Veritas™ Cluster Server README

HP-UX 11i v2

5.0 Maintenance Pack 1 Rolling Patch 2

✓ symantec™

Veritas Cluster Server
README

Third-party legal notices

Third-party software may be recommended, distributed, embedded, or bundled with this Symantec product. Such third-party software is licensed separately by its copyright holder.

Technical support

Visit http://www.symantec.com/business/support/assistance_care.jsp for product assistance. Use the Knowledge Base search feature to access resources such as TechNotes, product alerts, software downloads, hardware compatibility lists, and our customer email notification service. If you encounter an error when using a product, include the error number preceding the message when contacting Technical Services. You can also use the error number to search for information in TechNotes or documents on the Web site.

Veritas Cluster Server 5.0 MP1 RP2 README

Introduction

This document provides important information about the Veritas Cluster Server 5.0 Maintenance Pack 1 Rolling Patch 2 (5.0 MP1 RP2) on HP-UX 11i v2. Review this entire document before installing this patch.

Before Getting Started

The VCS 5.0 MP1 RP2 release includes the following patches:

PVCO_03797	1.0	VRTS 5.0 MP1 RP2 VRTSvcs/VRTSvcsag Command Patch
PHCO_38740	1.0	VRTS 5.0 MP1 RP2 VRTSvxfen Command Patch
PHKL_38743	1.0	VRTS 5.0 MP1 RP2 VRTSvxfen Kernel Patch
PHNE_38738	1.0	VRTS 5.0 MP1 RP2 VRTSgab Kernel Patch
PHNE_38739	1.0	VRTS 5.0 MP1 RP2 VRTSllt Kernel patch

Oracle agent patch

PVCO_03798	1.0	VRTS 5.0 MP1 RP2 VRTSvcsor/VRTScsocw Command Patch

Sybase agent patch

PVCO_03799	1.0	VRTS 5.0 MP1 RP2 VRTSvcssy Command Patch

Packages included in Rolling Patch 2

The following packages are included in this rolling patch.

- VRTSllt-   Veritas Low Latency Transport
- VRTSgab-   Veritas Group Membership and Atomic Broadcast
- VRTSvxfen- Veritas Fencing Module
- VRTSvcs-   Veritas Cluster Server
- VRTSvcsag- Veritas Cluster Server Bundled Agents
- VRTSvcssy- Veritas Cluster Server Agent for Sybase
- VRTSvcsor- Veritas Cluster Server Agent for Oracle

Supported operating system

HP-UX 11i v2 operating system.

Symantec recommends applying the latest HP-UX operating system patches available from HP.

Installing the patches on a VCS 5.0 MP1 cluster

You must upgrade to VCS 5.0 MP1 before applying the 5.0 MP1 Rolling Patch 2.

If you are applying this patch to a Veritas suite of products, such as SFRAC that includes VCS as a component, refer to the patch installation procedures for that product.

The 5.0 MP1 RP2 release does not support a rolling upgrade in a Veritas clustered environment. You cannot upgrade a cluster to use the 5.0 MP1 RP2 patches while the cluster is in operation.

To install the patches on a VCS 5.0 MP1 cluster

1   Take a backup of llttab, llthosts, gabtab and main.cf files.

```
# cp /etc/llttab /etc/llttab.bkp
# cp /etc/llthosts /etc/llthosts.bkp
# cp /etc/gabtab /etc/gabtab.bkp
# cp /etc/VRTSvcs/conf/config/main.cf
/etc/VRTSvcs/conf/config/main.cf.bkp
# cp /etc/VRTSvcs/conf/config/types.cf
/etc/VRTSvcs/conf/config/types.cf.bkp
```

2   Prepare the cluster. On any node, do the following.

    a   List the service groups in your cluster along with their status.

```
# hagrp -state
```

    b   Take the service group offline if it is online.

```
# hagrp -offline <group_name>  -sys <system>
```

    c   Make the VCS configuration writable.

```
# haconf -makerw
```

    d   Freeze all the service groups.

```
# hagrp -freeze <service_group> -persistent
```

    e   Verify that the service groups are frozen. On any VCS node, type:

```
# hastatus -sum
```
       The output of this command should show that service groups are frozen.

    f   Save the main.cf file with the groups frozen.

