Symantec™ High Availability Solution for WebSphere Message Broker

AIX, HP-UX, Linux, Solaris
Symantec™ High Availability Solution for WebSphere Message Broker

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Introduction

This document describes the procedure to configure WebSphere Message Broker for high availability in a Veritas Cluster Server environment using the Agent Builder tool.

Supported software

The agent for WebSphere Message Broker supports the following software versions:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veritas Cluster Server</td>
<td>VCS 4.0, 4.1, 5.0, 5.1</td>
</tr>
<tr>
<td>ACC Library</td>
<td>5.1 and later</td>
</tr>
<tr>
<td>Operating Systems</td>
<td></td>
</tr>
<tr>
<td>AIX 5.1, 5.2, 5.3, 6.1 on pSeries</td>
<td></td>
</tr>
<tr>
<td>HP-UX 11i v2, 11i v3 on Itanium and PA-RISC</td>
<td></td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 3.0, 4.0, 5.0 on Intel and ppc64</td>
<td></td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 9, 10, 11 on Intel and ppc64</td>
<td></td>
</tr>
<tr>
<td>Solaris 8, 9, 10 on SPARC and x86</td>
<td></td>
</tr>
<tr>
<td>WebSphere Message Broker</td>
<td>6.0, 6.1, 7.0</td>
</tr>
</tbody>
</table>

Prerequisites for configuring WebSphere Message Broker

Ensure that you meet the following prerequisites before you configure the agent for WebSphere Message Broker.

- WebSphere Message Queue application must be installed and configured for high availability. For information on configuring WebSphere Message Queue, refer to Veritas High Availability Agent for WebSphere MQ Installation and Configuration Guide.

- The database with which WebSphere Message Broker is configured should be running before starting the broker. Veritas High Availability agents for Sybase, Oracle, DB2, or a custom database agent can be used to configure the respective database for high availability. Depending on the database that you have selected, review one of the following documents for information on configuring the database for high availability.
  - Veritas Cluster Server Agent for Oracle Installation and Configuration Guide
If you have selected any other database, refer to the appropriate documentation for configuring the database for high availability.

Prerequisites for installing Agent Builder

You must meet the following prerequisites before you install Agent Builder.

- Ensure that you have the latest Agent Pack software.
- Install and configure Veritas Cluster Server (VCS). For more information about installing and configuring VCS, refer to Veritas Cluster Server Installation Guide.

Installing the ACC library

Install the ACC library on each system in the cluster that runs an agent that depends on the ACC library.

To install the ACC library

1. Log in as superuser.
2. Download the complete agent pack tarball from FileConnect site: https://fileconnect.symantec.com/
   or the individual ACCLib tarball from the Symantec Veritas Operations Services (VOS) site:
   https://vos.symantec.com/home
3. If you downloaded the complete Agent Pack tarball, navigate to the directory containing the package for the platform running in your environment.

   AIX  
   cd1/aix/vcs/application/acc_library/version_library/pkgs

   HP-UX  
   cd1/hpux/generic/vcs/application/acc_library/version_library/pkgs

   Linux  
   cd1/linux/generic/vcs/application/acc_library/version_library/rpms

   Solaris  
   cd1/solaris/dist_arch/vcs/application/acc_library/version_library/pkgs
4 If you downloaded the individual ACCLib tarball, navigate to the pkgs directory (for AIX, HP-UX, and Solaris), or rpms directory (for Linux).

5 Install the package. Enter Yes if asked to confirm overwriting of files in the existing package.

- **AIX**
  ```
  # installp -ac -d VRTSacclib.bff VRTSacclib
  ```

- **HP-UX**
  ```
  # swinstall -s 'pwd' VRTSacclib
  ```

- **Linux**
  ```
  # rpm -i \
  VRTSacclib-VersionNumber-GA_GENERIC.noarch.rpm
  ```

- **Solaris**
  ```
  # pkgadd -d VRTSacclib.pkg
  ```

---

**Installing AgentBuilder in a VCS environment**

Install AgentBuilder on each node in the cluster.

**To install AgentBuilder in a VCS environment**

1 Download the complete Agent Pack tarball from FileConnect site:
   
   https://fileconnect.symantec.com/

   Alternatively,

   Download the individual AgentBuilder tarball from the Symantec Veritas Operations Services (VOS) site:

   https://vos.symantec.com/home

2 Uncompress the file to a temporary location, say /tmp.
3 If you downloaded the complete Agent Pack tarball, navigate to the directory containing the package for the platform running in your environment.

AIX
   cd1/aix/vcs/application/agentbuilder/
   vcs_version/version_agent/pkgs

HP-UX
   cd1/hpux/generic/vcs/application/agentbuilder/
   vcs_version/version_agent/pkgs

Linux
   cd1/linux/generic/vcs/application/agentbuilder/
   vcs_version/version_agent/rpms

Solaris
   cd1/solaris/dist_arch/vcs/application/agentbuilder/
   vcs_version/version_agent/pkgs

   where, dist_arch is sol_sparc

If you downloaded the individual AgentBuilder tarball, navigate to the pkgs directory (for AIX, HP-UX, and Solaris), or rpms directory (for Linux).

4 Log in as superuser.

5 Install the package.

AIX
   # installp -ac -d VRTSappab.rte.bff VRTSappab.rte

HP-UX
   # swinstall -s 'pwd' VRTSappab

Linux
   # rpm -ihv \
   VRTSappab-AgentVersion-GA_GENERIC.noarch.rpm

Solaris
   # pkgadd -d . VRTSappab

WebSphere Message Broker agent attributes

Table 1-1 lists the agent attributes.

