VCS Install example for ipew1aprov,ipew1bprov

1. Copy Storage Foundations and untar
2. Add both hosts to /etc/hosts

[root@ipew1bprov rhel6\_x86\_64]# cat /etc/hosts

10.248.114.233 ipew1aprov.vsf4-2.hcvlny.dhg.cv.net ipew1aprov

10.248.114.234 ipew1bprov.vsf4-2.hcvlny.dhg.cv.net ipew1bprov

10.248.114.235 ipew1prov.vsf4-2.hcvlny.dhg.cv.net ipew1prov (VIP)

1. Modify sshd\_config add [\*@10.248.114.\*](mailto:*@10.248.114.*) permit root login yes ; uncomment root from denyusers; service sshd reload

Test ssh between hosts

Change PermitRootLogin no to yes in two spots, delete root from deny users

service sshd reload

Install following 32 bit RPM’s

yum install libstdc++.i686

yum install ksh.x86\_64 mksh.x86\_64

yum install libpam.so.0

[root@ipew1aprov rhel6\_x86\_64]# ./cluster\_server/installvcs -precheck

Symantec Cluster Server 6.1 Precheck Program

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in FAR Sections 12.212 and DFARS Section 227.7202.

Logs are being written to /var/tmp/installvcs-201405301508wom while installvcs is in progress.

Enter the 64 bit RHEL6 system names separated by spaces: [q,?] ipew1aprov.vsf5-2.hcvlny.dhg.cv.net ipew1bprov.vsf5-2.hcvlny.dhg.cv.net

CPI WARNING V-9-20-1072 ipew1aprov.vsf5-2.hcvlny.dhg.cv.net is not a valid system name

Enter the 64 bit RHEL6 system names separated by spaces: [q,?] ?

Systems specified are required to have rsh or ssh configured for password free logins

Enter the 64 bit RHEL6 system names separated by spaces: [q,?] **ipew1aprov ipew1bprov**

Symantec Cluster Server 6.1 Precheck Program

ipew1aprov ipew1bprov

Logs are being written to /var/tmp/installvcs-201405301508wom while installvcs is in progress

Verifying systems: 12% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Estimated time remaining: (mm:ss) 0:20 1 of 8

Checking system communication ............................................................................................... Partially Done

Either ssh or rsh needs to be set up between the local system and ipew1bprov for communication

Would you like the installer to setup ssh or rsh communication automatically between the systems?

Superuser passwords for the systems will be asked. [y,n,q,?] (y) y

Enter the superuser password for system ipew1bprov:

1) Setup ssh between the systems

2) Setup rsh between the systems

b) Back to previous menu

Select the communication method [1-2,b,q,?] (1)

Setting up communication between systems. Please wait.

Failed to set up ssh connection with remote system(s) ipew1bprov.

Make sure the password(s) are correct or superuser(root) can run ssh command correctly on the remote system(s) with the password(s).

Either ssh or rsh needs to be set up between the local system and ipew1bprov for communication

Would you like the installer to setup ssh or rsh communication automatically between the systems?

Superuser passwords for the systems will be asked. [y,n,q,?] (y)

Enter the superuser password for system ipew1bprov:

1) Setup ssh between the systems

2) Setup rsh between the systems

b) Back to previous menu

Select the communication method [1-2,b,q,?] (1) 1

Setting up communication between systems. Please wait.

**Re-verifying systems**.

Symantec Cluster Server 6.1 Precheck Program

ipew1aprov ipew1bprov

Logs are being written to /var/tmp/installvcs-201405301508wom while installvcs is in progress

Verifying systems: 100%

Estimated time remaining: (mm:ss) 0:00 8 of 8

Checking system communication ......................................................................................................... Done

Checking release compatibility ........................................................................................................ Done

Checking installed product ............................................................................................................ Done

Checking prerequisite patches and rpms ................................................................................................ Done

Checking platform version ............................................................................................................. Done

Checking file system free space ....................................................................................................... Done

Checking product licensing ............................................................................................................ Done

Performing product prechecks .......................................................................................................... Done

Precheck report completed

System verification checks completed successfully

The following notes were discovered on the systems:

CPI NOTE V-9-30-2407 The system information on ipew1aprov:

Operating system: Linux RHEL 6.5 x86\_64

CPU number: 2

CPU speed: 1997 MHz

Memory size: 64422 MB

Swap size: 16383 MB

CPI NOTE V-9-30-2407 The system information on ipew1bprov:

Operating system: Linux RHEL 6.5 x86\_64

CPU number: 1

CPU speed: 1997 MHz

Memory size: 1873 MB

Swap size: 16383 MB

No issues found in prechecks

Would you like to install VCS on ipew1aprov ipew1bprov? [y,n,q] (n)

Would you like to install VCS on ipew1aprov ipew1bprov? [y,n,q] (n) y

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Do you agree with the terms of the End User License Agreement as specified in the cluster\_server/EULA/en/EULA\_SFHA\_Ux\_6.1.pdf file present on media?

[y,n,q,?] y

Symantec Cluster Server 6.1 Install Program

ipew1aprov ipew1bprov

1) Install minimal required rpms - 455 MB required

2) Install recommended rpms - 547 MB required

3) Install all rpms - 575 MB required

4) Display rpms to be installed for each option

Select the rpms to be installed on all systems? [1-4,q,?] (2)

Symantec Cluster Server 6.1 Install Program

ipew1aprov ipew1bprov

The following Symantec Cluster Server rpms will be installed on all systems:

Rpm Version Rpm Description

VRTSperl 5.16.1.6 Perl Redistribution

VRTSvlic 3.02.61.010 Licensing

VRTSspt 6.1.0.000 Software Support Tools

VRTSllt 6.1.0.000 Low Latency Transport

VRTSgab 6.1.0.000 Group Membership and Atomic Broadcast

VRTSvxfen 6.1.0.000 I/O Fencing

VRTSamf 6.1.0.000 Asynchronous Monitoring Framework

VRTSvcs 6.1.0.000 Cluster Server

VRTSvcsag 6.1.0.000 Cluster Server Bundled Agents

VRTSvcsdr 6.1.0.000 Cluster Server Disk Reservation Modules

VRTSvcsea 6.1.0.000 Cluster Server Enterprise Agents

VRTSsfmh 6.0.0.0 Storage Foundation Managed Host

VRTSvbs 6.1.0.000 Virtual Business Service

VRTSvcswiz 6.1.0.000 Cluster Server Wizards

VRTSsfcpi61 6.1.0.000 Storage Foundation Installer

Press [Enter] to continue:

Symantec Cluster Server 6.1 Install Program

ipew1aprov ipew1bprov

Logs are being written to /var/tmp/installvcs-201405301508wom while installvcs is in progress

Installing VCS: 100%

Estimated time remaining: (mm:ss) 0:00 17 of 17

Performing VCS preinstall tasks ....................................................................................................... Done

Installing VRTSperl rpm ............................................................................................................... Done

Installing VRTSvlic rpm ............................................................................................................... Done

Installing VRTSspt rpm ................................................................................................................ Done

Installing VRTSllt rpm .............................................................................................................. Failed

Installing VRTSgab rpm .............................................................................................................. Failed

Installing VRTSvxfen rpm ............................................................................................................ Failed

Installing VRTSamf rpm .............................................................................................................. Failed

Installing VRTSvcs rpm ................................................................................................................ Done

Installing VRTSvcsag rpm .............................................................................................................. Done

Installing VRTSvcsdr rpm .............................................................................................................. Done

Installing VRTSvcsea rpm .............................................................................................................. Done

Installing VRTSsfmh rpm ............................................................................................................... Done

Installing VRTSvbs rpm ................................................................................................................ Done

Installing VRTSvcswiz rpm ............................................................................................................. Done

Installing VRTSsfcpi61 rpm ............................................................................................................ Done

Performing VCS postinstall tasks ...................................................................................................... Done

Symantec Cluster Server Install did not complete successfully

VRTSllt rpm failed to install on ipew1aprov

VRTSgab rpm failed to install on ipew1aprov

VRTSvxfen rpm failed to install on ipew1aprov

VRTSamf rpm failed to install on ipew1aprov

VRTSllt rpm failed to install on ipew1bprov

VRTSgab rpm failed to install on ipew1bprov

VRTSvxfen rpm failed to install on ipew1bprov

VRTSamf rpm failed to install on ipew1bprov

rpms/patches failed to install. Do you want to exit installvcs? [y,n,q] (y)

# **cd /opt/vcs/dvd1-redhatlinux/rhel5\_x86\_64**  
# **./installer**  
  
Symantec Product Version Installed Licensed  
==============================================================================  
  
Symantec Licensing Utilities (VRTSvlic) are not installed due to which products and licenses are not discovered  
Please use the menu below to continue.  
  
