



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 (Solaris OS) 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 that are used in this book.

TABLE P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen 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 onscreen computer output	<code>machine_name%</code> su Password:
<i>AaBbCc123</i>	Command-line placeholder: replace with a real name or value	The command to remove a file is <code>rm filename</code> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . Perform a <i>patch analysis</i> . Do <i>not</i> save the file. [Note that some emphasized items appear bold online.]

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>

TABLE P-2 Shell Prompts (Continued)

Shell	Prompt
Bourne shell and Korn shell superuser prompt	#

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 3.0-3.1 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.

Documentation, Support, and Training

Sun Function	URL	Description
Documentation	http://www.sun.com/documentation/	Download PDF and HTML documents, and order printed documents
Support and Training	http://www.sun.com/supporttraining/	Obtain technical support, download patches, and learn about Sun courses

Product Training

Sun Microsystems offers training in many Sun technologies through a variety of instructor-led courses and self-paced courses. For information about the training courses that Sun offers and to enroll in a class, visit Sun Microsystems Training at <http://training.sun.com/>.

Getting 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 sections.

- “Sun Cluster HA for BroadVision One-To-One Enterprise Overview” on page 12
- “Overview of the Installation and Configuration Process for Sun Cluster HA for BroadVision One-To-One Enterprise” on page 12
- “Planning the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration” on page 14
- “Preparing the Nodes and Disks” on page 18
- “Installing and Configuring the BroadVision One-To-One Enterprise Software, the Database, and the HTTP Server” on page 20
- “Installing the Sun Cluster HA for BroadVision One-To-One Enterprise Packages” on page 27
- “Registering and Configuring Sun Cluster HA for BroadVision One-To-One Enterprise” on page 30
- “Examples – Installing, Configuring, and Administering Sun Cluster HA for BroadVision One-To-One Enterprise” on page 35
- “Alternative Configuration” on page 37
- “Tuning the Sun Cluster HA for BroadVision One-To-One Enterprise Fault Monitor” on page 46
- “Troubleshooting BroadVision One-To-One Enterprise Behavior” 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 Chapter 1, “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 Enterprisesite component	Protected by
BroadVision One-To-One Enterprisesite database	Sun Cluster HA for Oracle or Sun Cluster HA for Sybase ASE
BroadVision One-To-One EnterpriseInteraction Managers	Sun Cluster HA for BroadVision One-To-One Enterprise (scalable configuration)
BroadVision One-To-One Enterprisesite 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

Overview of the Installation and Configuration Process for Sun Cluster HA for BroadVision One-To-One Enterprise

The table below 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	Cross-Reference
Plan the BroadVision One-To-One Enterprise installation and configuration	"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	<p>"How to Install and Configure Sun Cluster HA for DBMS" on page 20</p> <p>"How to Install and Configure Your HTTP Server" on page 20</p> <p>"How to Install and Configure the BroadVision One-To-One Enterprise Software" on page 20</p> <p>Determine if you want to configure Sun Cluster HA for BroadVision One-To-One Enterprise back-end servers to use one failover resource group with <i>n</i> logical hostnames.</p> <ul style="list-style-type: none"> ■ If so, proceed to "Alternative Configuration" on page 37. ■ Otherwise, continue to "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	<p>"How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages Using the Web Start Program" on page 28</p> <p>"How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages by Using the <code>scinstall</code> Utility" on page 29</p>
Register and configure Sun Cluster HA for BroadVision One-To-One Enterprise	<p>"How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise" on page 30</p> <p>"How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation and Configuration" on page 32</p>
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 33
Tuning the Sun Cluster HA for BroadVision One-To-One Enterprise fault monitor	"Tuning the Sun Cluster HA for BroadVision One-To-One Enterprise Fault Monitor" on page 46

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

Task	Cross-Reference
Troubleshooting BroadVision One-To-One Enterprise	“Troubleshooting BroadVision One-To-One Enterprise Behavior” on page 47

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

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

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.

- 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.

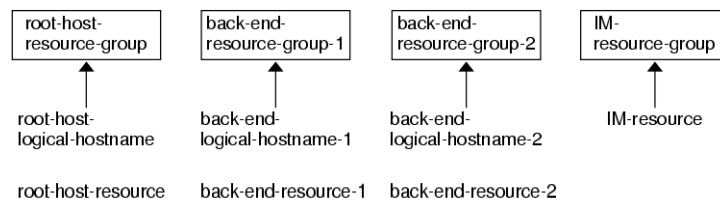
- Configure Sun Cluster HA for Oracle or Sun Cluster HA for Sybase ASE to use a logical hostname.
- Configure Sun Cluster HA for Sun Java System Web Server or Sun Cluster HA for Apache to use a logical hostname (for failover configuration) or to use a shared address (for scalable configuration).