In the following example configuration, WebSphere Message Broker is installed in /opt/ibm/mqsi/6.1 directory.
Table 1-1  WebSphere Message Broker agent attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User</td>
<td>OS user running the WebSphere Message Broker component</td>
</tr>
<tr>
<td>StartProgram</td>
<td>Start script provided by WebSphere Message Broker component</td>
</tr>
<tr>
<td>StopProgram</td>
<td>Stop script provided by WebSphere Message Broker component</td>
</tr>
<tr>
<td>CleanProgram</td>
<td>Stop script provided by WebSphere Message Broker component</td>
</tr>
<tr>
<td>MonitorSequence</td>
<td>MonitorProcessPatterns PidFilesPatterns ListenAddressPort</td>
</tr>
</tbody>
</table>

Note: Default values need not be changed.

Configuring the agent for WebSphere Message Broker with Agent Builder

Perform the following steps on each node in the cluster.

To configure the agent for WebSphere Message Broker with Agent Builder

1. Identify the cluster nodes on which WebSphere Message Broker will run as a VCS resource.

2. Navigate to the installed location of the Agent Builder tool and run it. For example, on Solaris, run the following commands:

   ```
   VCS 5.0  # cd /opt/VRTSagents/ha/bin/AgentBuilder
            # ./agentbuilder WebSphereMessageBroker -base vcs50
            -platform solaris -rsh -system vcssun1 -system vcssun2
   
   VCS 4.1  # cd /opt/VRTSvcs/bin/AgentBuilder
            # ./agentbuilder WebSphereMessageBroker -base vcs4
            -platform solaris -rsh -system vcssun1 -system vcssun2
   ```

3. This command deploys the WebSphere Message Broker agent on cluster nodes node1 and node2 via rsh. Make sure that passwordless rsh or ssh communication is configured across the cluster nodes on which you want to deploy the agent.
Removing the agent for WebSphere Message Broker

Perform the following steps to remove the agent for WebSphere Message Broker created using Agent Builder.

To remove the agent for WebSphere Message Broker

1. Log in as superuser.
2. Remove all the resources of the resource type to be deleted.
3. Delete the resource type that was created using Agent Builder.
4. Remove the agent directory from all nodes in which the agent is deployed.

VCS 4.1
# /opt/VRTSvcs/bin/agent directory

VCS 5.0 / VCS 5.1
# /opt/VRTSagents/ha/bin/agent directory

Configuring the MonitorProcessPatterns attribute

You can configure the MonitorProcessPatterns attribute of the WebSphere Message Broker resource by identifying WebSphere Message Broker service processes.

# ps –aef | grep bipservice | grep broker_name

For example:

# ps –aef | grep bipservice | grep broker5
mqm 10766 1 0 Oct17 ? 00:00:00
bipservice broker5

The processes matching this pattern can be used to configure the MonitorProcessPatterns attribute of the WebSphere Message Broker VCS resource.

Sample WebSphereMessageBroker resource attributes

Table 1-2 lists the WebSphereMessageBroker resource attributes.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User</td>
<td>mqm</td>
</tr>
</tbody>
</table>
Table 1-2  WebSphereMessageBroker resource attributes (continued)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>StartProgram</td>
<td>&quot;/opt/ibm/mqsi/6.1/bin/mqsistart broker5&quot;</td>
</tr>
<tr>
<td>StopProgram</td>
<td>&quot;/opt/ibm/mqsi/6.1/bin/mqsistop broker5&quot;</td>
</tr>
<tr>
<td>CleanProgram</td>
<td>&quot;/opt/ibm/mqsi/6.1/bin/mqsistop broker5&quot;</td>
</tr>
<tr>
<td>ResLogLevel</td>
<td>INFO</td>
</tr>
<tr>
<td>MonitorSequence</td>
<td>MonitorProcessPatterns PidFilesPatterns ListenAddressPort MonitorProgram</td>
</tr>
<tr>
<td>MonitorProcessPatterns</td>
<td>&quot;bipservice broker5&quot;</td>
</tr>
</tbody>
</table>

Sample VCS configuration

**Figure 1-1** shows a sample VCS resource group dependency for WebSphere Message Broker and Sybase database.

**Figure 1-1**  Sample VCS resource group dependency

**Figure 1-2** shows a VCS group having resources for WebSphere Message Broker and WebSphere Message Queue.
The directory /var/mqsi can be made highly available by either using Cluster File System (CFS) or with a shared filesystem available on the node on which the broker is running.

In the above example, the directory /var/mqsi is configured via broker_mnt and broker_dg resources. The directory /var/mqm is configured via mq_mnt and mq_dg resources.

For information on configuring WebSphere Message Queue, refer to Veritas High Availability Agent for WebSphere MQ Installation and Configuration Guide.

Figure 1-3 shows a sample configuration of the WebSphere Message Broker resource.
Figure 1-3  WebSphere Message Broker resource sample configuration

Figure 1-4 shows a sample configuration of the WebSphere Message Queue resource.
**Figure 1-4** WebSphere Message Queue resource sample configuration

### Key Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
<th>Edit</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>false</td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
</tbody>
</table>

### Type Specific Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
<th>Edit</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>ResLogLevel</td>
<td>INFO</td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
<tr>
<td>QueueManager</td>
<td>queue1</td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
<tr>
<td>CommandServer</td>
<td>false</td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
<tr>
<td>MQUser</td>
<td>main</td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
<tr>
<td>MQVer</td>
<td>5.0</td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
<tr>
<td>EnvFile</td>
<td></td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
<tr>
<td>SecondLevelMonitor</td>
<td>0</td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
<tr>
<td>MonitorProgram</td>
<td></td>
<td>![Edit]</td>
<td>![Help]</td>
</tr>
</tbody>
</table>

### Overridden Attributes

No Attributes are Overridden.
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Sample VCS configuration