



Sun Cluster Data Service for BroadVision One-To-One Enterprise Guide for Solaris OS

SPARC Platform Edition

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Preface

Sun Cluster Data Service for BroadVision One-To-One Enterprise Guide for Solaris OS explains how to install and configure Sun™ Cluster HA for BroadVision One-To-One Enterprise.

This document is intended for system administrators with extensive knowledge of Sun software and hardware. Do not use this document as a planning or presales guide. Before reading this document, you should have already determined your system requirements and purchased the appropriate equipment and software.

The instructions in this document assume knowledge of the Solaris™ Operating System and expertise with the volume manager software that is used with Sun Cluster.

UNIX Commands

This document contains information about commands that are specific to installing and configuring Sun Cluster data services. The document does *not* contain comprehensive information about basic UNIX® commands and procedures, such as shutting down the system, booting the system, and configuring devices. Information about basic UNIX commands and procedures is available from the following sources:

- Online documentation for the Solaris Operating System
- Solaris Operating System man pages
- Other software documentation that you received with your system

Typographic Conventions

The following table describes the typographic changes used in this book.

TABLE P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name%</code> you have mail.
AaBbCc123	What you type, contrasted with on-screen computer output	<code>machine_name%</code> su Password:
<i>AaBbCc123</i>	Command-line placeholder: replace with a real name or value	To delete a file, type rm <i>filename</i> .
<i>AaBbCc123</i>	Book titles, new words, or terms, or words to be emphasized.	Read Chapter 6 in <i>User's Guide</i> . These are called <i>class</i> options. You must be <i>root</i> to do this.

Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P-2 Shell Prompts

Shell	Prompt
C shell prompt	<code>machine_name%</code>
C shell superuser prompt	<code>machine_name#</code>
Bourne shell and Korn shell prompt	<code>\$</code>
Bourne shell and Korn shell superuser prompt	<code>#</code>

Related Documentation

Information about related Sun Cluster topics is available in the documentation that is listed in the following table. All Sun Cluster documentation is available at <http://docs.sun.com>.

Topic	Documentation
Data service administration	<i>Sun Cluster Data Services Planning and Administration Guide for Solaris OS</i> Individual data service guides
Concepts	<i>Sun Cluster Concepts Guide for Solaris OS</i>
Overview	<i>Sun Cluster Overview for Solaris OS</i>
Software installation	<i>Sun Cluster Software Installation Guide for Solaris OS</i>
System administration	<i>Sun Cluster System Administration Guide for Solaris OS</i>
Hardware administration	<i>Sun Cluster 3.x Hardware Administration Manual for Solaris OS</i> Individual hardware administration guides
Data service development	<i>Sun Cluster Data Services Developer's Guide for Solaris OS</i>
Error messages	<i>Sun Cluster Error Messages Guide for Solaris OS</i>
Command and function reference	<i>Sun Cluster Reference Manual for Solaris OS</i>

For a complete list of Sun Cluster documentation, see the release notes for your release of Sun Cluster at <http://docs.sun.com>.

Related Third-Party Web Site References

Third-party URLs that are referenced in this document provide additional related information.

Note – Sun is not responsible for the availability of third-party web sites mentioned in this document. Sun does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Sun will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

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Ordering Sun Documentation

Sun Microsystems offers select product documentation in print. For a list of documents and how to order them, see “Buy printed documentation” at <http://docs.sun.com>.

Help

If you have problems installing or using Sun Cluster, contact your service provider and provide the following information:

- Your name and email address (if available)
- Your company name, address, and phone number
- The model and serial numbers of your systems
- The release number of the Solaris Operating System (for example, Solaris 8)
- The release number of Sun Cluster (for example, Sun Cluster 3.0)

Use the following commands to gather information about each node on your system for your service provider.

Command	Function
<code>prtconf -v</code>	Displays the size of the system memory and reports information about peripheral devices
<code>psrinfo -v</code>	Displays information about processors
<code>showrev -p</code>	Reports which patches are installed
SPARC: <code>prtdiag -v</code>	Displays system diagnostic information
<code>scinstall -pv</code>	Displays Sun Cluster release and package version information

Also have available the contents of the `/var/adm/messages` file.

Installing and Configuring Sun Cluster HA for BroadVision One-To-One Enterprise

This chapter contains the procedures on how to install and configure Sun Cluster HA for BroadVision One-To-One Enterprise.

This chapter contains the following procedures.

- “How to Prevent a Server-Port Conflict” on page 18
- “How to Install and Configure Sun Cluster HA for DBMS” on page 20
- “How to Install and Configure Your HTTP Server” on page 20
- “How to Install and Configure the BroadVision One-To-One Enterprise Software” on page 20
- “How to Configure and Verify the BroadVision One-To-One Enterprise Software, Database, and HTTP Server Installation” on page 22
- “How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages Using the Web Start Program” on page 28
- “How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages by Using the `scinstall` Utility” on page 29
- “How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise” on page 33
- “How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration” on page 35
- “How to Connect the Command Center to BroadVision One-To-One Enterprise Servers” on page 36
- “Alternative Configuration: How to Configure and Verify the BroadVision One-To-One Enterprise, Database, and HTTP Server Installation” on page 40
- “Alternative Configuration: How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages” on page 45
- “Alternative Configuration: How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise” on page 45
- “Alternative Configuration: How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation” on page 47

Configure Sun Cluster HA for BroadVision One-To-One Enterprise back-end servers as a failover data service. Configure Sun Cluster HA for BroadVision One-To-One Enterprise Interaction Managers as a scalable data service. See the *Sun Cluster Concepts*

Guide for Solaris OS document and “Planning for Sun Cluster Data Services” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS* for general information about data services, resource groups, resources, and other related topics.

Sun Cluster HA for BroadVision One-To-One Enterprise Overview

Use the information in this section to understand how Sun Cluster HA for BroadVision One-To-One Enterprise makes BroadVision One-To-One Enterprise highly available.

For conceptual information on failover and scalable services, see the *Sun Cluster Concepts Guide for Solaris OS*.

Sun Cluster HA for BroadVision One-To-One Enterprise provides fault monitoring and automatic failover for the BroadVision One-To-One Enterprise servers. This data service uses fault monitoring and automatic failover to eliminate single points of failure in a BroadVision One-To-One Enterprise site.

TABLE 1 Protection of BroadVision One-To-One Enterprise Site Components

BroadVision One-To-One Enterprise site component	Protected by
BroadVision One-To-One Enterprise database	Sun Cluster HA for Oracle or Sun Cluster HA for Sybase ASE
BroadVision One-To-One Enterprise Interaction Managers	Sun Cluster HA for BroadVision One-To-One Enterprise (scalable configuration)
BroadVision One-To-One Enterprise back-end servers	Sun Cluster HA for BroadVision One-To-One Enterprise (failover configuration)
HTTP servers	Sun Cluster HA for Sun Java System Web Server or Sun Cluster HA for Apache

Task Map: Installing and Configuring Sun Cluster HA for BroadVision One-To-One Enterprise

Table 2 lists the tasks for installing and configuring Sun Cluster HA for BroadVision One-To-One Enterprise. Perform these tasks in the order that they are listed.

TABLE 2 Task Map: Installing and Configuring Sun Cluster HA for BroadVision One-To-One Enterprise

Task	For Instructions, Go To ...
Plan the BroadVision One-To-One Enterprise installation and configuration	Chapter 1 of <i>Sun Cluster Data Service for BroadVision One-To-One Enterprise Guide for Solaris OS</i> “Planning the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration” on page 14
Prepare the nodes and disks	“How to Prevent a Server-Port Conflict” on page 18
Install and configure the BroadVision One-To-One Enterprise software, the HTTP servers, and the database	“How to Install and Configure Sun Cluster HA for DBMS” on page 20 “How to Install and Configure Your HTTP Server” on page 20 “How to Install and Configure the BroadVision One-To-One Enterprise Software” on page 20 ¹ “How to Configure and Verify the BroadVision One-To-One Enterprise Software, Database, and HTTP Server Installation” on page 22
Install the Sun Cluster HA for BroadVision One-To-One Enterprise packages	“How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages Using the Web Start Program” on page 28 “How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages by Using the <code>scinstall</code> Utility” on page 29
Register and configure Sun Cluster HA for BroadVision One-To-One Enterprise	“How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise” on page 33 “How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration” on page 35
Connect the Command Center to BroadVision One-To-One Enterprise servers	“How to Connect the Command Center to BroadVision One-To-One Enterprise Servers” on page 36
View Sun Cluster HA for BroadVision One-To-One Enterprise fault monitor information	“Operation of the Sun Cluster HA for BroadVision One-To-One Enterprise Fault Monitor” on page 48
View BroadVision One-To-One Enterprise functionality	“BroadVision One-To-One Enterprise Functionality” on page 50

¹ To configure Sun Cluster HA for BroadVision One-To-One Enterprise back-end servers to use one failover resource group with *n* logical hostnames, proceed to “Alternative Configuration” on page 40. Follow the procedures that are listed in “Alternative Configuration” on page 40 to complete the installation. Otherwise, continue to “How to Configure and Verify the BroadVision One-To-One Enterprise Software, Database, and HTTP Server Installation” on page 22.