Task Menu:  
  
 I) Install/Upgrade a Product C) Configure an Installed Product  
 L) License a Product P) Perform a Pre-Installation Check  
 U) Uninstall a Product D) View a Product Description  
 Q) Quit ?) Help  
  
Enter a Task: [I,C,L,P,U,D,Q,?] **I**  
  
  
 1) Veritas Cluster Server (VCS)  
 2) Veritas Volume Replicator (VVR)  
 3) Veritas Storage Foundation (SF)  
 4) Veritas Storage Foundation for Oracle (SFORA)  
 5) Veritas Storage Foundation for DB2 (SFDB2)  
 6) Veritas Storage Foundation Cluster File System (SFCFS)  
 7) Veritas Storage Foundation Cluster File System for Oracle RAC (SFCFSRAC)  
 8) Symantec Product Authentication Service (AT)  
 b) Back to previous menu  
  
Select a product to install: [1-8,b,q] **1**  
Enter the system names separated by spaces on which to install VCS: **vmlinux2 vmlinux3**  
Initial system check:  
  
 Checking ssh communication with vmlinux3 ...................................................................................... Linux 2.6.18-128.el5  
 Checking VCS installation on vmlinux2 ................................................................................................ not installed  
 Checking kernel release on vmlinux2 ............................................................................................................. ok  
 Checking distribution match with vmlinux2 ....................................................................................................... OK  
 Checking architecture on vmlinux2 ............................................................................................................... OK  
 Checking rpm dist match with vmlinux2 ........................................................................................................... OK  
 Checking for SE Linux on vmlinux2 ......................................................................................................... disabled  
 Checking VCS installation on vmlinux3 ................................................................................................ not installed  
 Checking kernel release on vmlinux3   
...  
  
  
Checking system licensing  
  
Installing licensing rpms  
VCS is not licensed on vmlinux2  
  
Enter a VCS license key for vmlinux2: **XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX**  
XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX successfully registered on vmlinux2  
Permanent VCS license registered on vmlinux2  
  
Do you want to enter another license key for vmlinux2? [y,n,q] (n) **n**  
VCS is not licensed on vmlinux3  
  
Enter a VCS license key for vmlinux3: **XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX**  
XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX successfully registered on vmlinux3  
Permanent VCS license registered on vmlinux3  
  
Do you want to enter another license key for vmlinux3? [y,n,q] (n) **n**  
  
  
VCS can be installed without optional rpms to conserve disk space.  
  
Additional rpms are typically installed to simplify future upgrades.  
  
 1) Install required Veritas Cluster Server rpms - 330 MB required  
 2) Install all Veritas Cluster Server rpms - 384 MB required  
 3) Install Storage Foundation Enterprise HA rpms - 798 MB required  
  
Select the rpms to be installed on all systems? [1-3,q,?] (3) **3**  
  
  
The following VCS rpms will be installed:  
VRTSperl Veritas Perl 5.8.8 Redistribution  
VRTSvlic Veritas Licensing  
VRTSicsco Symantec Infrastructure Core Services Common  
VRTSpbx Symantec Private Branch Exchange  
VRTSatClient Symantec Product Authentication Service Client  
VRTSatServer Symantec Product Authentication Service  
VRTSspt Veritas Software Support Tools  
VRTSllt Veritas Low Latency Transport  
VRTSgab Veritas Group Membership and Atomic Broadcast  
VRTSvxfen Veritas I/O Fencing  
VRTSvcs Veritas Cluster Server  
VRTSvcsmg Veritas Cluster Server Message Catalogs  
VRTSacclib Veritas ACC Library  
VRTSvcsag Veritas Cluster Server Bundled Agents  
VRTSvcsdr Veritas Cluster Server Disk Reservation Modules and Utilities  
VRTSvcsmn Veritas Cluster Server Man Pages  
VRTSjre15 Veritas Java Runtime Environment Redistribution  
VRTScscw Veritas Cluster Server Configuration Wizards  
VRTScscm Veritas Cluster Server Cluster Manager  
  
Press [Enter] to continue:   
...continued:  
VRTScssim Veritas Cluster Server Simulator  
VRTSweb Veritas Java Web Server  
VRTScutil Veritas Cluster Utilities  
VRTScmcs Veritas Cluster Management Console for single cluster environments  
VRTScmccc Veritas Cluster Management Console cluster connector  
VRTSobc33 Veritas Enterprise Administrator Core Service  
VRTSob Veritas Enterprise Administrator Service  
VRTSobgui Veritas Enterprise Administrator  
VRTSccg Veritas Enterprise Administrator Central Control Grid  
VRTSmh Veritas Storage Foundation Managed Host by Symantec  
VRTSaa Veritas Enterprise Administrator Action Agent  
VRTSvxfscommon Veritas File System Common package  
VRTSvxfsplatform Veritas File System Platform Specific Package  
VRTSvxvmcommon Veritas Volume Manager Common Package  
VRTSvxvmplatform Veritas Volume Manager Platform Specific Package  
VRTSdsa Veritas Datacenter Storage Agent  
VRTSfspro Veritas File System Management Services Provider  
VRTSvmman Veritas Volume Manager Manual Pages  
VRTSlvmconv Veritas Linux LVM to VxVM Converter  
VRTSvmpro Veritas Volume Manager Management Services Provider  
  
Press [Enter] to continue:   
...continued:  
VRTSdcli Veritas Distributed Command Line Interface  
VRTSalloc Veritas Volume Manager Intelligent Storage Provisioning  
VRTSvdid Veritas Device Identification API  
VRTSddlpr Veritas Device Discovery Layer Services Provider  
VRTSvrpro Veritas Volume Replicator Client Extension and Provider for   
 Veritas Enterprise Administrator  
VRTSvcsvr Veritas Cluster Server Agents for VVR  
VRTSvrw Veritas Volume Replicator Web Console  
VRTSfsman Veritas File System Manual Pages  
VRTSfssdk Veritas File System Software Developer Kit  
VRTSfsmnd Veritas File System Software Developer Kit Manual Pages  
VRTSvxmsa Veritas Mapping Service, Application Libraries  
VRTSmaprocommon Veritas Storage Foundation GUI for Mapping  
  
Press [Enter] to continue:   
It is possible to install VCS rpms without performing configuration.  
  
It is optional to configure VCS now. If you choose to configure VCS later, you can either do so manually, or run the installvcs -configure command. The  
product installation scripts can be found in /opt/VRTS/install directory  
  
Are you ready to configure VCS? [y,n,q] (y) **y**  
  
  
To configure VCS, please answer the sets of questions on the next screen.  
  
When [b] is presented after a question, 'b' may be entered to go back to the first question of the configuration set.  
  
When [?] is presented after a question, '?' may be entered for help or additional information about the question.  
  
Following each set of questions, the information you have entered will be presented for confirmation. To repeat the set of questions and correct any  
previous errors, enter 'n' at the confirmation prompt.  
  
No configuration changes are made to the systems until all configuration questions are completed and VCS is installed successfully.  
  
Press [Enter] to continue:   
  
  
To configure VCS the following information is required:  
  
 A unique Cluster name  
 A unique Cluster ID number between 0-65535  
 Two or more NIC cards per system used for heartbeat links  
  
 One or more heartbeat links are configured as private links  
 One heartbeat link may be configured as a low priority link  
  
All systems are being configured to create one cluster  
  
Enter the unique cluster name: [?] **vcs\_cluster\_1**  
Enter the unique Cluster ID number between 0-65535: [b,?] **1**  
 Discovering NICs on vmlinux2 ................................................................................... discovered eth0 eth1 eth2 eth3 sit0  
  
To use aggregated interfaces for private heartbeat, enter the name of the aggregated interface.   
To use a NIC for private heartbeat, enter a NIC which is not part of an aggregated interface.  
  
  
Enter the NIC for the first private heartbeat link on vmlinux2: [b,?] **eth2**  
Would you like to configure a second private heartbeat link? [y,n,q,b,?] (y) **y**  
Enter the NIC for the second private heartbeat link on vmlinux2: [b,?] **eth3**  
Would you like to configure a third private heartbeat link? [y,n,q,b,?] (n) **n**  
Do you want to configure an additional low priority heartbeat link? [y,n,q,b,?] (n) **y**  
Enter the NIC for the low priority heartbeat link on vmlinux2: [b,?] (eth0) **eth0**  
Are you using the same NICs for private heartbeat links on all systems? [y,n,q,b,?] (y) **y**  
  
  
Cluster information verification:  
  
 Cluster Name: vcs\_cluster\_1  
 Cluster ID Number: 1  
 Private Heartbeat NICs for vmlinux2: link1=eth2 link2=eth3  
 Low Priority Heartbeat NIC for vmlinux2: link-lowpri=eth0  
 Private Heartbeat NICs for vmlinux3: link1=eth2 link2=eth3  
 Low Priority Heartbeat NIC for vmlinux3: link-lowpri=eth0  
  
Is this information correct? [y,n,q] (y) **y**  
  
  
Veritas Cluster Server can be configured to utilize Symantec Security Services.  
  
Running VCS in Secure Mode guarantees that all inter-system communication is encrypted and that users are verified with security credentials.  
  
When running VCS in Secure Mode, NIS and system usernames and passwords are used to verify identity. VCS usernames and passwords are no longer utilized  
when a cluster is running in Secure Mode.  
  
Before configuring a cluster to operate using Symantec Security Services, another system must already have Symantec Security Services installed and be  
operating as a Root Broker. Refer to the Veritas Cluster Server Installation Guide for more information on configuring a Symantec Product Authentication  
Service Root Broker.  
  