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

3   Stop VCS. On each individual node, perform the following steps:

    a   Shut down VCS.

```
# hastop -local
```

> If the system returns an error message and fails to shut down VCS, type:
>
> ```
> # hastop -all -force
> ```

b Check that VCS has shut down. On each node, type

```
# ps -ef | grep -i had
```

If the output indicates that HAD is not running, VCS has shut down.

4 Stop Fencing on each node.

```
# vxfenconfig -U
```

5 Stop GAB on each node.

```
# gabconfig -U
```

Check that GAB has shut down.

```
# gabconfig -a
```

If the system returns no ports, GAB has stopped.

6 Stop LLT on each node.

```
# lltconfig -Uo
```

7 Install the patch. Perform the following steps on each node.

a Change the directory to the patch location.

```
# cd <patch_location>
```

b Install the patch.

```
# swinstall  -x autoreboot=true -s `pwd`  PHCO_38740
PHKL_38743 PHNE_38738  PHNE_38739  PVCO_03797
```

c Update the types.cf file to the new version.

```
# cp -p /etc/VRTSvcs/conf/types.cf
/etc/VRTSvcs/conf/config/types.cf
```

Note: The types.cf file gets modified if you change the configuration using the Java GUI or Command line. If you modified the types.cf file, you have to apply the same changes to the new types.cf file.

---

8 Verify the installation.

After installation is complete, you can verify that the patch has been installed using the following command on any node:

```
# swlist | grep -i rp2
```

The following information is displayed after successful patch installation.

```
PVCO_03797    VRTS 5.0 MP1 RP2 VRTSvcs/VRTSvcsag Command Patch
PHCO_38740    VRTS 5.0 MP1 RP2 VRTSvxfen Command Patch
PHKL_38743    VRTS 5.0 MP1 RP2 VRTSvxfen Kernel Patch
PHNE_38738    VRTS 5.0 MP1 RP2 VRTSgab Kernel Patch
PHNE_38739    VRTS 5.0 MP1 RP2 VRTSllt Kernel patch
```

9 Restart all the nodes in the cluster.

10 Check the state of GAB, LLT, and fencing on each node.

```
# swlist -v VRTSllt | grep ^state
# swlist -v VRTSgab | grep ^state
# swlist -v VRTSvxfen | grep ^state
```
The system should report the states as "configured".

For installing Oracle and Sybase, follow the installation procedure from the respective README documents provided along with the patch.

Removing Rolling Patch 2

You can use the following procedure to uninstall 5.0 MP1 RP2.

To uninstall 5.0 MP1 RP2

1   List the service groups in your cluster along with their status. On any node, type:
    ```
    # hagrp -state
    ```

2   Take the ClusterService group offline if it is configured.
    ```
    # hagrp -offline -force ClusterService -sys <system>
    ```

3   Make the VCS configuration writable. On any node, type:
    ```
    # haconf -makerw
    ```

4   Freeze all service groups. On any node, type:
    ```
    # hagrp -freeze service_group -persistent
    ```
    where service_group is the name of the service group.
    Note that the ClusterService group cannot be frozen.

5   Save the configuration (main.cf) file with the groups frozen. On any node, type:
    ```
    # haconf -dump -makero
    ```

6   Take a backup of the current main.cf and all types.cf configuration files.
    For example, on one of the nodes 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
    ```

7   Shut down VCS and the VCS CmdServer. On any node, type:
    ```
    # hastop -all -force
    # CmdServer -stop
    ```

8   Verify that VCS has shut down. On each node, type:
    ```
    # gabconfig -a
    ```
    The output resembles
    ```
    GAB Port Memberships
    Port a gen 23dc0001 membership 01
    ```
    Note that the output shows no membership for port h.

9 Stop vxfen on each cluster node, if the VCS cluster uses the fencing option.

```
# vxfenconfig -U
```

10 Unconfigure GAB. On each node, type:

```
# gabconfig -U
```

11 Unconfigure LLT. On each node, type:

```
# lltconfig -Uo
```

12 Remove the VCS patches from each node in the cluster. Type the following command:

```
# swremove -x autoreboot=true  PHCO_38740  PHKL_38743
PHNE_38738  PHNE_38739  PVCO_03797
```

13 Restore the types.cf configuration files from the location where you saved them, or manually edit the /etc/VRTSvcs/conf/config/types.cf to remove the newly added attributes.