Planning the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration

This section contains the information you need to plan your Sun Cluster HA for BroadVision One-To-One Enterprise installation and configuration.

Configuration Restrictions



Caution – Your data service configuration might not be supported if you do not observe these restrictions.

Use the restrictions in this section to plan the installation and configuration of Sun Cluster HA for BroadVision One-To-One Enterprise. This section provides a list of software and hardware configuration restrictions that apply to Sun Cluster HA for BroadVision One-To-One Enterprise.

For restrictions that apply to all data services, see the *Sun Cluster Release Notes for Solaris OS*.

- Use a BroadVision One-To-One Enterprise software version that is qualified with your release of Sun Cluster.

Configuration Requirements



Caution – Your data service configuration might not be supported if you do not adhere to these requirements.

Use the requirements in this section to plan the installation and configuration of Sun Cluster HA for BroadVision One-To-One Enterprise. These requirements apply to Sun Cluster HA for BroadVision One-To-One Enterprise only. You must meet these requirements before you proceed with your Sun Cluster HA for BroadVision One-To-One Enterprise installation and configuration.

For requirements that apply to all data services, see “Identifying Data Service Special Requirements” on page 3.

- Install the BroadVision One-To-One Enterprise software on the cluster file system.
- Create a BroadVision user that is identical on all of the cluster nodes.
- Install all of the necessary patches that are supplied by BroadVision to enable the BroadVision One-To-One Enterprise software to run in the Sun Cluster environment.
- Configure the Interaction Managers, back-end servers, and root hosts in the `$BV1TO1_VAR/etc/bv1to1.conf` configuration file, as shown in [“Standard Data Service Configurations”](#) on page 15.
- Start your database before you start the BroadVision One-To-One Enterprise servers.

Standard Data Service Configurations

Use the standard configurations in this section to plan the installation and configuration of Sun Cluster HA for BroadVision One-To-One Enterprise. Sun Cluster HA for BroadVision One-To-One Enterprise supports the standard configurations in this section. Sun Cluster HA for BroadVision One-To-One Enterprise might support additional configurations. However, you must contact your Enterprise Services representative for information on additional configurations.

- [“Cluster With Multiple Resource Groups for the BroadVision One-To-One Enterprise Software”](#) on page 15
- [“Alternative Configuration: Cluster With One Resource Group for the BroadVision One-To-One Enterprise Back-End and Root Host Servers”](#) on page 16

For all of the supported configurations, set up your highly available database and HTTP server to match [“Sun Cluster HA for DBMS and HTTP Server Configuration”](#) on page 15.

Sun Cluster HA for DBMS and HTTP Server Configuration

Configure Sun Cluster HA for DBMS and HTTP server as follows.

- Configure Sun Cluster HA for Oracle or Sun Cluster HA for Sybase ASE to use a logical hostname.
- Configure Sun Cluster HA for Sun Java System Web Server or Sun Cluster HA for Apache to use a logical hostname (for failover configuration) or to use a shared address (for scalable configuration).

Cluster With Multiple Resource Groups for the BroadVision One-To-One Enterprise Software

Configure the BroadVision One-To-One Enterprise root host, back-end, and Interaction Manager processes as follows.

- Configure the root host resource to use one logical hostname in one resource group.
- Configure back-end resources to use the remaining logical hostnames in multiple resource groups.
- Configure the Interaction Manager resource on one of the following locations.
 - All of the cluster nodes.
 - All of the cluster private hostnames. See the *Sun Cluster Software Installation Guide for Solaris OS* for details on cluster interconnect and private hostnames.

Figure 1 illustrates a sample configuration that meets these guidelines.

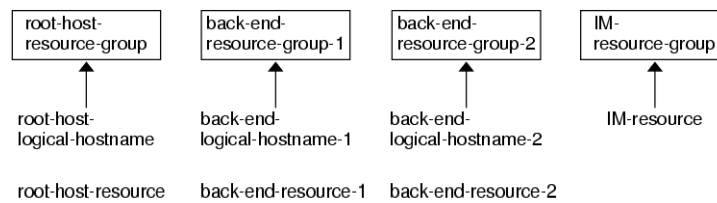


FIGURE 1 Sample Configuration: Cluster With Three Logical Hostnames Configured Into Separate Resource Groups

Note – Configure Interaction Manager resources on all of the cluster nodes or on all of the cluster private hostnames. If you configure the Interaction Managers on all of the cluster private hostnames, set up the HTTP servers on the same cluster. Alternatively, if you configure the Interaction Managers on all of the cluster nodes, the HTTP servers can be set up outside of the cluster.

Alternative Configuration: Cluster With One Resource Group for the BroadVision One-To-One Enterprise Back-End and Root Host Servers

Depending on the flexibility and granularity of administration that you require for each back-end resource, you can configure Sun Cluster HA for BroadVision One-To-One Enterprise back-end servers to use only one resource group. To set up this alternative configuration, configure the BroadVision One-To-One Enterprise root host, back-end, and Interaction Manager processes as follows.

- Configure root host and all of the back-end resources to use n logical hostnames inside of the same failover resource group.
- Configure the Interaction Manager resource on one of the following locations.
 - All of the cluster nodes.

- All of the cluster private hostnames. See the *Sun Cluster Software Installation Guide for Solaris OS* for details on cluster interconnect and private hostnames.

This configuration, which [Figure 2](#) illustrates, requires alternative steps. See “[Alternative Configuration](#)” on [page 40](#) for more information.

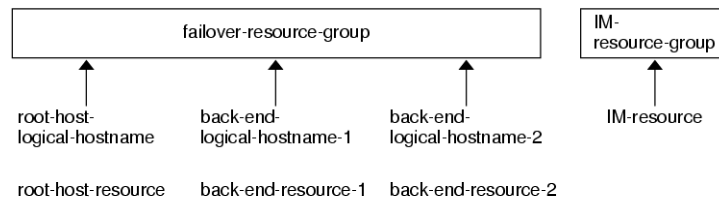


FIGURE 2 Sample Configuration: Cluster With Three Logical Hostnames Configured Into One Resource Group

Note – Configure Interaction Manager resources on all of the cluster nodes or on all of the cluster private hostnames. If you configure the Interaction Managers on all of the cluster private hostnames, set up the HTTP servers on the same cluster. Alternatively, if you configure the Interaction Managers on all of the cluster nodes, the HTTP servers can be set up outside of the cluster.

Configuration Considerations

Use the information in this section to plan the installation and configuration of Sun Cluster HA for BroadVision One-To-One Enterprise. The information in this section encourages you to think about the impact your decisions have on the installation and configuration of Sun Cluster HA for BroadVision One-To-One Enterprise.

- **BroadVision user home directory** – Create an identical BroadVision user (*bvuser*) on all of the cluster nodes. Place the BroadVision user home directory on the cluster file system. Direct all of the BroadVision users on all of the cluster nodes to the same home directory.
- **BroadVision One-To-One Enterprise software** – Install the BroadVision One-To-One Enterprise software on the cluster file system so that all of the cluster nodes can access the same BroadVision One-To-One Enterprise binaries and configuration files.

Configuration Planning Questions

Use the questions in this section to plan the installation and configuration of Sun Cluster HA for BroadVision One-To-One Enterprise. Insert the answers to these questions into the data service worksheets in the “Configuration Worksheets” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*. See “Configuration Considerations” on page 17 for information that might apply to these questions.

