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How to upgrade VERITAS Cluster Server (tm) 2.0 to VERITAS Cluster Server 2.1 for Linux

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Details:

Shutting Down VCS:

1. Log in to any system as the superuser.

2. Make the Cluster Server configuration writeable. On any system, type:

```
# haconf -makerw
```

3. List the groups in your configuration. On any system, type:

```
# hagrp -list
```

4. Freeze all service groups. On any system, type the following command for each group name displayed in the output from Step 2:

```
# hagrp -freeze group_name -persistent
```

5. Save the configuration file (main.cf) with the groups frozen. On any system, type:

```
# haconf -dump -makero
```

6. Shut down Cluster Server. On any system, type:

```
# hastop -all -force
```

NOTE: Perform Steps 7 through step 14 on each system in the cluster.

7. Confirm that Cluster Server has shut down. On each system, type:

```
# gabconfig -a
```

Output resembles:

```
GAB Port Memberships
=======================================
Port a gen 23dc0001 membership 01
```

Note that the output shows no membership for port h.

8. Unconfigure global atomic broadcast (GAB). On each system, type:

```
# gabconfig -u
```

9. Unconfigure low latency transport (LLT). On each system, type:

```
# lltconfig -U
```

The following message is displayed on the console:

```
lltconfig: this will attempt to stop and reset LLT.
Confirm (y/n)?
```

10. Type Y on each system in response to the message.

11. Unload the GAB and LLT modules from the kernel. On each system, type:

```
# unloadgab
# unloadllt
```

If either the LLT or GAB kernel modules fail to unload, you must reboot the systems after completing the Cluster Server upgrade.

12. Make a copy of the current main.cf and types.cf configuration files. On one node in the cluster, type:

```
# cp /etc/VRTSvcs/conf/config/main.cf /etc/VRTSvcs/conf/main.cf.save
# cp /etc/VRTSvcs/conf/config/types.cf /etc/VRTSvcs/conf/types.cf.save
```

13. Make copies of the configuration files /etc/llthosts, /etc/llttab, and /etc/gabtab on each system because these files may vary by system. On each system, type:

```
# cp /etc/llthosts /etc/llthosts.save
# cp /etc/llttab /etc/llttab.save
# cp /etc/gabtab /etc/gabtab.save
```

14. Shut down the Cluster Server CmdServer. On each system, type:

```
# pkill -9 CmdServer
```

Remove Cluster Server 2.0:

If you can execute commands as root on the remote systems in the cluster using ssh, uninstallvcs can be run on one system to uninstall Cluster Server on all systems in the cluster. If you cannot execute commands as root on remote systems in the cluster using ssh, uninstallvcs must be run on each system in the cluster.

15. Remove Cluster Server 2.0 using the uninstallvcs script from the Cluster Server 2.1 CD. On any system, change the directory to the location of Cluster Server 2.1 and type:

```
# ./uninstallvcs
```

Follow the prompts to remove Cluster Server from all systems or run this uninstallvcs on each system. Answer NO to the prompts for removing the configuration and license files.

Install Cluster Server 2.1

You must have remote root access to each of the systems in the cluster from the system where the installation is run. This access is facilitated by ssh. The system on which you run installvcs does not need to be a part of the cluster. If the system is a part of the cluster, ssh must be configured for this system. Please refer to the VERITAS Cluster Server 2.1 Installation Guide for more information on setting up ssh and installing Cluster Server 2.1 (link below).

16. Change directory to the location of Cluster Server 2.1 and start the install:

./installvcs

17. The installvcs script will prompt the user to start the cluster components. Answer NO to this prompt:

```
Installation will now start the Cluster components on all systems
Do you want to start it now ? (Y/n) : n
```

18. Upgrade Cluster Server to work with the Red Hat kernel on your systems by copying Cluster Server kernel modules from the directory /lib/modules/2.4.9-e.3<kernel-type>/veritas/vcs to the corresponding directory for your kernel.

For example, steps to copy the Cluster Server kernel modules from 2.4.9-e.3smp to 2.4.9-e.16smp would be as follows:

a. Change directory to the location for the kernel on your system:

```
# cd /lib/modules/2.4.9-e.16smp
```

b. Create a VERITAS directory for the modules if this directory does not already exist:

```
# mkdir veritas
```

c. Copy the Cluster Server kernel modules into the directory:

```
# cp -rp /lib/modules/2.4.9-e.3smp/veritas/vcs ./veritas
```

NOTE: If you are using VERITAS File System (tm), you must make additional changes to ensure proper loading of the NFSD module. Before proceeding to Step d, refer to TechNote 243712 (link below).

d. Repeat Steps a through c on each system in the cluster.

19. On the node where you plan to run the `hastart` command first, restore main.cf and types.cf from the location where you saved them in Step 12:

```
# cp /etc/VRTSvcs/conf/main.cf.save /etc/VRTSvcs/conf/config/main.cf
# cp /etc/VRTSvcs/conf/types.cf.save /etc/VRTSvcs/conf/config/types.cf
```

20. Load kernel modules. On each system, type:

```
# loadllt
# loadgab
```

21. Start LLT. On each system, type:

```
# lltconfig -c
```

22. Verify LLT is configured. On each system, type:

```
# lltconfig
```

The following message is displayed:

```
LLT is running.
```

23. Start GAB. On each system, type:

```
# gabconfig -c -x
```

24. Verify GAB is configured. On each system, type:

```
# gabconfig -a
```

Output resembles:

```
GAB Port Memberships
=====================================
Port a gen 58dc0005 membership 01
```

You should see port a for each node on which GAB is running.

25. Beginning with the system on which you restored main.cf and types.cf, restart Cluster Server on each system in the cluster. On each system, type:

```
# hastart
```

26. After Cluster Server has started on all systems, perform the following steps:

a. Verify all resources have been probed. On any system, type:

```
# hastatus -summary
```

b. Unfreeze all service groups. On any system, type:

```
# haconf -makerw
# hagrp -unfreeze <service_group> -persistent
# haconf -dump -makero
```

c. Online the ClusterService service group, if necessary. On any system type:

```
# hagrp -online ClusterService -sys <system>
```

Related Documents:

243712: Installation instructions for VERITAS Foundation Suite (tm) 2.0 and VERITAS Cluster Server (tm) 2.0 on VERITAS-supported Linux erratas
http://support.veritas.com/docs/243712

256426: Supported Linux kernels for VERITAS Storage Foundations and Cluster File Solutions 4.1, 4.0 and 2.2 products
http://support.veritas.com/docs/256426

260038: VERITAS Cluster Server (tm) 2.1 Installation Guide/Linux
http://support.veritas.com/docs/260038

259499: README_VCS for VERITAS Cluster Server (tm) 2.1Patch 1
http://support.veritas.com/docs/259499

260603: VERITAS Cluster Server (tm) 2.1 - Patch 1 for Linux
http://support.veritas.com/docs/260603

Products Applied:
Cluster Server for UNIX 2.0 (Solaris)
Storage Foundation for UNIX 2.1 (X440 Linux)

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