Would you like to configure VCS to use Symantec Security Services? [y,n,q] (n) **n**  
  
  
The following information is required to add VCS users:  
  
 A user name  
 A password for the user  
 User privileges (Administrator, Operator, or Guest)  
  
Do you want to set the username and/or password for the Admin user  
(default username = 'admin', password='password')? [y,n,q] (n) **y**  
  
  
The following information is required to add VCS users:  
  
 A user name  
 A password for the user  
 User privileges (Administrator, Operator, or Guest)  
  
Do you want to set the username and/or password for the Admin user  
(default username = 'admin', password='password')? [y,n,q] (n) **y**  
Enter the user name: [b,?] (admin) **admin**  
Enter the password:  
Enter again:  
  
Do you want to add another user to the cluster? [y,n,q] (y) **n**  
  
  
VCS User verification:  
  
 User: admin Privilege: Administrators  
  
 Passwords are not displayed  
  
Is this information correct? [y,n,q] (y) **y**  
  
  
The following information is required to configure SMTP notification:  
  
 The domain-based hostname of the SMTP server  
 The email address of each SMTP recipient  
 A minimum severity level of messages to send to each recipient  
  
  
Do you want to configure SMTP notification? [y,n,q,?] (y) **n**  
  
  
The following information is required to configure SNMP notification:  
  
 System names of SNMP consoles to receive VCS trap messages  
 SNMP trap daemon port numbers for each console  
 A minimum severity level of messages to send to each console  
  
  
Do you want to configure SNMP notification? [y,n,q,?] (y) **n**  
  
  
The following is required to configure the Global Cluster Option:  
  
 A public NIC used by each system in the cluster  
 A Virtual IP address and netmask  
  
  
  
Do you want to configure the Global Cluster Option? [y,n,q,?] (y) **n**  
  
  
Logs for installer are temporarily being created in /var/tmp/installer-RXqkVZ.  
  
  
 Installing VCS: 0% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \

After this stage comes the configure stage

Creating Veritas Cluster Server configuration files ........................................................................................... Done  
 Copying configuration files to vmlinux2 ....................................................................................................... Done  
 Copying configuration files to vmlinux3 ....................................................................................................... Done  
Do you want to start Veritas Cluster Server processes now? [y,n,q] (y) **y**  
  
Logs for installvcs are temporarily being created in /var/tmp/installvcs-dUNOcA.  
  
  
 Starting VCS: 0% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  
 Starting VCS: 100%   
  
Startup completed successfully on all systems  
  
Configuration log files, summary file, and response file are saved at:  
  
 /opt/VRTS/install/logs/installvcs-IiyaVI  
  
The README.1st file has more information about VCS. Read it Now? [y,n,q] (y) **n**

After the installation has completed it is recommend to reboot both nodes:

# **/sbin/shutdown -r now**

Enter a Task: [P,I,C,G,O,U,L,S,D,X,R,?] I

Symantec Storage Foundation and High Availability Solutions 6.1 Install Program

1) Symantec Dynamic Multi-Pathing (DMP)

2) Symantec Cluster Server (VCS)

3) Symantec Storage Foundation (SF)

4) Symantec Storage Foundation and High Availability (SFHA)

5) Symantec Storage Foundation Cluster File System HA (SFCFSHA)

6) Symantec Storage Foundation for Oracle RAC (SF Oracle RAC)

7) Symantec ApplicationHA (ApplicationHA)

b) Back to previous menu

Select a product to install: [1-7,b,q] 4

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Do you agree with the terms of the End User License Agreement as specified in the storage\_foundation\_high\_availability/EULA/en/EULA\_SFHA\_Ux\_6.1.pdf

file present on media? [y,n,q,?] y

Symantec Storage Foundation and High Availability 6.1 Install Program

1) Install minimal required rpms - 586 MB required

2) Install recommended rpms - 858 MB required

3) Install all rpms - 889 MB required

4) Display rpms to be installed for each option

Select the rpms to be installed on all systems? [1-4,q,?] (2)

Enter the 64 bit RHEL6 system names separated by spaces: [q,?] ipew1aprov ipew1bprov

Symantec Storage Foundation and High Availability 6.1 Install Program

ipew1aprov ipew1bprov

Logs are being written to /var/tmp/installer-201406021128Ynq while installer is in progress

Verifying systems: 100%

Estimated time remaining: (mm:ss) 0:00 8 of 8

Checking system communication ......................................................................................................... Done

Checking release compatibility ........................................................................................................ Done

Checking installed product ............................................................................................................ Done

Checking prerequisite patches and rpms ................................................................................................ Done

Checking platform version ............................................................................................................. Done

Checking file system free space ....................................................................................................... Done

Checking product licensing ............................................................................................................ Done

Performing product prechecks .......................................................................................................... Done

System verification checks completed

The following warnings were discovered on the systems:

CPI WARNING V-9-30-1306 SFHA version 6.1.0.000 is already installed on ipew1aprov

CPI WARNING V-9-30-1306 SFHA version 6.1.0.000 is already installed on ipew1bprov

Do you want to continue? [y,n,q] (y) y

Symantec Storage Foundation and High Availability 6.1 Install Program

ipew1aprov ipew1bprov

The following Symantec Storage Foundation and High Availability rpms will be installed on all systems:

Rpm Version Rpm Description

VRTSob 3.4.678 Enterprise Administrator Service

Press [Enter] to continue:

Symantec Storage Foundation and High Availability 6.1 Install Program

ipew1aprov ipew1bprov

Logs are being written to /var/tmp/installer-201406021128Ynq while installer is in progress

Installing SFHA: 100%

Estimated time remaining: (mm:ss) 0:00 3 of 3

Performing SFHA preinstall tasks ...................................................................................................... Done

Installing VRTSob rpm ................................................................................................................. Done

Performing SFHA postinstall tasks ..................................................................................................... Done

Symantec Storage Foundation and High Availability Install completed successfully

Symantec Storage Foundation and High Availability 6.1 Install Program

ipew1aprov ipew1bprov

To comply with the terms of Symantec's End User License Agreement, you have 60 days to either:

\* Enter a valid license key matching the functionality in use on the systems

\* Enable keyless licensing and manage the systems with a Management Server. For more details visit http://go.symantec.com/sfhakeyless. The product

is fully functional during these 60 days.

1) Enter a valid license key

2) Enable keyless licensing and complete system licensing later

How would you like to license the systems? [1-2,q] (2)

Checking system licensing

Symantec Storage Foundation and High Availability 6.1 Install Program

ipew1aprov ipew1bprov

1) SF Standard HA

2) SF Enterprise HA

b) Back to previous menu

Select product mode to license: [1-2,b,q,?] (1) 2

Would you like to enable replication? [y,n,q] (n)

Would you like to enable the Global Cluster Option? [y,n,q] (n) b

Invalid selection. Please re-enter

Would you like to enable the Global Cluster Option? [y,n,q] (n) n

Registering SFHA license

SFHA vxkeyless key (SFHAENT) successfully registered on ipew1aprov

SFHA vxkeyless key (SFHAENT) successfully registered on ipew1bprov

Would you like to configure SFHA on ipew1aprov ipew1bprov? [y,n,q] (n)

The updates to VRTSaslapm package are released via the Symantec SORT web page: https://sort.symantec.com/asl. To make sure you have the latest

version of VRTSaslapm (for up to date ASLs and APMs), download and install the latest package from the SORT web page.

You are running this virtual machine under a VMware environment. You may access the cluster view for this virtual machine using the vSphere client.

To access the cluster view for the virtual machine using the vSphere client, log on to the vCenter Server through the vSphere client, navigate to

the virtual machine in the inventory view and click on the 'Symantec High Availability' tab.

You may also access the cluster view from a browser. To access the cluster view through a browser, open the URL below in a browser:

https://<VM\_IP\_or\_Hostname>:5634/vcs/admin/application\_health.html

Symantec Storage Foundation and High Availability cannot be started without configuration.

Run the '/opt/VRTS/install/installsfha61 -configure' command when you are ready to configure Symantec Storage Foundation and High Availability.

Checking online updates for Symantec Storage Foundation and High Availability 6.1

A connection attempt to https://sort.symantec.com to check for product updates failed.

Visit https://sort.symantec.com to check for available product updates and information.

installer log files, summary file, and response file are saved at:

/opt/VRTS/install/logs/installer-201406021128Ynq

Would you like to view the summary file? [y,n,q] (n)

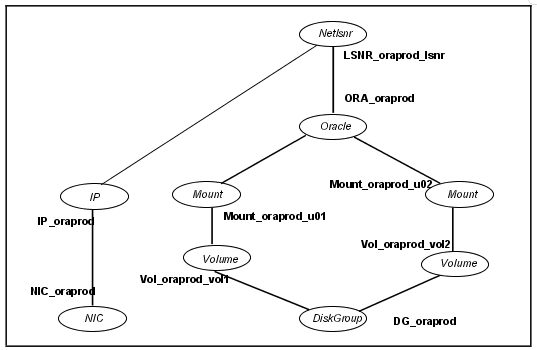
**VCS : Sample VCS configuration with Single Oracle Instance**

By [unixadminschool com](http://unixadminschool.com/blog/author/ramdevram/)

Sample VCS configuration file for single Oracle instance Review the sample configuration with a resource of type Oracle that is configured as follows in main.cf file.

The shared disk groups and volumes in the cluster are configured as resources of type DiskGroup and Volume respectively. The volumes are mounted using the Mount agent. The virtual IP address for the service group is configured using the IP and NIC resource types. The Oracle server can be started after each of these resources is brought online.