- Will you run Sun Cluster HA for BroadVision One-To-One Enterprise as a failover or as a scalable data service?
- If you run Sun Cluster HA for BroadVision One-To-One Enterprise as a scalable service, what nodes will host the scalable service?
- What resource groups will you use for network addresses and application resources and the dependencies between them?
- What is the logical hostname (for failover services) or shared address (for scalable services) for clients that will access the data service?
- Where will the system configuration files reside?

See “Determining the Location of the Application Binaries” on page 3 of the *Sun Cluster Data Service for BroadVision One-To-One Enterprise Guide for Solaris OS* for the advantages and disadvantages of placing the BroadVision One-To-One Enterprise binaries on the local file system as opposed to the cluster file system.

Preparing the Nodes and Disks

This section contains the procedures you need to prepare the nodes and disks.

▼ How to Prevent a Server-Port Conflict

Use this procedure to prepare for the installation and configuration of Sun Cluster HA for BroadVision One-To-One Enterprise.

By default, the `orbix` daemon chooses an available port number that the `IT_DAEMON_SERVER_BASE` and `IT_DAEMON_SERVER_RANGE` properties specify for use by a server that the daemon launches. When a client attempts to connect to a server for the first time, the client asks the `orbix` daemon for the port number. Then the client connects to the port that the `orbix` daemon specifies. If failover occurs after the client asks the `orbix` daemon for the port number but before the client connects to that port, the client might connect to the wrong server.

This procedure provides you two options to prevent a server-port conflict.

1. Which option do you prefer?

- Configure the `IT_LOCAL_SERVER_BASE` property for each host
If yes, proceed to [Step 2](#)
- Add the `iiop_port` parameter to each process entry in the `bv1to1.conf` file
If yes, skip to [Step 3](#)

2. Configure the `IT_LOCAL_SERVER_BASE` property for each host so that ports that the `orbix` daemon assigns on different nodes will never overlap. For example, if you configure BroadVision One-To-One Enterprise servers and the Interaction Manager to run on cluster nodes A, B, and C, the `bv1to1.conf` file will have the following entries.

```
export
...
IT_DAEMON_SERVER_RANGE = "200";
...
site bv
{
...
node A {
export IT_LOCAL_SERVER_BASE = "1300";
...
}
node B {
export IT_LOCAL_SERVER_BASE = "1500";      # 1300 + 200
...
}
node C {
export IT_LOCAL_SERVER_BASE = "1700";      # 1500 + 200
...
}
...
}
```

3. Add the `iiop_port` parameter to each process entry in the `bv1to1.conf` file, and ensure that no two server-port entries conflict. The `iiop_port` is an undocumented parameter of the BroadVision One-To-One Enterprise server that specifies which port a server should use. For example, the following process entry defines the `cntdb` server on port 1305.

```
process cntdb { parameter iiop_port = "1305"; }
```

C++ CORBA servers support the `iiop_port` parameter. For Java servers, you must upgrade to BroadVision One-To-One Enterprise 6.0AB or later versions.

Installing and Configuring the BroadVision One-To-One Enterprise Software, the Database, and the HTTP Server

This section contains the procedures you need to install and configure the BroadVision One-To-One Enterprise software, the database software, the HTTP software.

How to Install and Configure Sun Cluster HA for DBMS

See *Sun Cluster Data Service for Oracle Guide for Solaris OS* to install Sun Cluster HA for Oracle or *Sun Cluster Data Service for Sybase ASE Guide for Solaris OS* to install Sun Cluster HA for Sybase ASE.

How to Install and Configure Your HTTP Server

If Sun Java System Web Server is your HTTP server, follow the instructions in *Sun Cluster Data Service for Sun Java System Web Server for Solaris OS* to configure Sun Cluster HA for Sun Java System Web Server. If Apache Web Server is your HTTP server, follow the instructions in *Sun Cluster Data Service for Apache for Solaris OS* to configure Sun Cluster HA for Apache.

▼ How to Install and Configure the BroadVision One-To-One Enterprise Software

Use this procedure to install and configure the BroadVision One-To-One Enterprise software and how to enable the BroadVision One-To-One Enterprise software to run in the Sun Cluster environment.

1. **Follow the guidelines that are listed in “Planning the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration” on page 14 and “Configuration Considerations” on page 17.**
2. **Follow the instructions in the *BroadVision One-To-One Enterprise Installation and Administration Guide* to install the BroadVision One-To-One Enterprise software on the cluster file system.**

Note – Install the BroadVision One-To-One Enterprise software only once, on the cluster file system, from any cluster node.

3. Configure the `$BV1TO1_VAR/etc/bv1to1.conf` file.

Table 3 summarizes possible configurations in the `$BV1TO1_VAR/etc/bv1to1.conf` file for the BroadVision One-To-One Enterprise components. See “Standard Data Service Configurations” on page 15 and the instructions in the *BroadVision One-To-One Enterprise Installation and Administration Guide* for details.

TABLE 3 Configuring the `$BV1TO1_VAR/etc/bv1to1.conf` File

BroadVision One-To-One Enterprise component	Where to configure
Root host	Logical hostname
Back-end servers	Logical hostname
Interaction Managers	All of the cluster nodes or all of the cluster private hostnames ¹

¹ See the *Sun Cluster Software Installation Guide for Solaris OS* for details on cluster interconnect and private hostnames.

Note – If you configure the Interaction Managers on all of the cluster private hostnames, set up the HTTP servers on the same cluster. Alternatively, if you configure the Interaction Managers on all of the cluster nodes, the HTTP servers can be set up outside of the cluster.

Note – Configure your cluster so that BroadVision One-To-One Enterprise back-end servers can access the database from any cluster node.

Where to Go From Here

Depending on the flexibility and granularity of administration that you require for each back-end resource, you can set up your failover resource groups in one of the following ways.

- Set up multiple failover resource groups to use multiple logical hostnames. If you plan to use this option, go to “How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration” on page 35.

- Set up one failover resource group to use n logical hostnames and to contain all of the back-end and root host resources. If you plan to use this option, proceed to “Alternative Configuration” on page 40 and follow the procedures in that section to complete the installation.

Note – See “Standard Data Service Configurations” on page 15 for more information.

▼ How to Configure and Verify the BroadVision One-To-One Enterprise Software, Database, and HTTP Server Installation

Use this procedure to test starting and stopping the back-end processes on all of the nodes on which the back-end host and root host can run in a failover configuration. Additionally, perform this procedure to test the BroadVision One-To-One Enterprise Interaction Managers that you configured in the cluster.

Depending on the flexibility and granularity of administration that you require for each back-end resource, you can set up your failover resource groups in one of the following ways.

- Set up multiple failover resource groups to use multiple logical hostnames. If you plan to use this option, proceed to [Step 1](#).
- Set up one failover resource group to use n logical hostnames and to contain all of the back-end and root host resources. If you plan to use this option, go to “Alternative Configuration” on page 40 and follow the procedures in that section to complete the installation.

Note – See “Standard Data Service Configurations” on page 15 for more information.

1. To contain the BroadVision One-To-One Enterprise root host resource, create a failover resource group that uses the root host logical hostname.

```
# scrgadm -a -g root-host-resource-group [-h nodelist]
```

-g *root-host-resource-group* Specifies the name of the resource group that uses the root host logical hostname and contains the BroadVision root host resource. The name of the root host resource group can be your choice but must be unique for resource groups within the cluster.

[-h *nodelist*] Specifies an optional, comma-separated list of physical node names or IDs that identify potential masters. The order here determines the order in

which the Resource Group Manager (RGM) considers primary nodes during failover.

2. Create failover resource groups for the root host and back-end processes.

Run the `scrgadm(1M)` command to configure n failover resource groups for back-end processes that are configured on n logical hostnames.

```
# scrgadm -a -g back-end-resource-group-1 [-h nodelist]
# scrgadm -a -g back-end-resource-group-2 [-h nodelist]
# scrgadm -a -g back-end-resource-group-3 [-h nodelist]
...
# scrgadm -a -g back-end-resource-group-n [-h nodelist]
```

`-g back-end-resource-group` Specifies the name of the resource group that contains the back-end logical hostname and resource. The name of the back-end resource group can be your choice but must be unique for resource groups within the cluster.

