cmdb $i | grep -i "Instserv"`"

done

[INSTSERV][qxz10kv][lpinstiaas02] ~ $ cat pass.sh

for i in `cat instserver2`;

do

echo "$i=`rootssh $i grep -i qqmqmo0 /etc/passwd`"

done

[INSTSERV][qxz10kv][lpinstiaas02] ~ $

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat farm\_check2.sh

#/bin/bash

echo "============================================`uname -n`=================================="

echo "HBA Details"

/sbin/san\_info -s

echo "ALL Lun details "

echo "/sbin/san\_shortinfo = `/sbin/san\_shortinfo |wc -l`" ; /sbin/san\_shortinfo

echo "VMC list output"

vmc list

echo "=============================================================================="

vmc list `uname -n`|grep -i running |awk '{print $1}'>/tmp/VM\_list

echo" VMC running on farm node `uname -n`"

cat /tmp/VM\_list

echo "Ecah VMs details"

echo "=============================================================================="

for x in `cat /tmp/VM\_list`

do

echo "Luns assigned to VM $x = `vmc storage $x |wc -l `" ;vmc storage $x

vmc info $x

echo " VM $x backup status"

vmc backupinfo $x |head -4

echo "=============================================================================="

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $

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[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat bkupip.sh

#!/bin/bash

for i in `cat list`

do

####set\_instserv set --hostname=$i --instserv=lpinstiaas19

echo "$i=`c6000 $i\b -x -e | grep -i IP\_ADDRESS`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat bkupip.sh

#!/bin/bash

for i in `cat list`

do

####set\_instserv set --hostname=$i --instserv=lpinstiaas19

echo "$i=`c6000 $i\b -x -e | grep -i IP\_ADDRESS`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat checkbu.sh

#!/bin/bash

for i in `cat bk`

do

echo "$i=`cmdb $i | grep "BU-Name:"`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat installserver.sh

#!/bin/bash

for i in `cat serverbu`

do

echo "$i=`cmdb $i | grep -i "Instserv" | awk '{print $2}'`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat chkzen.sh

#!/bin/bash

for i in `cat list123`

do

echo "$i =`rootssh $i xenstore-read /tool/hostname`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat platon.sh

#!/bin/bash

for i in `cat vmlist`

do

echo "$i=`rootssh $i xenstore-read /tool/hostname`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat vcsserver

lp02kdp09

lp02kdp10

lp02nb3h

lp02wdp01

lp02wdp02

lp03kbp01

lp03kbp02

lp05p1011

lp05p1012

lp05wyp05

lp05wyp06

lp06krp06

lp06krp07

lp06vwp05

lp06vwp06

lp07klp08

lp07klp09

lp09pcr17

lp09pcr18

lp09zap18

lp09zap19

lp10g3p06

lp10g3p07

lp10g3p08

lp10g3p09

lp10ksp08

lp10ksp09

lp10mcp01

lp10mcp02

lp10wsp05

lp10wsp06

lp30tnp05

lp30tnp06

lp30yxp05

lp30yxp06

lp34hhp07

lp34hhp08

lp34p1207

lp34p1208

lpaap01

lpaap02

lpaep01

lpaep02

lpapp01

lpapp02

lpawp15

lpawp16

lpbrp05

lpbrp06

lpcop01

lpcop02

lpgip12

lpgip13

lpgip14

lpgip15

lpgtp01

lpgtp02

lpgup01

lpgup02

lphrp21

lphrp22

lpivp05

lpivp06

lpnrp19

lpnrp20

lppmp26

lppmp27

lprwp09

lprwp10

lptbp11

lptbp12

lptfp26

lptfp27

lptlp24

lptlp25

lptpp06

lptpp07

lptrp30

lptrp31

lptsp07

lptsp08

lptup26

lptup27

lpvdp14

lpvdp15

lpvmp08

lpvmp09

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat zone.sh

#!/bin/bash

for i in `cat list`

do

####set\_instserv set --hostname=$i --instserv=lpinstiaas19

echo "$i=`c6000 $i -x -e | grep -i AREA | head -n1`"

done

[INSTSERV][qxz10kv]

[INSTSERV][qxz10kv][lpinstiaas01] ~ $

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat checkservertype.sh

#!/bin/bash

for i in `cat 14aug`

do

echo "$i=`cmdb $i | grep "Server:"`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat hostedxensc.sh

#!/bin/bash

for i in `cat hostedxen`

do

echo "$i=`rootssh $i xenstore-read /tool/hostname`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat installserver.sh

#!/bin/bash

for i in `cat serverbu`

do

echo "$i=`cmdb $i | grep -i "Instserv" | awk '{print $2}'`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat Set\_Down.sh

#!/bin/bash

! [ $1 ] && echo "Invetory file missing" && exit 1

! [ -e $1 ] && echo "Inventory file: $1 not found" && exit 1

Inventory=$1

read -p "Change Number: " CN

[ "$CN" == "" ] && echo "Quitting..." && exit 2

read -p "For How Long? : " HL

[ "$HL" == "" ] && echo "Qutting" && exit 2

grep -iq [a-z] <<<"$HL" && echo "enter the duration only in minutes" && exit 2

for Mech in `cat $Inventory`;do

Full=$(host ${Mech}|head -1|awk '{print $1}')

Domain\_Name=`awk -F. '{$1=="";print}' <<<"${Full}"|sed 's/^.//g'`

if [ "$Full" == "" ];then

echo "Manually check the $Mech entry in CMDB"

elif [ "$Domain\_Name" == "" ];then

echo "Manully set the downtime for $Mech"

else

echo "Setting downtime for $Full"

/global/instserv/bin/downtime -a -m ${HL} -c "${CN}" $Full

fi

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $ cat vmstatus.sh

#!/bin/bash

for i in `cat list1`

do

echo "$i =`rootssh $i uptime`"

done

[INSTSERV][qxz10kv][lpinstiaas01] ~ $

=================================

#!/bin/bash

for i in `cat list123`

do

echo "$i =`rootssh $i cat /etc/hosts grep -i hw`"

done