Note: If your configuration does not use Veritas Volume Manager, use the DiskReservation resource type to configure shared storage instead of the DiskGroup and Volume resource types

[](http://unixadminschool.com/blog/wp-content/uploads/ou/2011/03/VCS-with-single-oracle-instance.bmp)

VCS Configuration File

include “types.cf”  
include “OracleTypes.cf”

cluster vcs (  
)

system galaxy (  
)

system nebula (  
)

group ORA\_PROD\_Group (  
SystemList = { galaxy = 0, nebula = 1 }  
AutoStartList = { galaxy }  
)  
DiskGroup DG\_oraprod (  
DiskGroup = ora\_prod\_dg  
StartVolumes = 0  
StopVolumes = 0  
)  
IP IP\_oraprod (  
Device = eth0  
Address = “192.168.1.22″  
)  
Mount Mount\_oraprod\_u01 (  
MountPoint = “/prod/u01″  
BlockDevice = “/dev/vx/dsk/ora\_prod\_dg/u01-vol”  
FSType = vxfs  
FsckOpt = “-n”  
)  
Mount Mount\_oraprod\_u02 (  
MountPoint = “/prod/u02″  
BlockDevice = “/dev/vx/dsk/ora\_prod\_dg/u02-vol”  
FSType = vxfs  
FsckOpt = “-n”  
)  
NIC NIC\_oraprod (  
Device = eth0  
)  
Netlsnr LSNR\_oraprod\_lsnr (  
Owner = oraprod  
Home = “/orahome/Oracle”  
TnsAdmin = “/orahome/Oracle/network/admin”  
Listener = LISTENER\_PROD  
MonScript = “./bin/Netlsnr/LsnrTest.pl”  
LsnrPwd = cqfOdoOolOo  
)  
Oracle ORA\_oraprod (  
Sid = PROD  
Owner = oraprod  
Home = “/orahome/Oracle”  
EnvFile = “/tmp/env.sh”  
DetailMonitor = 1  
MonScript = “./bin/Oracle/SqlTest.pl”  
User = thor  
Pword = hvlTptWvj  
Table = thor  
MonitorOption = 0  
)  
Volume Vol\_oraprod\_vol1 (  
Volume = u01-vol  
DiskGroup = ora\_prod\_dg  
)  
Volume Vol\_oraprod\_vol2 (  
Volume = u02-vol  
DiskGroup = ora\_prod\_dg  
)  
IP\_oraprod requires NIC\_oraprod  
LSNR\_oraprod\_lsnr requires IP\_oraprod  
LSNR\_oraprod\_lsnr requires ORA\_oraprod  
Mount\_oraprod\_u01 requires Vol\_oraprod\_vol1  
Mount\_oraprod\_u02 requires Vol\_oraprod\_vol2  
ORA\_oraprod requires Mount\_oraprod\_u01  
ORA\_oraprod requires Mount\_oraprod\_u02  
Vol\_oraprod\_vol1 requires DG\_oraprod  
Vol\_oraprod\_vol2 requires DG\_oraprod

[**RED HAT (VCS)VERITAS CKUSTER SERVER SETUP WITH ORACLE**](http://rhelclustering.wordpress.com/2012/04/23/red-hat-vcsveritas-ckuster-server-setup-with-oracle/)

[23 Apr](http://rhelclustering.wordpress.com/2012/04/23/red-hat-vcsveritas-ckuster-server-setup-with-oracle/)

This is a step by step document describing how to install Oracle as failover service using VCS on RHEL

I have tested it and it works.

Please contact me if you have any questions: kartik.unix@gmail.com

Acknowledgement is due and hereby made to the valuable resources available online which have helped me make this presentation, thanks is also due to my teachers.

Requirements:

The systems: Two 64 bit processor based systems with at least two NIC’s(one for heartbeat and one for the public interface) access to shared storage via iSCSI(then you need another set of NIC’s) or fiber. Please ensure that the systems are identical in every respect and that the same NIC’s are being used in the same PCI slots on both systems – this makes things easier when we configure VCS.

The software:RHEL 5.8 or later(will probably work on RHEL 5.x) – you can download a 30 day trial by setting up an account based on a non-free email address. VCS6.0 – you can download from Symantec, I think it is called Storage Foundation and HA solutions. Oracle 11gR2 – you can download from Oracle.

How we are going to do this:

1)Install Veritas Storage Foundation Suite on both nodes

2)Install Oracle on shared storage from one node

3)Install VCS and configure it to control shared storage and oracle.

Create same /etc/hosts file on both nodes, for instance:

192.168.0.70 db3

192.168.0.81 db4

192.168.0.90 oravip #virtual IP for Oracle

Make sure one interface on each system is for the private interconnect:

on db3 I have given eth1 as the private interconnect and it is 10.10.10.20

on db4 I have given eth1 as the private interconnect and it is 10.10.10.21

From one node unzip the Storage Foundation and HA software and run the installer:

Symantec Product Version Installed Licensed

================================================================================

Symantec Licensing Utilities (VRTSvlic) are not installed due to which products and licenses are not discovered.

Use the menu below to continue.

Task Menu:

P) Perform a Pre-Installation Check I) Install a Product

C) Configure an Installed Product G) Upgrade a Product

O) Perform a Post-Installation Check U) Uninstall a Product

L) License a Product S) Start a Product

D) View Product Descriptions X) Stop a Product

R) View Product Requirements ?) Help

Enter a Task: [P,I,C,G,O,U,L,S,D,X,R,?]

Enter a Task: [P,I,C,G,O,U,L,S,D,X,R,?] **I**

1) Veritas Dynamic Multi-Pathing (DMP)

2) Veritas Cluster Server (VCS)

3) Veritas Storage Foundation (SF)

4) Veritas Storage Foundation and High Availability (SFHA)

5) Veritas Storage Foundation Cluster File System HA (SFCFSHA)

6) Symantec VirtualStore (SVS)

7) Veritas Storage Foundation for Oracle RAC (SF Oracle RAC)

b) Back to previous menu

Select a product to install: [1-7,b,q]

Select a product to install: [1-7,b,q] **3**

Do you agree with the terms of the End User License Agreement as specified in the storage\_foundation/EULA/en/EULA\_SF\_Ux\_6.0.pdf file present on media? [y,n,q,?]**y**

1) Install minimal required rpms – 248 MB required

2) Install recommended rpms – 483 MB required

3) Install all rpms – 484 MB required

4) Display rpms to be installed for each option

Select the rpms to be installed on all systems? [1-4,q,?] (2)**3**

Enter the 64 bit RHEL5 system names separated by spaces: [q,?] **db3**

The following Veritas Storage Foundation rpms will be installed on all systems:

Rpm Rpm Description

VRTSvlic Veritas Licensing

VRTSperl Veritas Perl 5.12.2 Redistribution

VRTSsfcpi60 Veritas Storage Foundation Installer

VRTSspt Veritas Software Support Tools by Symantec

VRTSvxvm Veritas Volume Manager Binaries

VRTSaslapm Veritas Volume Manager – ASL/APM

VRTSob Veritas Enterprise Administrator Service by Symantec

VRTSlvmconv Veritas Linux LVM to VxVM Converter

VRTSsfmh Veritas Storage Foundation Managed Host by Symantec

VRTSvxfs Veritas File System

VRTSfsadv Veritas File System Advanced Solutions by Symantec

VRTSfssdk Veritas File System Software Developer Kit

VRTSdbed Veritas Storage Foundation Databases

VRTSodm Veritas Oracle Disk Manager

Press [Enter] to continue:

**Press Enter**

Logs are being written to /var/tmp/installer-201204111035AMd while installer is in progress

Installing SF: 37% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Estimated time remaining: (mm:ss) 1:15 6 of 16

Performing SF preinstall tasks ……………………………………………………………………………………………………………. Done

Installing VRTSvlic rpm ………………………………………………………………………………………………………………….. Done

Installing VRTSperl rpm ………………………………………………………………………………………………………………….. Done

Installing VRTSspt rpm …………………………………………………………………………………………………………………… Done

Installing VRTSvxvm rpm ………………………………………………………………………………………………………………….. Done

Installing VRTSaslapm rpm ………………………………………………………………………………………………………………… Done

To comply with the terms of Symantec’s End User License Agreement, you have 60 days to either:

\* Enter a valid license key matching the functionality in use on the systems

\* Enable keyless licensing and manage the systems with a Management Server. For more details visit <http://go.symantec.com/sfhakeyless>. The product is fully functional

during these 60 days.

1) Enter a valid license key

2) Enable keyless licensing and complete system licensing later

How would you like to license the systems? [1-2,q] (2) **2**

1) SF Standard

2) SF Enterprise

b) Back to previous menu

Select product mode to license: [1-2,b,q,?] (2)**2**

Would you like to enable replication? [y,n,q] (n) **n**

Logs are being written to /var/tmp/installer-201204111035AMd while installer is in progress

Starting SF: 46% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Estimated time remaining: (mm:ss) 0:20 7 of 15

Performing SF configuration ………………………………………………………………………………………………………………. Done

Starting vxdmp ………………………………………………………………………………………………………………………….. Done

Starting vxio …………………………………………………………………………………………………………………………… Done

Starting vxspec …………………………………………………………………………………………………………………………. Done

Starting vxconfigd ………………………………………………………………………………………………………………………. Done

Starting vxesd ………………………………………………………………………………………………………………………….. Done

Starting vxrelocd ……………………………………………………………………………………………………………………….. Done

Starting vxcached -

The updates to VRTSaslapm package are released via the Symantec SORT web page: <https://sort.symantec.com/asl>. To make sure you have the latest version of VRTSaslapm

(for up to date ASLs and APMs), download and install the latest package from the SORT web page.

Would you like to send the information about this installation to Symantec to help improve installation in the future? [y,n,q,?] (y) **n**

Checking online updates for Veritas Storage Foundation 6.0

Available updates for Veritas Storage Foundation 6.0:

sfha-rhel5\_x86\_64-6.0RP1

Please visit <https://sort.symantec.com> for more information.

installer log files, summary file, and response file are saved at:

/opt/VRTS/install/logs/installer-201204111035AMd

Would you like to view the summary file? [y,n,q] **(n)**

**Install the SF on the second node as before……**

**Install rsh on both nodes**

[root@db4 yum.repos.d]# yum install rsh-server

Loaded plugins: katello, product-id, security, subscription-manager

Updating certificate-based repositories.