3. Verify that you have added all of the logical hostnames that you use to your name service database.

Additionally, add all of the logical hostnames that you use to the `/etc/inet/hosts` file on each cluster node. Therefore, if the name service goes down, the nodes can still find the name-to-address mapping on their local hosts file.

4. Run the `scrgadm` command to add the logical hostname that each of the resource groups that you have created can use.

```
# scrgadm -a -L -g root-host-resource-group -l root-host-logical-hostname-1 [-n netiflist]
# scrgadm -a -L -g back-end-resource-group-1 -l back-end-logical-hostname-1 [-n netiflist]
# scrgadm -a -L -g back-end-resource-group-2 -l back-end-logical-hostname-2 [-n netiflist]
...
# scrgadm -a -L -g back-end-resource-group-n -l back-end-logical-hostname-n [-n netiflist]
```

`-l root-host-logical-hostname` Specifies the logical hostname (failover IP address) that the root host resource group uses.

`-l back-end-logical-hostname` Specifies the logical hostname that each back-end resource group uses.

`[-n netiflist]` Specifies an optional, comma-separated list that identifies the IP Networking Multipathing groups that are on each node. Each element in `netiflist` must be in the form of `netif@node`. `netif` can be given as an IP Networking Multipathing group name, such as `sc_ipmp0`. The node can be identified by the node name or node ID, such as `sc_ipmp0@1` or `sc_ipmp0@phys-schost-1`.

Note – Sun Cluster does not currently support using the adapter name for `netif`.

5. Create a scalable resource group for the Interaction Managers.

```
# scrgadm -a -g im-resource-group -y Maximum primaries=m -y Desired primaries=n
    -g im-resource-group           Specifies the name of the scalable resource group
                                     that contains the Interaction Managers. This name
                                     can be your choice but must be unique for
                                     resource groups within the cluster.
    -y Maximum primaries=m         Specifies the maximum number of active primary
                                     nodes allowed for this resource group. If you do
                                     not assign a value to this property, the default is
                                     1.
    -y Desired primaries=n         Specifies the desired number of active primary
                                     nodes allowed for this resource group. If you do
                                     not assign a value to this property, the default is
                                     1.
```

6. From one cluster node, run the `scswitch(1M)` command to move the failover resource groups into the managed state and bring them online.

```
# scswitch -Z -g root-host-resource-group
# scswitch -Z -g back-end-resource-group-1
# scswitch -Z -g back-end-resource-group-2
...
# scswitch -Z -g back-end-resource-group-n
```

Note – You do not need to bring the scalable resource group online because the scalable resource group does not yet contain resources. You must bring failover resource groups online because the BroadVision One-To-One Enterprise back-end processes cannot start if the logical hostname resource is unavailable.

7. Check that the database is accessible.

See your database documentation for details.

8. Ensure that you have configured the database to enable BroadVision One-To-One Enterprise back-end servers to access the database from any cluster node.

See your database documentation for details.

9. As the BroadVision user, log in to the cluster node that hosts the root host resource group.

10. Follow the steps in the *BroadVision One-To-One Enterprise Installation and Administration Guide* to run the following BroadVision commands.

- a. Set the `BV_LOCAL_HOST` environment variable as *root-host-logical-hostname*.
- b. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.
- c. Run the `bvconf bootstrap` command on the root host to initialize the BroadVision One-To-One Enterprise installation.

Note – Do not run the `bvconf` command as superuser.

```
% bvconf bootstrap -r root-host-logical-hostname
```

- d. Set the `BV_LOCAL_HOST` environment variable as *back-end-logical-hostname* or *im-hostname*.
- e. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.
- f. Ensure that the `/etc/opt/BVSNsmgr` directory exists and has write and execute permissions.
- g. For each back-end host and Interaction Manager host, run the `bvconf execute` command to configure and start the BroadVision One-To-One Enterprise processes.

```
% bvconf execute -local -var shared -r root-host-logical-hostname
```

11. Run the BroadVision command `bvconf gateway` to generate gateway configuration files for the HTTP gateway applications.

This command generates the files and writes them to the `$(BV1TO1_VAR)/etc/appName.cfg` file.

```
% bvconf gateway -A appName
```

`-A appName` Specifies the gateway application name, which is defined in the `$(BV1TO1_VAR)/etc/bv1to1.conf` configuration file. See the *BroadVision One-To-One Enterprise Installation and Administration Guide* for details.

12. Copy the gateway application configuration file to the `/etc/opt/BVSNsmgr` directory on each of the cluster nodes that runs HTTP instances.

Note – Ensure that you copy the gateway application configuration file with the extension `.cfg`.

See the *BroadVision One-To-One Enterprise Installation and Administration Guide* for details.

13. Configure and start the HTTP servers.

See your HTTP server documentation for details. Additionally, see the *BroadVision One-To-One Enterprise Installation and Administration Guide* for information on HTTP server configuration.

14. From a BroadVision client, connect to the BroadVision site, and check the installation.

15. If the BroadVision One-To-One Enterprise software is functioning correctly, perform the following steps to shut down the Interaction Managers, back-end processes, and root host processes.

a. Shut down the Interaction Managers.

- i. Set the `BV_LOCAL_HOST` environment variable as *im-hostname*.
- ii. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.
- iii. Run the following command.

```
# bvconf shutdown -local
```

b. Shut down the back-end processes.

- i. Set the `BV_LOCAL_HOST` environment variable as *back-end-logical-hostname-n*.
- ii. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.
- iii. Run the following command.

```
# bvconf shutdown -local
```

c. Shut down the root host processes.

- i. Set the `BV_LOCAL_HOST` environment variable as *root-host-logical-hostname*.
- ii. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.

iii. Run the following command.

```
# bvconf shutdown -local
```

16. Run the `scswitch` command to switch the resource groups to another cluster node, such as `node2`.

```
# scswitch -z -g root-host-resource-group -h node2
# scswitch -z -g back-end-resource-group-1 -h node2
# scswitch -z -g back-end-resource-group-2 -h node2
...
# scswitch -z -g back-end-resource-group-n -h node2
```

17. Restart the BroadVision One-To-One Enterprise software on `node2`.

18. Connect to the cluster from a BroadVision client, and check that the BroadVision One-To-One Enterprise software functions correctly.

19. Repeat [Step 15](#) through [Step 18](#) on all of the potential primaries of the BroadVision One-To-One Enterprise resource groups.

Where to Go From Here

After you verify the BroadVision One-To-One Enterprise software, database, and HTTP server installation, go to [“Installing the Sun Cluster HA for BroadVision One-To-One Enterprise Package”](#) on page 27.

Installing the Sun Cluster HA for BroadVision One-To-One Enterprise Package

If you did not install the BroadVision One-To-One Enterprise packages during your initial Sun Cluster installation, perform this procedure to install the packages. Perform this procedure on each cluster node where you are installing the BroadVision One-To-One Enterprise packages. To complete this procedure, you need the Sun Java Enterprise System Accessory CD Volume 3.

If you are installing more than one data service simultaneously, perform the procedure in *“Installing the Software”* in *Sun Cluster Software Installation Guide for Solaris OS*.

Install the BroadVision One-To-One Enterprise packages by using one of the following installation tools:

- The Web Start program
- The `scinstall` utility

Note – The Web Start program is *not* available in releases earlier than Sun Cluster 3.1 Data Services 10/03.

▼ How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages Using the Web Start Program

You can run the Web Start program with a command-line interface (CLI) or with a graphical user interface (GUI). The content and sequence of instructions in the CLI and the GUI are similar. For more information about the Web Start program, see the `installer(1M)` man page.

1. **On the cluster node where you are installing the BroadVision One-To-One Enterprise packages, become superuser.**
2. **(Optional) If you intend to run the Web Start program with a GUI, ensure that your `DISPLAY` environment variable is set.**
3. **Load the Sun Java Enterprise System Accessory CD Volume 3 into the CD-ROM drive.**

If the Volume Management daemon `vold(1M)` is running and configured to manage CD-ROM devices, it automatically mounts the CD-ROM on the `/cdrom/cdrom0` directory.

