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# GVP Deployment Guide

Reporting Server High Availability

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# Reporting Server High Availability

This appendix describes how to configure both the Genesys Voice Platform (GVP) Reporting Server hosts and the Configuration Database to achieve High Availability (HA) on both Windows and Linux operating systems. It contains the following sections:

- [Overview](#)
- [Reporting Server High Availability Segregated Solution](#)
- [Reporting Server High Availability Shared Solution](#)

## Overview

Configure the Reporting Server for high availability by using one of two models the Shared Storage Solution or the Segregated Solution:

- **Shared Storage Solution** Both instances of the Reporting Server are connected to a shared storage solution, but only one instance has exclusive access to the ActiveMQ data message store (receive, queue, and, dequeue data from Reporting Clients).
- **Segregated Solution** Each instance of the Reporting Server uses an independent ActiveMQ data message store. However, only the server that is designated as primary activates its message store.

For more information about how the Reporting Server works when it is configured for HA, see [High Availability and Scalability](#).

## Additional Considerations

When the Reporting Server is configured to provide High Availability, the following should be considered:

For a Segregated Solution:

- When a Reporting Server fails, the data remaining in its queue is not made available for reporting purposes until the next time that the Reporting Server gains Primary status.

For a Shared Storage Solution:

- When the ActiveMQ message store is clustered, the ActiveMQ broker does not start if another Reporting Server in the cluster is in primary mode (holding an exclusive lock on the message store). The inactive Reporting Server in the cluster is considered to be in backup mode.
- The two-node HA Shared Solution uses Windows Clustering for Windows Server 2003. Before you begin setting up the this HA solution, Genesys recommends that administrators read the Microsoft document [Guide to Creating and Configuring a Server Cluster Under Windows Server 2003](#) specifically, the section

that describes how to set up the two-node cluster.

- The tasks that are described in the HA Shared Solution Task Summary are based on the assumption that a Direct-Attached Storage (DAS) disk array is the device that is being used for shared storage; however, a Storage Area Network (SAN) or other similar shared file system can be used.
- Ensure that the two HA servers have identical hardware and that each server has two network interface cards (NIC).
- The Reporting Servers that are used in the cluster must be dedicated servers, and they must not be installed with any of the other GVP components. In addition, the DBMS host that is used by the Reporting Server must be installed on a separate host.

**For a Segregated or Shared Solution:**

- If the primary server fails and switchover occurs, up to five (5) minutes of VAR summary data might be lost because the VAR data is held in memory and the JVM heap is not currently clustered or replicated. (This does not occur when the switchover is done manually.)
- When you are creating the Reporting Server Applications, use the same template (version) for both objects.
- In the Server Info section of both Reporting Server Applications:
  - Specify the host.
  - In the Listening Port field, enter the default port number (61616).

**Tip**

The tasks that are described in the HA Segregated Solution and HA Shared Solution Task Summaries begin with the assumption that the Reporting Server database and the prerequisites for both of the Reporting Servers in the solution are installed. For more information about the Reporting Server prerequisites, see [Prerequisites](#).

## Reporting Server High Availability Segregated Solution

Complete the tasks that are required to setup and configure a two-node HA Segregated Solution for the Reporting Server.

**Task Summary: Configuring a Reporting Server High Availability Segregated Solution**

Objectives	Related Procedures and Actions
<b>Install the first Reporting Server</b>	This server is known as RS_Server1. 1. For the VP Reporting Server Parameters, enter the information for the Reporting

Objectives	Related Procedures and Actions
	Server database: <ul style="list-style-type: none"> <li>• DB Server Host</li> <li>• DB Server Port typically 1433</li> <li>• Database Name</li> <li>• User Name</li> <li>• Password</li> </ul>
<b>Install the second Reporting Server</b>	This server is known as RS_Server2.  2. For the VP Reporting Server Parameters, enter the information for the Reporting Server database (use the same database as for RS_Server1): <ul style="list-style-type: none"> <li>• DB Server Host</li> <li>• DB Server Port typically 1433</li> <li>• Database Name</li> <li>• User Name</li> <li>• Password</li> </ul>
<b>Create the connections</b>	3. Connect the Resource Manager, Media Control Platform, and Call Control Platform to the Reporting Server RS_Server1. See <a href="#">Procedure: Creating a Connection to a Server</a> .
<b>Configure the backup server</b>	4. In the Server Info section of the RS_Server1 Application, enter RS_Server2 in the Backup Server field.

## Reporting Server High Availability Shared Solution

Complete the tasks below to set up and configure a two-node HA Shared Solution for the Reporting Server.