14 Restart all the nodes in the cluster.

```
# shutdown -ry now
```

15 After VCS has started, perform the following steps:

a Verify all resources have been probed. On each node, type:

```
# hastatus -summary
```

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

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

where service_group is the name of the service group.

c Bring the ClusterService group online, if necessary. On any node type:

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

where system is the system name.

Fixed Issues

The following incidents have been fixed in this release.

Table 1-1   Fixed Issues

Issue	Description
612587	haclus -wait hangs when cluster name is not specified.
797703	vxfenadm -d output has unknown character ">M".
834240	Lock order violation in the agent framework causes deadlock in agent.
837563	Oracle agent dumps core on HP-UX PA-RISC architecture.

Table 1-1   Fixed Issues

Issue	Description
862507	GAB_F_SEQBUSY is being set even when the sequence request is not sent.
866690	RemoteGroup agent dumps core on a secure cluster.
914752	LLT messages fill dmesg buffer.
929570	Sybase and SybaseBk agents dump core.
970396	For LLT, reduce peer inactivity time using the request heartbeat mechanism.
990610	vxfentsthdw script issues with -f option and documentation for -d option.
1011472	Memory leaks in Oracle and Netlsnr agents.
1020838	Clean entry point of the Application agent does not work for "wac" type of configuration.
1031514	For LLT, add heuristic to deal with one-way link situations.
1036780	'haclus' dumps core.
1038373	LLT caused panic while communicating.
1057465	vxfentsthdw -f option rcp output.
1060657	GAB panics the system.
1060963	NFSRestart monitor gives the following error, "Too many open files".
1073342	Memory leak in llt_recv_msg().
1074605	System panics with "vxfen critical" as the panic string.
1078230	Error in the script \"/opt/VRTSvcs/vxfen/bin/vxfentsthdw\" is resolved.
1084656	GAB panics with string "Fault when executing in kernel mode".
1091284	Bug in printing port latency statistics.
1096394	VCS engine dumps core when Notifier resource is configured.
1101634	Issues with MultiNICA agent on HP-UX.
1102457	Unresolved kernel interruption during vxfen startup.
1104213	Reject 'hagrp -freeze' if service group is in a transition state (Online to offline or vice versa)
1113667	Use of vfork causes a deadlock between parent and child processes.

Table 1-1   Fixed Issues

Issue	Description
1113791	vxfenconfig ERROR V-11-2-1002 Open failed for device: /dev/vxfen
1117839	DNS group goes to a partial state after killing the DNS agent.
1120189	Stopping VXFEN .... FAIL * during shutdown.
1120697	GCO ICMP heartbeat AYATimeout value does not default to 300.
1137118	Retry when there is a preexisting split brain, because VM's temp key may linger on.
1161339	Application agent does not inherit user defined LANG parameter.
1170248	Mount agent uses statvfs instead of using statvfs64.
1174911	Group switch/failover logic does not complete if parent group gets autodisabled in between.
1186414	hastart and triggers run on the locale specified by the LANG variable.
1187580	ActionTimeout attribute does not function as expected.
1195685	After a split brain, the node of the surviving cluster panics.
1201174	VCS engine dumps core in VCSMutexDestroy.
1203620	For the Oracle agent, after setting "AutoEndBkup" to 1, the backup process actually did not end.
1204594	GAB takes longer time than expected time for membership in cross link.
1206153	DNS agent multiple problems on VCS 5.0 MP1.
1210437	VCS engine dumps core after running the "hares -flushinfo" command on CVMVolDg or CFSMount resources.
1250544	MultiNICB agent on HP-UX reports false failures on multiple APA interfaces.
1282209	Output from action entry point is not always visible to the caller.
1285122	Race condition for MSG_RES_DELETE followed by MSG_RES_ADD.
1296465	Unable to failover Service Group to secondary site.
1296972	CFSMount agent failure during failover tests.
1397692	VCS engine clients hang in connect() if the target node is down.

Enhancements

This section includes the changes in this release.