4. **Change to the BroadVision One-To-One Enterprise component directory of the CD-ROM.**

The Web Start program for the BroadVision One-To-One Enterprise data service resides in this directory.

```
# cd /cdrom/cdrom0/\
components/SunCluster_HA_BV_3.1
```

5. **Start the Web Start program.**

```
# ./installer
```
6. **When you are prompted, select the type of installation.**
 - To install only the C locale, select Typical.
 - To install other locales, select Custom.

7. Follow instructions on the screen to install the BroadVision One-To-One Enterprise packages on the node.

After the installation is finished, the Web Start program provides an installation summary. This summary enables you to view logs that the Web Start program created during the installation. These logs are located in the `/var/sadm/install/logs` directory.

8. Exit the Web Start program.

9. Unload the Sun Java Enterprise System Accessory CD Volume 3 from the CD-ROM drive.

a. To ensure that the CD-ROM is not being used, change to a directory that does *not* reside on the CD-ROM.

b. Eject the CD-ROM.

```
# eject cdrom
```

Where to Go From Here

When you finish the Sun Cluster HA for BroadVision One-To-One Enterprise package installation, go to [“How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise”](#) on page 33.

▼ How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages by Using the `scinstall` Utility

1. Load the Sun Java Enterprise System Accessory CD Volume 3 into the CD-ROM drive.

2. Run the `scinstall` utility with no options.

This step starts the `scinstall` utility in interactive mode.

3. Choose the menu option, Add Support for New Data Service to This Cluster Node.

The `scinstall` utility prompts you for additional information.

4. Provide the path to the Sun Java Enterprise System Accessory CD Volume 3.

The utility refers to the CD as the “data services cd.”

5. Specify the data service to install.

The `scinstall` utility lists the data service that you selected and asks you to confirm your choice.

6. Exit the `scinstall` utility.
7. Unload the CD from the drive.

Where to Go From Here

When you finish the Sun Cluster HA for BroadVision One-To-One Enterprise package installation, go to [“How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise”](#) on page 33.

Registering and Configuring Sun Cluster HA for BroadVision One-To-One Enterprise

This section contains the procedures you need to configure Sun Cluster HA for BroadVision One-To-One Enterprise.

Sun Cluster HA for BroadVision One-To-One Enterprise Extension Properties

Use the extension properties in [Table 4](#) to create your resources. Use the command line `scrgadm -x parameter=value` to configure extension properties when you create your resource. Use the procedure in *“Administering Data Service Resources”* in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS* to configure the extension properties if you have already created your resources. You can update some extension properties dynamically. You can update others, however, only when you create or disable a resource. The Tunable entries indicate when you can update each property. See *“Standard Properties”* in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS* for details on all Sun Cluster properties.

TABLE 4 Sun Cluster HA for BroadVision One-To-One Enterprise Extension Properties

Property Category	Property Name	Description
BroadVision One-To-One Enterprise configuration	BVUSER	The BroadVision user UNIX ID. Replace <i>bvuser</i> with your preferred username. Default: None Tunable: At creation
	BV1TO1_VAR	The environment variable that is set as <i>bvuser</i> . Default: None Tunable: At creation

TABLE 4 Sun Cluster HA for BroadVision One-To-One Enterprise Extension Properties
(Continued)

Property Category	Property Name	Description
Probe	Monitor_retry_interval	The time (in minutes) over which the Resource Group Manager (RGM) counts fault monitor failures. The number of times that the fault monitor fails can exceed the value that the extension property Monitor_retry_count specifies. If the number of failures exceeds the value of Monitor_retry_count within the time period that Monitor_retry_interval specifies, the Process Monitor Facility (PMF) does not restart the fault monitor. Default: 2 Tunable: Any time
	Monitor_retry_count	The number of PMF restarts that the Sun Cluster software allows for the fault monitor. Default: 4 Tunable: Any time
	Probe_timeout	The time-out value in seconds for the probes. Default: 180 Tunable: Any time

TABLE 4 Sun Cluster HA for BroadVision One-To-One Enterprise Extension Properties
(Continued)

Property Category	Property Name	Description
Daemons	START_ORB_SERVERS	Type Boolean. By default, the data service starts the orbix daemon and all of the BroadVision daemons in the resource. The orbix daemon starts the orbix servers whenever needed. If you want the data service to start the orbix servers, set this property to TRUE. Default: FALSE Tunable: Any time

▼ How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise

Use this procedure to register and configure Sun Cluster HA for BroadVision One-To-One Enterprise.

Note – Before you start Sun Cluster HA for BroadVision One-To-One Enterprise, check that your database is accessible.

1. Shut down all of the BroadVision One-To-One Enterprise servers, including the root host, back-end, and Interaction Manager servers.

Note – Perform this step after you test the BroadVision One-To-One Enterprise installation.

2. Run the `ps(1)` command to check that all of the BroadVision One-To-One Enterprise processes and the orbix daemon (`orbixd`) are stopped on all of the cluster nodes.
3. Become superuser on one cluster node.

4. Run the `scrgadm` command to register the resource type for Sun Cluster HA for BroadVision One-To-One Enterprise.

```
# scrgadm -a -t SUNW.bv
```

- a Adds the resource type for the data service.
- t SUNW.bv Specifies the resource type name that is predefined for your data service.

5. Run the `scrgadm` command to create the root host, back-end, and Interaction Manager resources.

- a. Create root host and back-end resources in the failover resource groups that you created in Step 2 of “How to Configure and Verify the BroadVision One-To-One Enterprise Software, Database, and HTTP Server Installation” on page 22.

Note – The `bvuser` and `BV1TO1_VAR` should be the same for all of the resources.

```
# scrgadm -a -j root-host-resource -g root-host-resource-group -t SUNW.bv -x BVUSER=bvuser
-x BV1TO1_VAR=path-to-bv1to1_var-directory
# scrgadm -a -j back-end-resource-1 -g back-end-resource-group-1 -t SUNW.bv -x BVUSER=bvuser
-x BV1TO1_VAR=path-to-bv1to1_var-directory
# scrgadm -a -j back-end-resource-2 -g back-end-resource-group-2 -t SUNW.bv -x BVUSER=bvuser
-x BV1TO1_VAR=path-to-bv1to1_var-directory
...
# scrgadm -a -j back-end-resource-n -g back-end-resource-group-n -t SUNW.bv -x BVUSER=bvuser
-x BV1TO1_VAR=path-to-bv1to1_var-directory
```

- j *root-host-resource* Specifies the name of the root host resource.
- x *BVUSER=bvuser* Specifies your BroadVision username.
- x *BV1TO1_VAR=path-to-bv1to1_var-directory* Specifies the path to the \$`BV1TO1_VAR` directory.
- j *back-end-resource-n* Specifies the name of the back-end resource.

b. Create the Interaction Manager resource in the scalable resource group.

Note – The `bvuser` and `BV1TO1_VAR` should be the same for all of the resources.

```
# scrgadm -a -j im-resource -g im-resource-group -t SUNW.bv -x BVUSER=bvuser /
-x BV1TO1_VAR=path-to-bv1to1_var-directory
```

-j *im-resource* Specifies the name of the Interaction Manager resource.

6. Run the `scswitch` command to enable and bring online the resource groups that now include the BroadVision One-To-One Enterprise resources.

```
# scswitch -Z -g root-host-resource-group
# scswitch -Z -g back-end-resource-group-1
# scswitch -Z -g back-end-resource-group-2
...
# scswitch -Z -g back-end-resource-group-n
# scswitch -Z -g im-resource-group
```

▼ How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration

Use this procedure to verify that you installed and configured Sun Cluster HA for BroadVision One-To-One Enterprise correctly.

1. From a web browser, log in to an application that you have configured with the BroadVision One-To-One Enterprise software.
2. Log in to the node that hosts the root host resource group.
3. Become the BroadVision user.
4. Shut down the root host processes.
 - a. Set the `BV_LOCAL_HOST` environment variable as *root-host-logical-hostname*.
 - b. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.
 - c. Run the following BroadVision command.

```
# bvconf shutdown -local
```

Note – The Sun Cluster HA for BroadVision One-To-One Enterprise fault monitors will restart the root host.

5. Ensure that your web browser connection to BroadVision One-To-One Enterprise is still active.
6. Run the `scswitch` command to switch the root host resource group to another cluster node, such as *node2*.

```
# scswitch -z -g root-host-resource-group -h node2
```

7. Ensure that your web browser connection to BroadVision One-To-One Enterprise is still active.
8. Repeat [Step 2](#) through [Step 7](#) for each back-end resource group.