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.

The figure below illustrates a sample configuration that meets these guidelines. the figure shows a 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.

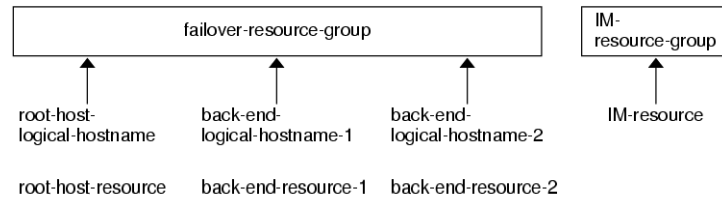
Alternative Configuration: Cluster With One Resource Group for the BroadVision One-To-One Enterprise Back-End and Root Host Servers

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.

The figure below shows a cluster with three logical hostnames configured into one resource group. This configuration requires alternative steps. See “[Alternative Configuration](#)” on page 37 for more information.



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.

Steps 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.

- Steps**
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.

The following table 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.

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.

Next Steps 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 32.
- 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 37 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 37 and follow the procedures in that section to complete the installation.

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

- Steps**
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_ipmp@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.

Next Steps 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 Packages”](#) on page 27.

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

If you did not install the Sun Cluster HA for 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 Sun Cluster HA for BroadVision One-To-One Enterprise packages. To complete this procedure, you need the Sun Cluster Agents CD.

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 Sun Cluster HA for BroadVision One-To-One Enterprise packages by using one of the following installation tools:

- The Web Start program
- The `scinstall` utility

Note – If you are using Solaris 10, install these packages *only* in the global zone. To ensure that these packages are not propagated to any local zones that are created after you install the packages, use the `scinstall` utility to install these packages. Do *not* use the Web Start program.

▼ 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.

- Steps**
- 1. On the cluster node where you are installing the Sun Cluster HA for 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. Insert the Sun Cluster Agents CD 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 Sun Cluster HA for BroadVision One-To-One Enterprise component directory of the CD-ROM.**

The Web Start program for the Sun Cluster HA for 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 the instructions on the screen to install the Sun Cluster HA for 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. Remove the Sun Cluster Agents CD 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
```

Next Steps Go to “Registering and Configuring Sun Cluster HA for BroadVision One-To-One Enterprise” on page 30.

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

Perform this procedure on all of the cluster members that can master Sun Cluster HA for BroadVision One-To-One Enterprise.

Before You Begin Ensure that you have the Sun Cluster Agents CD.

- Steps**
1. **Load the Sun Cluster Agents CD into the CD-ROM drive.**
 2. **Run the `scinstall` utility with no options.**
This step starts the `scinstall` utility in interactive mode.
 3. **Select 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 Cluster Agents CD.**
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.**

Next Steps Go to “Registering and Configuring Sun Cluster HA for BroadVision One-To-One Enterprise” on page 30.

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.

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

The sections that follow contain instructions for registering and configuring resources. For information about the Sun Cluster HA for BroadVision One-To-One Enterprise extension properties, see [Appendix A](#). The Tunable entry indicates when you can update a property.

To set an extension property of a resource, include the following option in the `scrgadm (1M)` command that creates or modifies the resource:

`-x property=value`

`-x property`

Identifies the extension property that you are setting

`value`

Specifies the value to which you are setting the extension property

You can also use the procedures in Chapter 2, “Administering Data Service Resources,” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS* to configure resources after the resources are created.

▼ 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.

- Steps**
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.

- Steps**
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.

Next Steps 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 35
- [“Setting Sun Cluster HA for BroadVision One-To-One Enterprise Extension Properties”](#) on page 30
- [“Tuning the Sun Cluster HA for BroadVision One-To-One Enterprise Fault Monitor”](#) on page 46
- [“Troubleshooting BroadVision One-To-One Enterprise Behavior”](#) on page 47

▼ 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.

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

- Steps** 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 1 - 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"
                    ;
```

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

“Example One – Installation and Configuration” on page 35 and “Example Two – Administration Commands” on page 36 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 3 Examples – Cluster Information

Node names	phys-schost-1, phys-schost-2
Logical hostnames	schost-1, schost-2
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 4 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/bt1to1_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/bt1to1_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/bt1to1_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 38
- “Alternative Configuration: How to Install Sun Cluster HA for BroadVision One-To-One Enterprise Packages” on page 42
- “Alternative Configuration: How to Register and Configure Sun Cluster HA for BroadVision One-To-One Enterprise” on page 43
- “Alternative Configuration: How to Verify the Sun Cluster HA for BroadVision One-To-One Enterprise Installation” on page 45

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.