Unable to read consumer identity

Setting up Install Process

Resolving Dependencies

–> Running transaction check

—> Package rsh-server.x86\_64 0:0.17-40.el5\_7.1 set to be updated

–> Finished Dependency Resolution

Dependencies Resolved

========================================================================================================================================================================

Package Arch Version Repository Size

========================================================================================================================================================================

Installing:

rsh-server x86\_64 0.17-40.el5\_7.1 CentOS5base 40 k

Transaction Summary

========================================================================================================================================================================

Install 1 Package(s)

Upgrade 0 Package(s)

Total download size: 40 k

Is this ok [y/N]: y

Downloading Packages:

rsh-server-0.17-40.el5\_7.1.x86\_64.rpm | 40 kB 00:00

Running rpm\_check\_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

Installing : rsh-server 1/1

Installed products updated.

Installed:

rsh-server.x86\_64 0:0.17-40.el5\_7.1

Complete!

**ON BOTH nodes do this:**

[root@db3 yum.repos.d]# chkconfig rsh on

[root@db3 yum.repos.d]# chkconfig rexec on

[root@db3 yum.repos.d]# chkconfig rlogin on

[root@db3 yum.repos.d]# chkconfig xinetd on

[root@db3 yum.repos.d]# service xinetd restart

Stopping xinetd: [ OK ]

Starting xinetd: [ OK ]

[root@db3 yum.repos.d]#

On both nodes Edit your /etc/securetty file. Append the following

rsh

rexec

rlogin

On each node create a /.rhosts file and put in the “other” node’s hostname, for instance on node db3 the file /.rhosts will contain:

db4

Also edit the /etc/pam.d/rsh AND /etc/pam.d/rlogin and add/modify  
auth sufficient pam\_rhosts\_auth.so promiscuous

For instance:

[root@db3 yum.repos.d]# cat /etc/pam.d/rsh

#%PAM-1.0

# For root login to succeed here with pam\_securetty, “rsh” must be

# listed in /etc/securetty.

auth required pam\_nologin.so

auth required pam\_securetty.so

auth required pam\_env.so

#auth required pam\_rhosts\_auth.so

auth sufficient pam\_rhosts\_auth.so promiscuous

account include system-auth

session optional pam\_keyinit.so force revoke

session include system-auth

[root@db3 yum.repos.d]# cat /etc/pam.d/rlogin

#%PAM-1.0

# For root login to succeed here with pam\_securetty, “rlogin” must be

# listed in /etc/securetty.

auth required pam\_nologin.so

auth required pam\_securetty.so

auth required pam\_env.so

#auth sufficient pam\_rhosts\_auth.so

auth sufficient pam\_rhosts\_auth.so promiscuous

auth include system-auth

account include system-auth

password include system-auth

session optional pam\_keyinit.so force revoke

session include system-auth

[root@db3 yum.repos.d]#

Configure a network interface for a private interconnect, on db4, this is eth1

[root@db4 network-scripts]# more ifcfg-eth1

# Intel Corporation 82557/8/9/0/1 Ethernet Pro 100

DEVICE=eth1

BOOTPROTO=none

HWADDR=00:08:02:61:81:db

ONBOOT=yes

HOTPLUG=no

IPADDR=10.10.10.20

NETMASK=255.255.255.0

GATEWAY=10.10.10.20

and on db3 it is eth1 also, with a different IP of course

[root@db3 network-scripts]# more ifcfg-eth1

# Intel Corporation 82557/8/9/0/1 Ethernet Pro 100

DEVICE=eth1

BOOTPROTO=none

HWADDR=00:02:a5:13:06:9d

ONBOOT=yes

HOTPLUG=no

IPADDR=10.10.10.21

NETMASK=255.255.255.0

GATEWAY=10.10.10.21

TYPE=Ethernet

On both nodes: service network restart

[root@db4 network-scripts]# service network restart

Shutting down interface eth2: [ OK ]

Shutting down loopback interface: [ OK ]

Bringing up loopback interface: [ OK ]

Bringing up interface eth1: [ OK ]

Bringing up interface eth2: [ OK ]

[root@db4 network-scripts]#

test from db4:

[root@db4 network-scripts]# ping 10.10.10.21

PING 10.10.10.21 (10.10.10.21) 56(84) bytes of data.

64 bytes from 10.10.10.21: icmp\_seq=1 ttl=64 time=2.93 ms

64 bytes from 10.10.10.21: icmp\_seq=2 ttl=64 time=0.109 ms

Now that we have a private interconnect, let us check if we can see the same disks from shared storage – from each node

**On each node execute fdisk -l, the output should be identical……**

**using vxdisksetup -if <disk name> or vxdiskadm initialize a disk and put it in the orabin disk group**

**use vxassist to make a logical volume:**

**vxassist -g orabin make orabinvol maxsize**

make a VxFS filesystem on this volume:

[root@db4 rdsk]# mkfs -t vxfs /dev/vx/rdsk/orabin/orabinvol

version 9 layout

17524736 sectors, 8762368 blocks of size 1024, log size 16384 blocks

rcq size 1024 blocks

largefiles supported

[root@db4 rdsk]#

***NOTE:***The minimum swap space you need is 2GBs in both servers.

Move the oracle binary cds to /home/oracle and unzip them both (as user oracle) on node db4 (we have the /orabin filesystem which we will mount here)\

[root@db4 tmp]# mount -t vxfs /dev/vx/dsk/orabin/orabinvol /orabin

[root@db4 tmp]#

Change to user “oracle”

[oracle@db4 database]$ ls -al

total 48

drwxr-xr-x 8 oracle oinstall 4096 Aug 20 2009 .

drwxrwxrwt 5 root root 4096 Apr 11 11:59 ..

drwxr-xr-x 12 oracle oinstall 4096 Aug 17 2009 doc

drwxr-xr-x 4 oracle oinstall 4096 Aug 15 2009 install

drwxrwxr-x 2 oracle oinstall 4096 Aug 15 2009 response

drwxr-xr-x 2 oracle oinstall 4096 Aug 15 2009 rpm

-rwxr-xr-x 1 oracle oinstall 3226 Aug 15 2009 runInstaller

drwxrwxr-x 2 oracle oinstall 4096 Aug 15 2009 sshsetup

drwxr-xr-x 14 oracle oinstall 4096 Aug 15 2009 stage

-rw-r–r– 1 oracle oinstall 5402 Aug 17 2009 welcome.html

[oracle@db4 database]$

export DISPLAY=192.168.0.190:0.0 (to your laptop)

**Now to install Oracle binaries on shared storage**

**This is documented here:**

[**http://dl.dropbox.com/u/30415275/66821384-Oracle-Cluster-on-CentOS-Using-CentOS-Cluster-Ware.pdf**](http://dl.dropbox.com/u/30415275/66821384-Oracle-Cluster-on-CentOS-Using-CentOS-Cluster-Ware.pdf)

**except that we are using a VxFS filesystem for /orabin**

**NOTE: After creating database please make this change:**

Edit /orabin/oracle/product/11.2.0/TESTDB/network/admin/listener.ora

and replace db4(ordb3 – whatever’s there) by oravip(unless already present)

**On both nodes:**

[root@db4 rdsk]# mkdir /orabin

[root@db4 rdsk]# groupadd oinstall

[root@db4 rdsk]# groupadd dba

[root@db4 rdsk]# useradd -g oinstall -G dba -s /bin/bash -d /home/oracle oracle

[root@db4 rdsk]#

On both nodes run this command to check settings of user “oracle” are identical:

id oracle, for instance on db3:

[root@db3 network-scripts]# id oracle

uid=501(oracle) gid=501(oinstall) groups=501(oinstall),502(dba)

[root@db3 network-scripts]#

And on db4:

[root@db4 rdsk]# id oracle

uid=501(oracle) gid=501(oinstall) groups=501(oinstall),502(dba)

Also on both nodes:

[root@db4 rdsk]# passwd oracle

Changing password for user oracle.

New UNIX password:

BAD PASSWORD: it is based on a dictionary word

Retype new UNIX password:

passwd: all authentication tokens updated successfully.

[root@db4 rdsk]#

**also do this chown -R on both nodes:**

chown -R oracle:oinstall /orabin

Modify .bash\_profile in /home/oracle and add the following info **(in both nodes**). /home/oracle is assumed to be the home directory of user oracle.