Where to Go From Here

You have completed your Sun Cluster HA for BroadVision One-To-One Enterprise installation and configuration. See the following sections for supplemental information.

- “Examples – Installing, Configuring, and Administering Sun Cluster HA for BroadVision One-To-One Enterprise” on page 37
- “Sun Cluster HA for BroadVision One-To-One Enterprise Extension Properties” on page 30
- “Operation of the Sun Cluster HA for BroadVision One-To-One Enterprise Fault Monitor” on page 48
- “BroadVision One-To-One Enterprise Functionality” on page 50

▼ How to Connect the Command Center to BroadVision One-To-One Enterprise Servers

Use this procedure to connect the Command Center to BroadVision One-To-One Enterprise servers that are configured on a cluster. This procedure provides you two options to connect the Command Center to BroadVision One-To-One Enterprise servers.

1. **Which option do you prefer?**
 - Force the Dynamic Control Center (DCC) to use POOP instead of IIOP
If yes, proceed to [Step 2](#)
 - Set the `IT_LOCAL_ADDR_LIST` property to include the IP addresses of all of the cluster nodes and logical hostnames
If no, skip to [Step 3](#)
2. **Force the Dynamic Control Center (DCC) to use POOP instead of IIOP. To do so, set the value of the `My Computer/HKEY_CURRENT_USER/Software/BroadVision/Dynamic Control Center/4.2/Options/Use IIOP Windows registry` entry to 0.**
3. **Set the `IT_LOCAL_ADDR_LIST` property to include the IP addresses of all of the cluster nodes and logical hostnames that will run the `orbix` daemon.**

Example - Connecting Command Center to Sun Cluster HA for BroadVision One-To-One Enterprise

This example uses the following sample IP addresses to add to the `bv1to1.conf` file.

```
root host          10.10.102.225
back-end host     10.10.102.226
Interaction Manager host 10.10.102.222
Interaction Manager host 10.10.102.223
```

Based on these sample IP addresses, add the following line to the `bv1to1.conf` file, under the global `export` section, before the `IT_DAEMON_PORT` property.

```
IT_LOCAL_ADDR_LIST = "127.0.0.1"
                    + "10.10.102.222"
                    + "10.10.102.223"
                    + "10.10.102.225"
                    + "10.10.102.226"
                    ;
```

Note – DCC cannot recover from a failover. Contact BroadVision One-To-One Enterprise support for more information.

Examples – Installing, Configuring, and Administering Sun Cluster HA for BroadVision One-To-One Enterprise

“[Example One – Installation and Configuration](#)” on page 38 and “[Example Two – Administration Commands](#)” on page 39 show how to install, configure, and administer Sun Cluster HA for BroadVision One-To-One Enterprise. The following tables list cluster information and BroadVision One-To-One Enterprise configuration information. This information applies to both of the examples.

TABLE 5 Examples – Cluster Information

Node names	<code>phys-schost-1, phys-schost-2</code>
Logical hostnames	<code>schost-1, schost-2</code>

TABLE 5 Examples – Cluster Information (Continued)

Resource groups	root-host-resource-group (for root host resources), back-end-resource-group (for back-end resources), im-resource-group (for Interaction Manager resources)
Resources	root-host-resource (the BroadVision root host resource), back-end-resource (the BroadVision back-end resource), im-resource (BroadVision Interaction Manager resource)

TABLE 6 Examples – BroadVision Configuration Information

BV User	BVUSER (on all of the cluster nodes)
BV1TO1_VAR directory	/global/broadvision/bvuser/bv1to1_var
Root host	schost-1
Back-end host	schost-2
Interaction Manager 1	phys-schost-1
Interaction Manager 2	phys-schost-2

Example One – Installation and Configuration

This example illustrates how to install and configure the data service.

(Register the BroadVision resource type.)

```
phys-schost-1:> scrgadm -a -t SUNW.bv
```

(Create failover resource groups for the back-end and root host processes.)

```
phys-schost-1:> scrgadm -a -g root-host-resource-group
```

```
phys-schost-1:> scrgadm -a -g back-end-resource-group
```

(Create a scalable resource group for the Interaction Manager processes.)

```
phys-schost-1:> scrgadm -a -g im-resource-group -y Maximum primaries=2 /  
-y Desired primaries=2
```

(Add logical hostnames to the failover resource groups.)

```
phys-schost-1:> scrgadm -a -L -g root-host-resource-group -l schost-1
```

```
phys-schost-1:> scrgadm -a -L -g back-end-resource-group -l schost-2
```

(Create root host, back-end, and Interaction Manager resources.)

```
phys-schost-1:> scrgadm -a -j root-host-resource -g root-host-resource-group /
```

```
-t SUNW.bv -x BVUSER=bvuser -x BV1TO1_VAR=/global/broadvision/bvuser/bv1to1_var
```

```
phys-schost-1:> scrgadm -a -j back-end-resource -g back-end-resource-group /
```

```
-t SUNW.bv -x BVUSER=bvuser -x BV1TO1_VAR=/global/broadvision/bvuser/bv1to1_var
```

```
phys-schost-1:> scrgadm -a -j im-resource -g im-resource-group -t SUNW.bv /
```

```
-x BVUSER=bvuser -x BV1TO1_VAR=/global/broadvision/bvuser/bv1to1_var
```

(Bring all of the resource groups online.)

```
phys-schost-1:> scswitch -Z -g root-host-resource-group
```

```
phys-schost-1:> scswitch -Z -g back-end-resource-group
phys-schost-1:> scswitch -Z -g im-resource-group
```

Example Two – Administration Commands

This example lists some common administration commands that you might wish to run.

(Check the status of the resource groups.)

```
phys-schost-1:> scstat -g
```

(Note: All of the BroadVision Interaction Manager 1, root host, and back-end processes should run on phys-schost-1. Interaction Manager 2 processes must run on phys-schost-2.)

(Test failover. Switch the root-host-resource-group and the back-end-resource-group to another node.)

```
phys-schost-1:> scswitch -z -g root-host-resource-group -h phys-schost-2
phys-schost-1:> scswitch -z -g back-end-resource-group -h phys-schost-2
```

(Note: All of the BroadVision root host and back-end processes should now run on phys-schost-2.)

(Because the Maximum and Desired primaries are set to 2, the Interaction Manager runs on the two cluster nodes. Shut down Interaction Manager 2, which runs on phys-schost-2.)

```
phys-schost-1:> scswitch -z -g im-resource-group -h phys-schost-1
```

(Shut down all of the resource groups.)

```
phys-schost-1:> scswitch -F -g root-host-resource-group
phys-schost-1:> scswitch -F -g back-end-resource-group
phys-schost-1:> scswitch -F -g im-resource-group
```

(Remove and disable all of the BroadVision resources and resource groups.)

```
phys-schost-1:> scswitch -n -j root-host-resource
phys-schost-1:> scswitch -n -j back-end-resource
phys-schost-1:> scswitch -n -j im-resource
phys-schost-1:> scswitch -n -j schost-1
phys-schost-1:> scswitch -n -j schost-2
phys-schost-1:> scrgadm -r -j root-host-resource
phys-schost-1:> scrgadm -r -j back-end-resource
phys-schost-1:> scrgadm -r -j im-resource
phys-schost-1:> scrgadm -r -j schost-1
phys-schost-1:> scrgadm -r -j schost-2
phys-schost-1:> scrgadm -r -j root-host-resource-group
phys-schost-1:> scrgadm -r -j back-end-resource-group
phys-schost-1:> scrgadm -r -j im-resource-group
```

(Remove the resource type.)

```
phys-schost-1:> scrgadm -r -t SUNW.bv
```

Alternative Configuration

Depending on the flexibility and granularity of administration that you require for each back-end resource, you can set up only one failover resource group to use *n* logical hostnames and to contain all of the back-end and root host resources.

Note – See “Alternative Configuration: Cluster With One Resource Group for the BroadVision One-To-One Enterprise Back-End and Root Host Servers” on page 16 for an illustration of this alternative configuration.

To set up this alternative configuration, perform the following procedures.