### Task Summary: Configuring a Reporting Server High Availability Shared Solution

Objectives	Related Procedures and Actions
<b>Complete the preliminary setup</b>	1. Install the DBMS server either Microsoft SQL or Oracle 11g on a host that is separate from the Reporting Server host.  See <a href="#">Configuring the Reporting Server Database</a> .  2. Install the Reporting Server on two hosts with Windows Server 2003 Enterprise

Objectives	Related Procedures and Actions
	<p>Edition, Service Pack 2 (or a similar OS with cluster support). See <a href="#">Installing GVP with the Deployment Wizard</a>. Ensure that the drive letter and the path to the installation directory are the same on both servers.</p> <p>3. On each of the two Reporting Server hosts, designate a shared drive for the Quorum disk and a separate shared drive for the JMS data directory. The Quorum disk is described in the the Microsoft document <a href="#">Guide to Creating and Configuring a Server Cluster Under Windows Server 2003</a>.</p>
<b>Create and install a cluster</b>	<p>4. Use the two Reporting Server hosts to install a two-node Windows Cluster as described in the the Microsoft document <a href="#">Guide to Creating and Configuring a Server Cluster Under Windows Server 2003</a>.</p> <p>0. Configure the cluster by first creating the shared disk resources (one for the Quorum disk and one for the JMS data directory).</p> <p>a. Assign the shared disk resources to the same Cluster Resource group.</p> <p>b. Take note of the cluster host name. It will be entered as the Host for the first Reporting Server Application for the cluster. See Steps 1 and 2 in the <a href="#">Configure the hosts in Genesys Administrator</a> section of this table.</p> <p>c. When you are setting up the cluster, if you receive a message that the Quorum disk cannot be located, refer to Article IDs 888025 and 331801 on the Microsoft support website for more information.</p>
<b>Create a generic cluster application</b>	<p>5. Using the New Resource Wizard in Windows Cluster Administrator, create a generic application for the Reporting Server.</p> <p>0. Obtain the command-line arguments and the path to the Reporting Server installation directory from the properties of the Reporting Server Application in Genesys Administrator:</p> <p>0. On the Provisioning tab, select <b>Environment &gt; Applications</b>.</p> <p>i. Double-click the Reporting Server Application you want to view.</p> <p>ii. On the Configuration tab, find the command-line arguments and the path to the installation directory in the Server Info section.</p> <p>a. In Cluster Administrator console tree, open the Groups folder.</p> <p>b. In the details pane, click the group that owns the shared disk to be used for the JMS data.</p> <p>c. From the File menu, select New &gt; Resource.</p> <p>d. In the New Resource Wizard, enter the following information:</p> <ul style="list-style-type: none"> <li>• <b>Name</b> Enter Reporting Server.</li> <li>• <b>Description</b> Enter a description that identifies the Reporting Server.</li> <li>• <b>Resource type</b> Select generic application resource type.</li> <li>• <b>Group</b> Select the group with the shared disks.</li> </ul>

Objectives	Related Procedures and Actions
	<ul style="list-style-type: none"> <li>e. In the next pane of the wizard, add the two Reporting Server cluster nodes as possible owners of the resource.</li> <li>f. In the Available resources list, add the shared disk used as a dependency for the JMS data.</li> <li>g. In the Generic Application Parameters pane, enter the command line including arguments. For example: <code>C:\&lt;java_bin_path&gt;\java -Xmx512m -jar ems-rs.jar -app "&lt;RS_app_name&gt;" -host &lt;MF_host_name&gt; -port &lt;MF_port&gt;</code>  Issue the command <code>java -Xmx512m -jar ems-rs.jar</code> directly, instead of through the <code>rs_startup.bat</code> script that is used by Genesys Administrator.</li> <li>h. For the Current directory, enter the full path to the Reporting Server installation directory. For example: <code>C:\Program Files\GCTI\&lt;rs_dir&gt;\</code></li> </ul>
<b>Configure the hosts in Genesys Administrator</b>	<ul style="list-style-type: none"> <li>6. Use the cluster host name to create a host in Genesys Administrator. See <a href="#">Procedure: Configuring a Host in Genesys Administrator</a>.</li> <li>7. Edit the properties of the first Reporting Server Application. <ul style="list-style-type: none"> <li>0. In the Host field of the Server Info section, enter the cluster host name.</li> <li>a. Configure the JMS Data directory. On the Options tab, for the <code>activemq.dataDirectory</code> option (messaging section), enter the path to the activeMQ data directory on the shared JMS drive. For example: <code>&lt;JMS_shared_disk_drive&gt;/data/activemq</code> The second Reporting Server host in the cluster does not require any additional configuration.</li> </ul> </li> <li>8. Use Windows Cluster Administrator to start and stop the Reporting Server hosts in the cluster.</li> </ul>

**Tip**

Genesys recommends that you use the Windows Cluster Administrator (not Genesys Administrator) to start and stop the Applications when the Reporting Server is set up in a cluster.