*export ORACLE\_HOME=/orabin/oracle/product/11.2.0/TESTDB*

*export ORACLE\_BASE=/orabin/oracle*

*export ORACLE\_SID=TESTDB*

*export PATH=$ORACLE\_HOME/bin:$PATH*

Modify /etc/sysctl.conf in both nodes, and add (at the end of the file):

*fs.file-max = 6815744*

*net.ipv4.ip\_local\_port\_range = 9000 65500*

*net.core.rmem\_default = 262144*

*net.core.wmem\_default = 262144*

*net.core.wmem\_max = 1048576*

*fs.aio-max-nr = 1048576*

*kernel.sem = 250 32000 100 128*

*net.core.rmem\_max = 4194304*

**Perform sysctl –p for the kernel to re-read the file online (both nodes)**

Modify /etc/security/limits.conf and add (both nodes, end of the file):

*oracle soft nproc 2047*

*oracle hard nproc 16384*

*oracle soft nofile 1024*

*oracle hard nofile 65536*

*Once the database has been installed, we will stop it by doing this:*

*db4# su – oracle*

db4 oracle$ sqlplus ‘/ as sysdba’

SQL>shutdown immediate

ctrl-D

Now, we unmount /orabin and deport the diskgroup “orabin” the reason for doing this is documented here: <http://unixadvice.formyjob.net/t5-veritas-cluster-server-a-short-document-about-vcs>

[root@db4 ~]# ps -ef | grep oracle

root 6615 6446 0 15:09 pts/1 00:00:00 grep oracle

oracle 12298 1 0 12:03 pts/1 00:00:00 xterm

oracle 12300 12298 0 12:03 pts/2 00:00:00 bash

oracle 28519 1 0 13:25 pts/1 00:01:00 /orabin/oracle/product/11.2.0/TESTDB/bin/emagent

[root@db4 ~]# kill -9 28519

[root@db4 ~]# pwd

/root

[root@db4 ~]# umount /orabin

[root@db4 ~]# vxdiskadm

Volume Manager Support Operations

Menu:: VolumeManager/Disk

1 Add or initialize one or more disks

2 Encapsulate one or more disks

3 Remove a disk

4 Remove a disk for replacement

5 Replace a failed or removed disk

6 Mirror volumes on a disk

7 Move volumes from a disk

8 Enable access to (import) a disk group

9 Remove access to (deport) a disk group

10 Enable (online) a disk device

11 Disable (offline) a disk device

12 Mark a disk as a spare for a disk group

13 Turn off the spare flag on a disk

14 Unrelocate subdisks back to a disk

15 Exclude a disk from hot-relocation use

16 Make a disk available for hot-relocation use

17 Prevent multipathing/Suppress devices from VxVM’s view

18 Allow multipathing/Unsuppress devices from VxVM’s view

19 List currently suppressed/non-multipathed devices

20 Change the disk naming scheme

21 Change/Display the default disk layouts

list List disk information

? Display help about menu

?? Display help about the menuing system

q Exit from menus

Select an operation to perform: **9**

Remove access to (deport) a disk group

Menu:: VolumeManager/Disk/DeportDiskGroup

Use this menu operation to remove access to a disk group that

is currently enabled (imported) by this system. Deport a disk

group if you intend to move the disks in a disk group to another

system. Also, deport a disk group if you want to use all of the

disks remaining in a disk group for some new purpose.

You will be prompted for the name of a disk group. You will

also be asked if the disks should be disabled (offlined). For

removable disk devices on some systems, it is important to

disable all access to the disk before removing the disk.

Enter name of disk group [<group>,list,q,?] (default: list) list

GROUP DISK/VOLUME DEVICE/STATE LENGTH

orabin disk orabin01 disk\_8 17525376

orabin volume orabinvol ENABLED 17524736

Enter name of disk group [<group>,list,q,?] (default: list) **orabin**

VxVM INFO V-5-2-377

The requested operation is to disable access to the removable

disk group named orabin. This disk group is stored on the

following disks:

orabin01 on device disk\_8

You can choose to disable access to (also known as “offline”)

these disks. This may be necessary to prevent errors if

you actually remove any of the disks from the system.

Disable (offline) the indicated disks? [y,n,q,?] (default: n) y

Continue with operation? [y,n,q,?] (default: y)

VxVM INFO V-5-2-269 Removal of disk group orabin was successful.

Disable another disk group? [y,n,q,?] (default: n) n

Volume Manager Support Operations

Menu:: VolumeManager/Disk

1 Add or initialize one or more disks

2 Encapsulate one or more disks

3 Remove a disk

4 Remove a disk for replacement

5 Replace a failed or removed disk

6 Mirror volumes on a disk

7 Move volumes from a disk

8 Enable access to (import) a disk group

9 Remove access to (deport) a disk group

10 Enable (online) a disk device

11 Disable (offline) a disk device

12 Mark a disk as a spare for a disk group

13 Turn off the spare flag on a disk

14 Unrelocate subdisks back to a disk

15 Exclude a disk from hot-relocation use

16 Make a disk available for hot-relocation use

17 Prevent multipathing/Suppress devices from VxVM’s view

18 Allow multipathing/Unsuppress devices from VxVM’s view

19 List currently suppressed/non-multipathed devices

20 Change the disk naming scheme

21 Change/Display the default disk layouts

list List disk information

? Display help about menu

?? Display help about the menuing system

q Exit from menus

Select an operation to perform: **q**

Goodbye.

[root@db4 ~]#

**Now we install VCS**

[root@db3 tmp]# cd /var/tmp

[root@db3 tmp]# ll

total 1176100

drwxr-xr-x 4 root root 4096 Nov 29 05:54 dvd1-redhatlinux

-rw-r–r– 1 oracle oinstall 55 Apr 11 14:29 oraInst.loc

-rw-r–r– 1 oracle oinstall 724 Apr 11 14:29 oratab

-rw-r–r– 1 root root 402 Apr 11 10:42 vpvd.Linux.db3

-rw-r–r– 1 kartik kartik 1203126272 Apr 10 20:42 VRTS\_SF\_HA\_Solutions\_6.0\_RHEL.tar

drwx—— 2 kartik kartik 4096 Apr 11 09:46 yum-kartik-6QCwmO

[root@db3 tmp]# cd dvd\*

[root@db3 dvd1-redhatlinux]# ls

rhel5\_x86\_64 rhel6\_x86\_64

[root@db3 dvd1-redhatlinux]# cd rhel5\_x86\_64

[root@db3 rhel5\_x86\_64]# ll

total 1172

-rwxr-xr-x 1 root root 657308 Nov 29 03:01 3rdpartyattributions.pdf

drwxrwxr-x 4 root root 4096 Nov 29 05:54 cluster\_server

-rw-r–r– 1 root root 860 Nov 29 05:54 copyright

drwxrwxr-x 4 root root 4096 Nov 29 05:54 dynamic\_multipathing

drwxrwxr-x 3 root root 4096 Nov 29 05:54 file\_system

-rwxr-xr-x 1 root root 415782 Nov 29 03:01 getting\_started.pdf

-rwxr-xr-x 1 root root 5292 Nov 29 01:38 installer

drwxrwxr-x 4 root root 4096 Jun 7 2011 perl

-rw-r–r– 1 root root 23957 Nov 29 03:01 readme\_first.txt

drwxrwxr-x 3 root root 4096 Nov 29 05:54 rpms

drwxrwxr-x 7 root root 4096 Nov 29 05:54 scripts

drwxrwxr-x 5 root root 4096 Nov 29 05:54 storage\_foundation

drwxrwxr-x 4 root root 4096 Nov 29 05:54 storage\_foundation\_cluster\_file\_system\_ha

drwxrwxr-x 5 root root 4096 Nov 29 05:54 storage\_foundation\_for\_oracle\_rac

drwxrwxr-x 5 root root 4096 Nov 29 05:54 storage\_foundation\_high\_availability

drwxrwxr-x 4 root root 4096 Nov 29 05:54 virtualstore

drwxrwxr-x 3 root root 4096 Nov 29 05:54 volume\_manager

-rwxr-xr-x 1 root root 18014 Nov 29 01:38 webinstaller

drwxrwxr-x 2 root root 4096 Nov 29 05:54 windows

drwxrwxr-x 4 root root 4096 Nov 29 01:38 xprtl

[root@db3 rhel5\_x86\_64]# **./installer**

1) Veritas Dynamic Multi-Pathing (DMP)

2) Veritas Cluster Server (VCS)

3) Veritas Storage Foundation (SF)

4) Veritas Storage Foundation and High Availability (SFHA)

5) Veritas Storage Foundation Cluster File System HA (SFCFSHA)

6) Symantec VirtualStore (SVS)

7) Veritas Storage Foundation for Oracle RAC (SF Oracle RAC)

b) Back to previous menu

Select a product to install: [1-7,b,q] **2**

1) Install minimal required rpms – 321 MB required

2) Install recommended rpms – 493 MB required

3) Install all rpms – 514 MB required

4) Display rpms to be installed for each option

Select the rpms to be installed on all systems? [1-4,q,?] (2) **3**

Enter the 64 bit RHEL5 system names separated by spaces: [q,?] **db3 db4**

Logs are being written to /var/tmp/installer-201204111612skM while installer is in progress

Verifying systems: 0% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Estimated time remaining: (mm:ss) 0 of 8

Checking system communication \

Either ssh or rsh needs to be set up between the local system and db4 for communication

Would you like the installer to setup ssh or rsh communication automatically between the systems?