- “Alternative Configuration: How to Configure and Verify the BroadVision One-To-One Enterprise, Database, and HTTP Server Installation” on page 40
- “Alternative Configuration: How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages” on page 45
- “Alternative Configuration: How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise” on page 45
- “Alternative Configuration: How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation” on page 47

Note – With these procedures, you set up two resource groups. One failover resource group contains root host and back-end resources. One scalable resource group contains the Interaction Manager resource. Throughout the alternative configuration procedures, the failover resource group that contains root host and back-end resources is denoted as *failover-resource-group*.

▼ Alternative Configuration: How to Configure and Verify the BroadVision One-To-One Enterprise, Database, and HTTP Server Installation

Perform this procedure to test starting and stopping the back-end processes on all of the nodes on which the back-end host and root host can run in a failover configuration. Additionally, perform this procedure to test the BroadVision One-To-One Enterprise Interaction Managers that you configured in the cluster.

1. **Create a failover resource group to contain the BroadVision One-To-One Enterprise back-end and root host resources.**


```
# scrgadm -a -g failover-resource-group [-h nodelist]
    -g failover-resource-group    Specifies the name of the resource group that contains
                                  the back-end and root host logical hostnames and
                                  resources. The name of the failover resource group
                                  can be your choice but must be unique for resource
                                  groups within the cluster.
    [-h nodelist]                Specifies an optional, comma-separated list of
                                  physical node names or IDs that identify potential
                                  masters. The order here determines the order in
                                  which the Resource Group Manager (RGM) considers
                                  primary nodes during failover.
```

2. Verify that you have added all of the logical hostnames that you use to your name service database.

Additionally, add all of the logical hostnames that you use to the `/etc/inet/hosts` file on each cluster node. Therefore, if the name service goes down, the nodes can still find the name-to-address mapping on their local hosts file.

3. Run the `scrgadm(1M)` command to add the logical hostnames that the failover resource group will use.

```
# scrgadm -a -L -g failover-resource-group -l root-host-logical-hostname-1 [-n netiflist]
# scrgadm -a -L -g failover-resource-group -l back-end-logical-hostname-1 [-n netiflist]
# scrgadm -a -L -g failover-resource-group -l back-end-logical-hostname-2 [-n netiflist]
...
# scrgadm -a -L -g failover-resource-group -l back-end-logical-hostname-n [-n netiflist]
    -l root-host-logical-hostname    Specifies the logical hostname that the root host
                                      resource uses.
    -l back-end-logical-hostname-n    Specifies the logical hostname that each back-end
                                      resource uses.
    [-n netiflist]                  Specifies an optional, comma-separated list that
                                      identifies the IP Networking Multipathing groups
                                      that are on each node. The netiflist must represent
                                      all of the nodes in the resource group's nodelist. If
                                      you do not specify this option, the scrgadm
                                      command attempts to discover a network adapter
                                      on the subnet that the hostname list identifies for
                                      each nodelist node.
```

4. Create a scalable resource group for the Interaction Managers.

```
# scrgadm -a -g im-resource-group -y Maximum primaries=n -y Desired primaries=n
```

<code>-g im-resource-group</code>	Specifies the name of the scalable resource group that contains the Interaction Managers. This name can be your choice but must be unique for resource groups within the cluster.
<code>-y Maximum primaries=<i>m</i></code>	Specifies the maximum number of active primary nodes allowed for this resource group. If you do not assign a value to this property, the default is 1.
<code>-y Desired primaries=<i>n</i></code>	Specifies the desired number of active primary nodes allowed for this resource group. If you do not assign a value to this property, the default is 1.

5. **From one cluster node, run the `scswitch(1M)` command to move the failover resource group into the managed state and bring it online.**

```
# scswitch -z -g failover-resource-group
```

Note – You do not need to bring the scalable resource group online because the scalable resource group does not yet contain resources. You must bring the failover resource group online because the BroadVision One-To-One Enterprise back-end processes cannot start if the logical hostname resource is unavailable.

6. **Check that the database is accessible.**
See your database documentation for details.
7. **Ensure that you have configured the database to enable BroadVision One-To-One Enterprise back-end servers to access the database from any cluster node.**
See your database documentation for details.
8. **As the BroadVision user, log in to the cluster node that hosts the failover resource group.**
9. **Follow the steps in the *BroadVision One-To-One Enterprise Installation and Administration Guide* to run the following BroadVision commands.**
 - a. **Set the `BV_LOCAL_HOST` environment variable as *root-host-logical-hostname*.**
 - b. **Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.**
 - c. **Run the `bvconf bootstrap` command on the root host to initialize the BroadVision One-To-One Enterprise installation.**

Note – Do not run the `bvconf` command as superuser.

```
% bvconf bootstrap -r root-host-logical-hostname
```

- d. Set the `BV_LOCAL_HOST` environment variable as *back-end-logical-hostname* or *im-hostname*.
- e. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.
- f. For each back-end host and Interaction Manager host, run the `bvconf execute` command to configure and start the BroadVision One-To-One Enterprise installation.

```
% bvconf execute -local -var shared -r root-host-logical-hostname
```

10. Run the BroadVision command `bvconf gateway` to generate gateway configuration files for the HTTP gateway applications.

This command generates the files and writes them to the `$BV1TO1_VAR/etc/appName.cfg` file.

```
% bvconf gateway -A appName
```

`-A appName` Specifies the gateway application name, which is defined in the `$BV1TO1_VAR/etc/bv1to1.conf` configuration file. See the *BroadVision One-To-One Enterprise Installation and Administration Guide* for details.

11. Copy the gateway application configuration file to the `/etc/opt/BVSNsmgr` directory on each of the cluster nodes that runs HTTP instances.

Note – Ensure that you copy the gateway application configuration file with the extension `.cfg`.

See the *BroadVision One-To-One Enterprise Installation and Administration Guide* for details.

12. Configure and start the HTTP servers.

See your HTTP server documentation for details. Additionally, see the *BroadVision One-To-One Enterprise Installation and Administration Guide* for information on HTTP server configuration.

13. From a BroadVision client, connect to the BroadVision site, and check the installation.

14. If the BroadVision One-To-One Enterprise software is functioning correctly, perform the following steps to shut down the Interaction Managers, back-end processes, and root host processes.

a. Shut down the Interaction Managers.

i. Set the `BV_LOCAL_HOST` environment variable as *im-hostname*.

ii. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.

iii. Run the following command.

```
# bvconf shutdown -local
```

b. Shut down the back-end processes.

i. Set the `BV_LOCAL_HOST` environment variable as *back-end-logical-hostname-n*.

ii. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.

iii. Run the following command.

```
# bvconf shutdown -local
```

c. Shut down the root host processes.

i. Set the `BV_LOCAL_HOST` environment variable as *root-host-logical-hostname*.

ii. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.

iii. Run the following command.

```
# bvconf shutdown -local
```

15. Run the `scswitch` command to switch the failover resource group to another cluster node, such as *node2*.

```
# scswitch -z -g failover-resource-group -h node2
```

16. Restart the BroadVision One-To-One Enterprise software.

17. Connect to the cluster from a BroadVision client, and check that the BroadVision One-To-One Enterprise software functions correctly.

18. Repeat [Step 15](#) through [Step 18](#) on all of the potential primaries of the BroadVision One-To-One Enterprise resource groups.

▼ Alternative Configuration: How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages

Use this procedure to install the Sun Cluster HA for BroadVision One-To-One Enterprise packages. You need the Sun Java Enterprise System Accessory CD Volume 3 to perform this procedure. This procedure assumes that you did not install the data service packages during your initial Sun Cluster installation. If you installed the Sun Cluster HA for BroadVision One-To-One Enterprise packages as part of your initial Sun Cluster installation, proceed to [“Alternative Configuration: How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise”](#) on page 45 to install and configure Sun Cluster HA for BroadVision One-To-One Enterprise. Otherwise, use this procedure to install the Sun Cluster HA for BroadVision One-To-One Enterprise packages. Perform this procedure on all nodes that can run Sun Cluster HA for BroadVision One-To-One Enterprise.

