Veritas™ Cluster Server Application Note: High Availability for BlackBerry Enterprise Server

Windows Server 2003,
Windows Server 2008

5.1 Service Pack 2

symantec™

Veritas Cluster Server
Application Note: High Availability for BlackBerry Enterprise Server

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Product version: 5.1. Service Pack 2

Document version: 5.1.SP2.0

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Configuring BlackBerry Enterprise Server in a VCS environment

This chapter contains the following topics:

About configuring the BlackBerry Enterprise Server

This application note describes how to manually configure the BlackBerry Enterprise Server (BES) to make it highly available in a VCS cluster environment.

In this release, support for BES is limited to the following:

■ BES can be set up in an active-passive configuration only. In an active-passive configuration, the active node hosts the configured BlackBerry server. The second node is a dedicated redundant server able to take over the configured server if the active node fails.

■ BES can be configured only with a SQL database. There is no support for BES with a Microsoft Database Engine (MSDE) database.

Reviewing the configuration

Figure 1-1 on page 9 illustrates the sample dependency graph for a service group configured to monitor the state of the BlackBerry Enterprise Server in a VCS cluster using SFW to manage shared storage.

The VCS GenericService agent is used to monitor the BlackBerry services. The agent brings the services online, takes them offline, and monitors their status. The following BlackBerry services are configured:

■ BlackBerry Router

■ BlackBerry Dispatcher

■ BlackBerry Alert

■ BlackBerry Attachment Service

■ BlackBerry Controller

■ BlackBerry Mobile Data Service (MDS) Connection Service

■ BlackBerry Policy Service

■ BlackBerry Synchronization Service

Figure 1-1   BlackBerry Enterprise Server service group dependency graph

GenericService resources

1 - Service_BBRouter	4 - Service_BBAttachment	7 - Service_BBPolicySvc
2 - Service_BBDispatcher	5 - Service_BBController	8 - Service_BBSyncSVC
3 - Service_BBAlert	6 - Service_BBMDS	
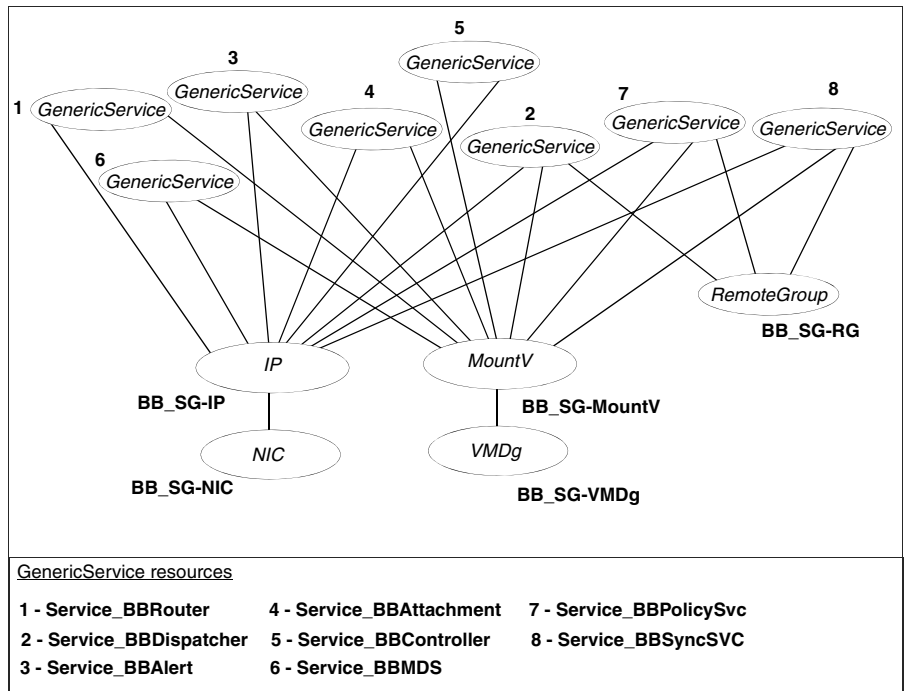
In case of a NetApp storage environment, the NetAppFiler and NetAppSnapDrive agents are used instead of VMDg and MountV agents.

If you manage your storage using Logical Disk Management (LDM), the Mount and DiskRes agents are used.