Superuser passwords for the systems will be asked. [y,n,q] (y)**y**

Enter the superuser password for system db4:

1) Setup ssh between the systems

2) Setup rsh between the systems

b) Back to previous menu

Select the communication method [1-2,b,q,?] (1) **2**

System verification checks completed

Systems have difference in clock by more than 5 seconds

System clocks can be synchronized using one or more Network Time Protocol (NTP) servers

Do you want to synchronize system clocks with NTP server(s)? [y,n,q] **n**

Enter the NTP server names separated by spaces: [b]

Enter the NTP server names separated by spaces: [b] Enter the NTP server names separated by spaces: [b] Enter the NTP server names separated by spaces: [b] b

Do you want to synchronize system clocks with NTP server(s)? [y,n,q] (y) n

Veritas Cluster Server 6.0 Install Program

db3 db4

The following Veritas Cluster Server rpms will be installed on all systems:

Rpm Rpm Description

VRTSllt Veritas Low Latency Transport

VRTSgab Veritas Group Membership and Atomic Broadcast

VRTSvxfen Veritas I/O Fencing by Symantec

VRTSamf Veritas Asynchronous Monitoring Framework by Symantec

VRTSvcs Veritas Cluster Server

VRTScps Veritas Cluster Server – Coordinated Point Server

VRTSvcsag Veritas Cluster Server Bundled Agents by Symantec

VRTSvcsdr Veritas Cluster Server Disk Reservation Modules

VRTSvcsea Veritas Cluster Server Enterprise Agents by Symantec

VRTSvbs Veritas Virtual Business Service

Press [Enter] to continue:

Veritas Cluster Server 6.0 Install Program

db3 db4

Logs are being written to /var/tmp/installer-201204111612skM while installer is in progress

Installing VCS: 100%

Estimated time remaining: (mm:ss) 0:00 12 of 12

Performing VCS preinstall tasks …………………………………………………………………………………………………………… Done

Installing VRTSllt rpm …………………………………………………………………………………………………………………… Done

Installing VRTSgab rpm …………………………………………………………………………………………………………………… Done

Installing VRTSvxfen rpm …………………………………………………………………………………………………………………. Done

Installing VRTSamf rpm …………………………………………………………………………………………………………………… Done

Installing VRTSvcs rpm …………………………………………………………………………………………………………………… Done

Installing VRTScps rpm …………………………………………………………………………………………………………………… Done

Installing VRTSvcsag rpm …………………………………………………………………………………………………………………. Done

Installing VRTSvcsdr rpm …………………………………………………………………………………………………………………. Done

Installing VRTSvcsea rpm …………………………………………………………………………………………………………………. Done

Installing VRTSvbs rpm …………………………………………………………………………………………………………………… Done

Performing VCS postinstall tasks ………………………………………………………………………………………………………….. Done

Veritas Cluster Server Install completed successfully

Veritas Cluster Server 6.0 Install Program

db3 db4

To comply with the terms of Symantec’s End User License Agreement, you have 60 days to either:

\* Enter a valid license key matching the functionality in use on the systems

\* Enable keyless licensing and manage the systems with a Management Server. For more details visit <http://go.symantec.com/sfhakeyless>. The product is fully functional

during these 60 days.

1) Enter a valid license key

2) Enable keyless licensing and complete system licensing later

How would you like to license the systems? [1-2,q] **2**

Would you like to enable the Global Cluster Option? [y,n,q] (n) **n**

Registering VCS license

Would you like to configure VCS on db3 db4? [y,n,q] (n)**y**

I/O Fencing

It needs to be determined at this time if you plan to configure I/O Fencing in enabled or disabled mode, as well as help in determining the number of network

interconnects (NICS) required on your systems. If you configure I/O Fencing in enabled mode, only a single NIC is required, though at least two are recommended.

A split brain can occur if servers within the cluster become unable to communicate for any number of reasons. If I/O Fencing is not enabled, you run the risk of data

corruption should a split brain occur. Therefore, to avoid data corruption due to split brain in CFS environments, I/O Fencing has to be enabled.

If you do not enable I/O Fencing, you do so at your own risk

See the Administrator’s Guide for more information on I/O Fencing

Do you want to configure I/O Fencing in enabled mode? [y,n,q,?] (y) **y**

To configure VCS the following information is required:

A unique cluster name

A unique cluster ID number between 0-65535

One or more NICs per system used for heartbeat links

One or more heartbeat links are configured as private links

You can configure one heartbeat link as a low-priority link

All systems are being configured to create one cluster.

Enter the unique cluster name: [q,?] **oracluster**

1) Configure heartbeat links using LLT over Ethernet

2) Configure heartbeat links using LLT over UDP

3) Automatically detect configuration for LLT over Ethernet

b) Back to previous menu

How would you like to configure heartbeat links? [1-3,b,q,?] (1) **1**

Discovering NICs on db3 …………………………………………………………………………………………… Discovered eth0 eth1 eth2 eth3

Enter the NIC for the first private heartbeat link on db3: [b,q,?] (eth0) **eth1**

Would you like to configure a second private heartbeat link? [y,n,q,b,?] (n) **n**

Do you want to configure an additional low-priority heartbeat link? [y,n,q,b,?] (n) **n**

Are you using the same NICs for private heartbeat links on all systems? [y,n,q,b,?] (y) **y**

(we are using eth1 on both systems for the private interconnect)

Checking media speed for eth1 on db3 ……………………………………………………………………………………………………. 100Mb/s

Checking media speed for eth1 on db4 ……………………………………………………………………………………………………. 100Mb/s

Enter a unique cluster ID number between 0-65535: [b,q,?] (18551) **17777**

The cluster cannot be configured if the cluster ID 17777 is in use by another cluster. Installer can perform a check to determine if the cluster ID is duplicate. The

check will take less than a minute to complete.

Would you like to check if the cluster ID is in use by another cluster? [y,n,q] (y) **n**

Cluster information verification:

Cluster Name: oracluster

Cluster ID Number: 17777

Private Heartbeat NICs for db3:

link1=eth1

Private Heartbeat NICs for db4:

link1=eth1

Is this information correct? [y,n,q,?] (y) **y**

The following data is required to configure the Virtual IP of the Cluster:

A public NIC used by each system in the cluster

A Virtual IP address and netmask

Do you want to configure the Virtual IP? [y,n,q,?] (n) **n**

Veritas Cluster Server can be configured in secure mode

Running VCS in Secure Mode guarantees that all inter-system communication is encrypted, and users are verified with security credentials.

When running VCS in Secure Mode, NIS and system usernames and passwords are used to verify identity. VCS usernames and passwords are no longer utilized when a cluster

is running in Secure Mode.

Would you like to configure the VCS cluster in secure mode? [y,n,q,?] (n) **n**

The following information is required to add VCS users:

A user name

A password for the user

User privileges (Administrator, Operator, or Guest)

Do you wish to accept the default cluster credentials of ‘admin/password’? [y,n,q] (y) **n**

Enter the user name: [b,q,?] (admin) **admin**

Enter the password:

The following information is required to configure SMTP notification:

The domain-based hostname of the SMTP server

The email address of each SMTP recipient

A minimum severity level of messages to send to each recipient

Do you want to configure SMTP notification? [y,n,q,?] (n) **n**

db3 db4

The following information is required to configure SNMP notification:

System names of SNMP consoles to receive VCS trap messages

SNMP trap daemon port numbers for each console

A minimum severity level of messages to send to each console

Do you want to configure SNMP notification? [y,n,q,?] (n) **n**

Fencing configuration

1) Configure Coordination Point client based fencing

2) Configure disk based fencing

Select the fencing mechanism to be configured in this Application Cluster: [1-2,q]**q**

**NOTE: In production environments we will choose an odd number of disks for fencing – usually three, for our training, we will go with no fencing.**

you exit out of the installer……

[root@db4 ~]# export PATH=$PATH:/opt/VRTS/bin

[root@db4 ~]# hastatus -sum

– SYSTEM STATE

– System State Frozen

A db3 RUNNING 0

A db4 RUNNING 0

[root@db4 ~]#

[root@db4 ~]# cd /etc/VRTSvcs/conf/config

[root@db4 config]# more main.cf

include “OracleASMTypes.cf”

include “types.cf”

include “Db2udbTypes.cf”

include “OracleTypes.cf”

include “SybaseTypes.cf”

cluster oracluster (

UserNames = { admin = eHHbHDgEEbEDdE }

Administrators = { admin }

)

system db3 (

)

system db4 (

)

[root@db4 config]#

At this point I am essentially following:

<http://www.symantec.com/business/support/index?page=content&id=TECH87319>

Please NOTE that there are typos in that document, so use mine for copy and paste, but use that document for general understanding of what we are doing.

[root@db4 config]# haconf -makerw

[root@db4 config]# hagrp -add ORAPRD

VCS NOTICE V-16-1-10136 Group added; populating SystemList and setting the Parallel attribute recommended before adding resources

[root@db4 config]# hagrp -modify ORAPRD SystemList db3 0 db4 1

[root@db4 config]# hares -add DB\_FINPRD Oracle ORAPRD

VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

[root@db4 config]# hares -add Listener\_FINPRD Netlsnr ORAPRD

VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

[root@db4 config]#

[root@db4 config]# hares -add IP\_Prod IP ORAPRD

VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

[root@db4 config]#

[root@db4 config]# hares -add NIC\_Prod NIC ORAPRD

VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

[root@db4 config]#

[root@db4 config]# hares -add ORAVol Volume ORAPRD

VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

[root@db4 config]# hares -add ORADG DiskGroup ORAPRD

VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

[root@db4 config]# hares -add ORAMOUNT Mount ORAPRD

VCS NOTICE V-16-1-10242 Resource added. Enabled attribute must be set before agent monitors

[root@db4 config]#

[root@db4 config]# hares -modify DB\_FINPRD Sid TESTDB

NOTE: it is Sid and not SID

[root@db4 config]# hares -modify DB\_FINPRD Owner oracle

[root@db4 config]# hares -modify DB\_FINPRD Home /orabin/oracle/product/11.2.0/TESTDB

[root@db4 config]# hares -modify Listener\_FINPRD Owner oracle

[root@db4 config]# hares -modify Listener\_FINPRD Home /orabin/oracle/product/11.2.0/TESTDB