1. **Load the Sun Java Enterprise System Accessory CD Volume 3 into the CD-ROM drive.**
2. **Run the `scinstall` utility with no options.**
This step starts the `scinstall` utility in interactive mode.
3. **Choose the menu option, Add Support for New Data Service to This Cluster Node.**
The `scinstall` utility prompts you for additional information.
4. **Provide the path to the Sun Java Enterprise System Accessory CD Volume 3.**
The utility refers to the CD as the “data services cd.”
5. **Specify the data service to install.**
The `scinstall` utility lists the data service that you selected and asks you to confirm your choice.
6. **Exit the `scinstall` utility.**
7. **Unload the CD from the drive.**

▼ Alternative Configuration: How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise

To register and configure Sun Cluster HA for BroadVision One-To-One Enterprise, perform the following steps.

Note – Before you start Sun Cluster HA for BroadVision One-To-One Enterprise, check that your database is accessible.

1. **Shut down all of the BroadVision One-To-One Enterprise servers, including the root host, back-end, and Interaction Manager servers.**

Note – Perform this step after you test the BroadVision One-To-One Enterprise installation.

2. **Run the `ps(1)` command to check that all of the BroadVision One-To-One Enterprise processes and the `orbix` daemon (`orbixd`) are stopped on all of the cluster nodes.**
3. **Become superuser on one cluster node.**
4. **Run the `scrgadm` command to register the resource type for Sun Cluster HA for BroadVision One-To-One Enterprise.**

```
# scrgadm -a -t SUNW.bv
```

-a Adds the resource type for the data service.

-t `SUNW.bv` Specifies the resource-type name that is predefined for your data service.

5. **Run the `scrgadm` command to create the root host, back-end, and Interaction Manager resources.**

- a. **Set the `Network_resources_used` property for each resource to point to the proper logical hostname.**

If you created two or more back-end resources in one resource group, and you do not set the `Network_resources_used` property, the validate method will fail.

```
# scrgadm -a -j root-host-resource -g failover-resource-group -t SUNW.bv
-y Network_resources_used=root-host-logical-hostname -x BVUSER=bvuser
-x BV1TO1_VAR=path-to-bv1to1_var-directory
# scrgadm -a -j back-end-resource-1 -g failover-resource-group -t SUNW.bv
-y Network_resources_used=back-end-logical-hostname-1 -x BVUSER=bvuser
-x BV1TO1_VAR=path-to-bv1to1_var-directory
...
# scrgadm -a -j back-end-resource-n -g failover-resource-group -t SUNW.bv
-y Network_resources_used=back-end-logical-hostname-n -x BVUSER=bvuser
-x BV1TO1_VAR=path-to-bv1to1_var-directory
```

-j <i>root-host-resource</i>	Specifies the name of the root host resource.
-x <i>BVUSER=bvuser</i>	Specifies your BroadVision username.
-x <i>BV1TO1_VAR=path-to-bv1to1_var-directory</i>	Specifies the path to the \$BV1TO1_VAR directory.
-j <i>back-end-resource-n</i>	Specifies the name of the back-end resource.

Note – You should have created all of the logical hostnames that were defined in the `Network_resource_used` property in the failover resource group (see Step 3 of the procedure, “Alternative Configuration: How to Configure and Verify the BroadVision One-To-One Enterprise, Database, and HTTP Server Installation” on page 40).

- b. Create the Interaction Manager resource in the scalable resource group that you created in Step 4 of the procedure, “Alternative Configuration: How to Configure and Verify the BroadVision One-To-One Enterprise, Database, and HTTP Server Installation” on page 40.

```
# scrgadm -a -j im-resource -g im-resource-group -t SUNW.bv
```

```
-x BVUSER=bvuser -x BV1TO1_VAR=path-to-bv1to1_var-directory
```

```
-j im-resource    Specifies the name of the Interaction Manager resource.
```

6. Run the `scswitch` command to enable the resource group that now includes the BroadVision One-To-One Enterprise back-end and root host resources.

```
# scswitch -Z -g failover-resource-group
```

```
# scswitch -Z -g im-resource-group
```

▼ Alternative Configuration: How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation

Perform the following steps to verify the Sun Cluster HA for BroadVision One-To-One Enterprise installation.

1. From a web browser, log in to an application that you have configured with the BroadVision One-To-One Enterprise software.
2. Log in to the node that hosts the failover resource group.

3. Become the BroadVision user.
4. Shut down the root host processes.
 - a. Set the `BV_LOCAL_HOST` environment variable as *root-host-logical-hostname*.
 - b. Source the `bv1to1.conf.sh` file or the `bv1to1.conf.csh` file, depending on the shell that you use.
 - c. Run the following BroadVision command.

```
# bvconf shutdown -local
```

Note – The Sun Cluster HA for BroadVision One-To-One Enterprise fault monitors will restart the root host.

5. Ensure that your web browser connection to BroadVision One-To-One Enterprise is still active.
6. Run the `scswitch` command to switch the failover resource group to another cluster node, such as *node2*.

```
# scswitch -z -g failover-resource-group -h node2
```
7. Ensure that your web browser connection to BroadVision One-To-One Enterprise is still active.

Operation of the Sun Cluster HA for BroadVision One-To-One Enterprise Fault Monitor

The Sun Cluster HA for BroadVision One-To-One Enterprise fault monitor checks BroadVision One-To-One Enterprise back-end and Interaction Manager process health. BroadVision One-To-One Enterprise process health impacts BroadVision One-To-One Enterprise resources' failure history, which in turn drives the fault monitor's actions. For each BroadVision One-To-One Enterprise resource, fault monitor actions include no action, restart, or failover.

Interaction Manager Fault Monitoring

For Interaction Manager resources, failover happens only when both of the following conditions are met.

- The value of the desired primaries is less than the value of the maximum primaries.
- One of the nodes is unavailable.

After failover, the fault monitor will not restart the resource on any cluster node if both of the following conditions occur.

- The values of the maximum primaries and desired primaries of the Interaction Manager resource group are the same.
- The fault monitor has completed restarting the Interaction Manager resource the number of times that the `Retry_count` property specifies.

Sun Cluster HA for BroadVision One-To-One Enterprise Fault Probes

The fault monitors for each BroadVision One-To-One Enterprise resource (root host, back-end host, and Interaction Manager host) monitor the following processes.

- **The `orbix` daemon (`orbixd`), which is common for all of the BroadVision One-To-One Enterprise resources** – The probes use the `ps(1)` command to ensure that `orbixd` is functioning. If `orbixd` is not functioning, the probe considers the failure as complete, and the Resource Group Manager (RGM) restarts the `orbix` daemon.

The `orbix` daemon is started with the checkpoint feature. Therefore, the BroadVision One-To-One Enterprise servers, which the previous instance of `orbixd` started, continue to run with the new instance of `orbixd`.

- **The BroadVision One-To-One Enterprise daemons that you have configured in the resource** – If `orbixd` is healthy, the probe uses the BroadVision command `bvconf ps` to ensure that the BroadVision One-To-One Enterprise daemons are functioning. If BroadVision One-To-One Enterprise daemons are not functioning, the RGM restarts the resource, which restarts all of the configured daemons.

BroadVision One-To-One Enterprise Functionality

This section contains information on expected behavior with Sun Cluster HA for BroadVision One-To-One Enterprise.

- **The One-To-One database fails and the back-end hosts fail over** – If the database fails and the back-end hosts fail over before the database comes back online, the BroadVision One-To-One Enterprise resources cannot come online on any cluster node. When you successfully restart the database, start the BroadVision One-To-One Enterprise resources again.
- **The hosts in the startup order are offline** – BroadVision One-To-One Enterprise resources must be started in a particular order. The BroadVision command `bvconf bootstrap` lists this order. If both of the following conditions occur, the BroadVision One-To-One Enterprise processes that are configured on the hostname in the resource group will not start.
 - Any of the resources in the startup order are offline.
 - You start a BroadVision One-To-One Enterprise resource that is listed after the offline resources in the startup order.

If both of these conditions occur, the resource group will come online, but the processes will not start. The probe will wait for the resource group in the startup order to come online before the probe starts the BroadVision One-To-One Enterprise processes for this resource.

- **The BroadVision and Oracle resource groups fail over at the same time** – If you use Oracle, and the BroadVision One-To-One Enterprise backend resource groups and the Oracle resource group fail over at the same time, some BroadVision daemons might fail to restart. These daemons will fail to restart while the Oracle database is restarting. The BroadVision One-To-One Enterprise resource will attempt to restart the failed daemons until it succeeds.

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