Steps 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 http-server-logical-hostname-1 [-n netiflist]
```

```

-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=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.

```

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 Cluster Agents CD 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 43](#) 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.

- Steps**
1. Load the Sun Cluster Agents CD 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 Cluster Agents CD.
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.

- Steps**
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 *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.

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 38).

- 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 38.**

```
# 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 `sctest` command to enable the resource group that now includes the BroadVision One-To-One Enterprise back-end and root host resources.**

```
# sctest -Z -g failover-resource-group  
# sctest -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.

- Steps**
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.

---

# Tuning 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 the health of the BroadVision One-To-One Enterprise back-end and Interaction Manager processes. The health of these processes impacts the failure history of the BroadVision One-To-One Enterprise resources, 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.

The Sun Cluster HA for BroadVision One-To-One Enterprise fault monitor is contained in a resource whose resource type is `SUNW.bv`.

System properties and extension properties of the resource control the behavior of the fault monitor. The default values of these properties determine the preset behavior of the fault monitor. The preset behavior should be suitable for most Sun Cluster installations. Therefore, you should tune the Sun Cluster HA for BroadVision One-To-One Enterprise fault monitor *only* if you need to modify this preset behavior.

Tuning the Sun Cluster HA for BroadVision One-To-One Enterprise fault monitor involves the following tasks:

- Setting the interval between fault monitor probes
- Setting the timeout for fault monitor probes
- Defining the criteria for persistent faults
- Specifying the failover behavior of a resource

Information about the Sun Cluster HA for BroadVision One-To-One Enterprise fault monitor that you need to perform these tasks is provided in the subsections that follow.

Tune the Sun Cluster HA for BroadVision One-To-One Enterprise fault monitor when you register and configure Sun Cluster HA for BroadVision One-To-One Enterprise. For more information, see ["Registering and Configuring Sun Cluster HA for BroadVision One-To-One Enterprise"](#) on page 30.

For detailed information, see *"Tuning Fault Monitors for Sun Cluster Data Services"* in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*.

## Operation of the 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.

## Operation of the Fault Monitor 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.

---

## Troubleshooting BroadVision One-To-One Enterprise Behavior

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 back-end 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.



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

---

This section describes the extension properties for the resource type `SUNW.bv`. This resource type represents the BroadVision One-To-One Enterprise application in a Sun Cluster configuration.

For details about system-defined properties, see the `r_properties(5)` man page and the `rg_properties(5)` man page.

The extension properties of the `SUNW.bv` resource type are as follows:

#### `BVUSER`

The BroadVision user UNIX ID. Replace *bvuser* with your preferred username.

|                  |                    |
|------------------|--------------------|
| <b>Data type</b> | String             |
| <b>Default</b>   | No default defined |
| <b>Range</b>     | Not applicable     |
| <b>Tunable</b>   | At creation        |

#### `BV1TO1_VAR`

The environment variable that is set as *bvuser*

|                  |                    |
|------------------|--------------------|
| <b>Data type</b> | String             |
| <b>Default</b>   | No default defined |
| <b>Range</b>     | Not applicable     |
| <b>Tunable</b>   | At creation        |

#### `Monitor_retry_count`

The number of PMF restarts that the Sun Cluster software allows for the fault monitor.

|                  |                |
|------------------|----------------|
| <b>Data type</b> | Integer        |
| <b>Default</b>   | 4              |
| <b>Range</b>     | None specified |

**Tunable** At any time

`Monitor_retry_interval`

The time (in minutes) over which the Resource Group Manager (RGM) counts fault monitor failures. 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.

**Data type** Integer

**Default** 2

**Range** None specified

**Tunable** At any time

`Probe_timeout`

The timeout value in seconds for the probes.

**Data type** Integer

**Default** 180

**Range** None specified

**Tunable** At any time

`START_ORB_SERVERS`

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`.

**Data type** Boolean

**Default** `FALSE`

**Range** Not applicable

**Tunable** At any time

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