[root@db4 config]# hares -modify IP\_Prod Address 192.168.0.90

[root@db4 config]# hares -modify IP\_Prod Device eth2

[root@db4 config]# hares -modify NIC\_Prod Device eth2

[root@db4 config]# hares -modify ORAVol Volume orabinvol

[root@db4 config]# hares -modify ORAVol DiskGroup orabin

[root@db4 config]#

[root@db4 config]# hares -modify ORADG DiskGroup orabin

[root@db4 config]# hares -modify ORADG DiskGroupType private

[root@db4 config]# hares -modify ORAMOUNT BlockDevice /dev/vx/dsk/orabin/orabinvol

[root@db4 config]# hares -modify ORAMOUNT FSType vxfs

[root@db4 config]# hares -modify ORAMOUNT FsckOpt “%-y”

[root@db4 config]# hares -modify ORAMOUNT MountPoint /orabin

[root@db4 config]# hares -link Listener\_FINPRD DB\_FINPRD

[root@db4 config]# hares -link DB\_FINPRD IP

VCS WARNING V-16-1-10249 Child resource does not exist: IP

[root@db4 config]# hares -link DB\_FINPRD IP\_Prod

[root@db4 config]# hares -link DB\_FINPRD ORAMOUNT

[root@db4 config]# hares -link ORAVol ORADG

[root@db4 config]# hares -link ORAMOUNT ORAVol

[root@db4 config]# hares -link IP NIC

VCS WARNING V-16-1-10240 Attempt to modify non-existent resource

[root@db4 config]# hares -link IP\_Prod NIC\_Prod

[root@db4 config]#

[root@db4 log]# hares -modify IP\_Prod NetMask 255.255.255.0

[root@db4 log]# haconf -dump -makero

[root@db4 log]# hastop -all

reboot both nodes

Logs are being written to /var/tmp/installsfha61-201406021503TBB while installsfha61 is in progress.

The installer has discovered an existing installer process. The process exited while performing configure of SFHA on ipew1aprov ipew1bprov. Do you

want to resume this process? [y,n,q,?] (y) y

Symantec Storage Foundation and High Availability 6.1 Configure Program

ipew1aprov ipew1bprov

Logs are being written to /var/tmp/installsfha61-201406021503TBB while installsfha61 is in progress

Verifying systems: 100%

Estimated time remaining: (mm:ss) 0:00 5 of 5

Checking system communication ......................................................................................................... Done

Checking release compatibility ........................................................................................................ Done

Checking installed product ............................................................................................................ Done

Checking platform version ............................................................................................................. Done

Performing product prechecks .......................................................................................................... Done

System verification checks completed successfully

I/O Fencing

It needs to be determined at this time if you plan to configure I/O Fencing in enabled or disabled mode, as well as help in determining the number

of network interconnects (NICS) required on your systems. If you configure I/O Fencing in enabled mode, only a single NIC is required, though at

least two are recommended.

A split brain can occur if servers within the cluster become unable to communicate for any number of reasons. If I/O Fencing is not enabled, you run

the risk of data corruption should a split brain occur. Therefore, to avoid data corruption due to split brain in CFS environments, I/O Fencing has

to be enabled.

If you do not enable I/O Fencing, you do so at your own risk

See the Administrator's Guide for more information on I/O Fencing

Do you want to configure I/O Fencing in enabled mode? [y,n,q,?] (y) n

Symantec Storage Foundation and High Availability 6.1 Configure Program

ipew1aprov ipew1bprov

To configure VCS, answer the set of questions on the next screen.

When [b] is presented after a question, 'b' may be entered to go back to the first question of the configuration set.

When [?] is presented after a question, '?' may be entered for help or additional information about the question.

Following each set of questions, the information you have entered will be presented for confirmation. To repeat the set of questions and correct

any previous errors, enter 'n' at the confirmation prompt.

No configuration changes are made to the systems until all configuration questions are completed and confirmed.

Press [Enter] to continue:

Symantec Storage Foundation and High Availability 6.1 Configure Program

ipew1aprov ipew1bprov

To configure VCS for SFHA the following information is required:

A unique cluster name

Two or more NICs per system used for heartbeat links

A unique cluster ID number between 0-65535

One or more heartbeat links are configured as private links

You can configure one heartbeat link as a low-priority link

All systems are being configured to create one cluster.

Enter the unique cluster name: [q,?] ipew1provcluster

Symantec Storage Foundation and High Availability 6.1 Configure Program

ipew1aprov ipew1bprov

1) Configure the heartbeat links using LLT over Ethernet

2) Configure the heartbeat links using LLT over UDP

3) Configure the heartbeat links using LLT over RDMA

4) Automatically detect configuration for LLT over Ethernet

b) Back to previous menu

How would you like to configure heartbeat links? [1-4,b,q,?] (4)

On Linux systems, only activated NICs can be detected and configured automatically.

Press [Enter] to continue:

Symantec Storage Foundation and High Availability 6.1 Configure Program

ipew1aprov ipew1bprov

Logs are being written to /var/tmp/installsfha61-201406021503TBB while installsfha61 is in progress

Configuring LLT links: 100%

Estimated time remaining: (mm:ss) 0:00 4 of 4

Checking system NICs on ipew1aprov ............................................................................................ 3 NICs found

Checking system NICs on ipew1bprov ............................................................................................ 3 NICs found

Checking network links ........................................................................................................ 1 link found

Setting link priority ......................................................................................... No high priority links found

Failed to detect and configure LLT heartbeat links. Configure LLT manually.

1) Configure the heartbeat links using LLT over Ethernet

2) Configure the heartbeat links using LLT over UDP

3) Configure the heartbeat links using LLT over RDMA

b) Back to previous menu

How would you like to configure heartbeat links? [1-3,b,q,?] (1) 1

Discovering NICs on ipew1aprov ................................................................................... Discovered eth0 eth1 eth2

Enter the NIC for the first private heartbeat link on ipew1aprov: [b,q,?] (eth1)

Would you like to configure a second private heartbeat link? [y,n,q,b,?] (y)

Enter the NIC for the second private heartbeat link on ipew1aprov: [b,q,?] (eth2)

Do you want to configure an additional low-priority heartbeat link? [y,n,q,b,?] (n)

Are you using the same NICs for private heartbeat links on all systems? [y,n,q,b,?] (y)

Checking media speed for eth1 on ipew1aprov ....................................................................................... 1000Mb/s

Checking media speed for eth2 on ipew1aprov ....................................................................................... 1000Mb/s

Checking media speed for eth1 on ipew1bprov ....................................................................................... 1000Mb/s

Checking media speed for eth2 on ipew1bprov ....................................................................................... 1000Mb/s

Enter a unique cluster ID number between 0-65535: [b,q,?] (1620)

The cluster cannot be configured if the cluster ID 1620 is in use by another cluster. Installer can perform a check to determine if the cluster ID

is duplicate. The check will take less than a minute to complete.

Would you like to check if the cluster ID is in use by another cluster? [y,n,q] (y)

Symantec Storage Foundation and High Availability 6.1 Configure Program

ipew1aprov ipew1bprov

Logs are being written to /var/tmp/installsfha61-201406021503TBB while installsfha61 is in progress

Starting SFHA: 100%

Estimated time remaining: (mm:ss) 0:00 21 of 21

Performing SFHA configuration ......................................................................................................... Done

Starting vxdmp ........................................................................................................................ Done

Starting vxio ......................................................................................................................... Done

Starting vxspec ....................................................................................................................... Done

Starting vxconfigd .................................................................................................................... Done

Starting vxesd ........................................................................................................................ Done

Starting vxrelocd ..................................................................................................................... Done

Starting vxcached ..................................................................................................................... Done

Starting vxconfigbackupd .............................................................................................................. Done

Starting vxattachd .................................................................................................................... Done

Starting vxportal ................................................................................................................... Failed

Starting fdd ........................................................................................................................ Failed

Starting vxcafs ..................................................................................................................... Failed

Starting llt ........................................................................................................................ Failed

Starting gab ....................................................................................................................... Skipped

Starting amf .......................................................................................................................... Done

Starting had ....................................................................................................................... Skipped

Starting CmdServer ................................................................................................................. Skipped

Starting vxdbd ........................................................................................................................ Done

Starting vxodm ..................................................................................................................... Skipped

Performing SFHA poststart tasks ....................................................................................................... Done

Symantec Storage Foundation and High Availability Startup did not complete successfully

vxportal failed to start on ipew1aprov

fdd failed to start on ipew1aprov

vxcafs failed to start on ipew1aprov

llt failed to start on ipew1aprov

gab aborted to start on ipew1aprov

had aborted to start on ipew1aprov

CmdServer aborted to start on ipew1aprov

vxodm aborted to start on ipew1aprov

vxportal failed to start on ipew1bprov

fdd failed to start on ipew1bprov

vxcafs failed to start on ipew1bprov

llt failed to start on ipew1bprov

gab aborted to start on ipew1bprov

had aborted to start on ipew1bprov

CmdServer aborted to start on ipew1bprov

vxodm aborted to start on ipew1bprov

The updates to VRTSaslapm package are released via the Symantec SORT web page: https://sort.symantec.com/asl. To make sure you have the latest

version of VRTSaslapm (for up to date ASLs and APMs), download and install the latest package from the SORT web page.

You are running this virtual machine under a VMware environment. You may access the cluster view for this virtual machine using the vSphere client.

To access the cluster view for the virtual machine using the vSphere client, log on to the vCenter Server through the vSphere client, navigate to

the virtual machine in the inventory view and click on the 'Symantec High Availability' tab.

You may also access the cluster view from a browser. To access the cluster view through a browser, open the URL below in a browser:

https://<VM\_IP\_or\_Hostname>:5634/vcs/admin/application\_health.html