Enhanced DNS agent

The enhanced DNS agent now updates and monitors the host name to IP address (A, AAAA, and PTR records) in addition to the canonical name (CNAME) mapping for a DNS zone when failing over nodes across subnets. [1078411]

For more information about the DNS agent, refer to the *Veritas Cluster Server Bundled Agents Reference Guide*.

The following new attributes have been added to the DNS agent.

Attribute	Description
ResRecord	An association of DNS resource record values. Each ResRecord attribute consists of two values: *DNS record key = DNS record data*. Note that the record key must be a unique value.
	ResRecord is a required attribute.
	Type and dimension: association-scalar
	Examples:
	■ For forward mapping, where the zone is demo.symantec.com: - sles901 = "192.168.2.191" - ww2 = sles901 - sles9ip6 = "2007::1:2:3:abc"
	■ For forward mapping, where the zone is demo.symantec.com. A multi-home DNS record, typically for one host with two network interfaces, different address, but the same DNS name. This results in two A records, or a single A record with continuation lines. sle902 = "192.168.2.102 10.87.13.22"
	■ For reverse IPv4 address mapping, where the zone is 2.168.192.in-addr.arpa: 191 = "sles901.demo.symantec.com"
	■ For reverse IPv6 address mapping, where the zone is 3.0.0.0.2.0.0.0.1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.7.0.0.2.ip6.arpa: cba = "sles9ip6.demo.symantec.com"

Attribute	Description
ResRecord (continued)	The agent uses case-insensitive pattern matching—and a combination of the Domain and ResRecord attribute values—to determine the resource record type. The RR type is as follows: ■ PTR: if the Domain attribute ends with .arpa ■ A: if the record data field is four sets of numbers that are separated by periods. The following details the pattern it tries to match: [*1-223*].[*0-255*].[*0-255*].[*0-255*] Hexadecimal is not supported. ■ AAAA: if the record data fields are in multiple sets of hexadecimal format, then this is an IPv6 associated type AAAA record. ■ CNAME: for any other results. **Note:** If a name in the ResRecord attribute does not comply with RFC 1035, then a warning is issued to the log file and the ResRecord association is not used.
CreatePTR	Use the CreatePTR attribute to direct the online agent function to create PTR records for each RR of type A or AAAA. You must set the value of this attribute to true (1) to create the record. Before you can use this attribute, the same master or stealth servers must serve the forward (A or AAAA) and reverse zones. CreatePTR is an optional attribute. Type and dimension: boolean-scalar Default: 0 Example: 1
OffDelRR	Use the OffDelRR attribute to direct the offline agent function to remove all the records that the ResRecord key defines. You must set the value of this attribute to true (1) to have the agent remove all the records. The online agent function always adds records if they do not exist. OffDelRR is an optional attribute. Type and dimension: boolean-scalar Default: 0 Example: 1

Other enhancements are as follows:

1463675	Added support for Oracle 11g.
1228408	Diskgroup agent needs to fail-over even with open volumes outside of VCS control.

Known Issues

Extra definitions seen in types.cf

Extra definitions are seen in the types.cf for types HPVirtualMachine and HPVSwitch. These definitions can be ignored. [1460688]

Intentional offline attribute has incorrect value in OracleTypes.cf

Workaround: Set the IntentionalOffline attribute to zero in the OracleTypes.cf [1465604]

Documentation Errata

Veritas Cluster Server Bundled Agents Reference Guide for VCS 5.0.

Ignore the dependency mentioned for LVMVolumeGroup agent on page 28.

Documentation feedback

Your feedback on product documentation is important to us. Send suggestions for improvements and reports on errors or omissions to clustering_docs@symantec.com.

Include the title and part number of the document (located in the lower left corner of the title page), and chapter and section titles of the text on which you are reporting.

Getting help

For technical assistance, visit http://www.symantec.com/business/support/assistance_care.jsp

and select phone or email support. Select a product to use the Knowledge Base Search feature to access resources such as TechNotes, product alerts, software downloads, hardware compatibility lists, and the customer email notification service. If you encounter an error when using a product, include the error number preceding the message when contacting Technical Services. You can also use the error number to search for information in TechNotes or documents on the website.