Before you configure the BlackBerry Enterprise Server with VCS

Ensure that the following prerequisites are met before you proceed:

- Install and configure Microsoft Exchange.
  Microsoft Exchange and BlackBerry Enterprise Server must be installed on different servers.
  You are not required to cluster Exchange for configuring BES with VCS. If you wish to cluster Exchange, you can use any clustering solution (VCS or any other) as long as Exchange is installed and configured on different servers from those running BlackBerry Enterprise Server and VCS.

- If you are clustering Exchange with VCS, make sure you configure the Exchange service group. Verify the prerequisites for installing and setting up Exchange in a VCS environment.
  See the *Veritas Storage Foundation and High Availability Solutions HA and Disaster Recovery Solutions Guide for Microsoft Exchange* for more information.
  If you configure Exchange and BlackBerry Enterprise Server in the same cluster, you must configure them on separate failover nodes within the cluster. The SystemList of the respective service groups must be exclusive.

- Cluster SQL Server with VCS. Make sure you configure the SQL service group. Verify the prerequisites for installing and setting up SQL Server in a VCS environment.
  See the *Veritas Storage Foundation and High Availability Solutions HA and Disaster Recovery Solutions Guide for Microsoft SQL* for more information.

- While installing the BlackBerry Enterprise Server ensure the following:
  - The installation and configuration, including the BES server name and the license, is identical on all the cluster nodes.
  - The path for storing the BES Log File should be on the shared disk that is accessible from all the cluster nodes that are going to be part of the BES service group.
  - Install the SQL configuration database for BES only while installing BES on the first cluster node. Do not install the configuration database on the remaining cluster nodes; provide information of the database created from the first node.

Configuring a BlackBerry Enterprise Server service group

The following steps describe how to create a BES service group using the Cluster Manager (Java Console). VCS provides a template for BES (BlackBerryVMGroup.tf) that you can use for configuring the BES service group.

The following steps assume that Exchange is configured with VCS and the storage is managed using SFW.

In case of a NetApp storage environment, use the NetAppFiler and NetAppSnapDrive agents instead of the VMDg and MountV agents.

If you manage your storage using Logical Disk Management (LDM), use the Mount and DiskRes agents instead.

Table 1-1 on page 11 describes the objects referred during the installation and configuration steps.

Table 1-1   BES sample configuration objects

Name	Object
System1, System2	Physical node names in the Exchange cluster.
System3, System4	Physical node names in the SQL cluster.
System5, System6	Physical node names in the BlackBerry Server cluster
BB_SG	BlackBerry service group name
BB_DG	Cluster disk group name
BB_VOL	Volume for storing the BlackBerry log files

Complete the following steps to configure BES in a VCS environment.

To configure a BES service group

1   Verify that you have installed SFW HA and set up high availability for Microsoft Exchange and Microsoft SQL Server on separate nodes in a cluster. Ensure that the systems included in the SystemList of the Exchange and the SQL Server service groups are exclusive.

For example, set up Exchange service group on *System1* and *System2*, and set up the SQL Server service group on *System3* and *System4*.

See the *Veritas Storage Foundation and High Availability Solutions HA and Disaster Recovery Solutions Guide for Microsoft Exchange* for instructions on setting up Exchange with VCS.

See the *Veritas Storage Foundation and High Availability Solutions HA and Disaster Recovery Solutions Guide for Microsoft SQL* for instructions on setting up SQL Server with VCS.

2   Install SFW HA on *System5* and *System6* and either configure another cluster or add the systems to the existing cluster where you have configured the Exchange and SQL Server service groups.

3   Create a cluster disk group, *BB_DG*, and a volume, *BB_VOL*, on the shared disk and then mount the volume on *System5*. This volume is used to store the BlackBerry log information.

4   Install and configure BlackBerry Enterprise Server first on *System5* followed by *System6*.
    Ensure that the installation and configuration, including the BlackBerry Server name and license, is identical on all the cluster nodes. Also, ensure that the BlackBerry logging path is on the shared disk (the volume *BB_VOL* that you created in the earlier step).
    Refer to the BlackBerry documentation for installation instructions.

5   After the BES configuration is complete, from the Services console stop the following services and change their startup type to Manual, on all the cluster nodes *System5* and *System6*:
    - BlackBerry Alert
    - BlackBerry Attachment Service
    - BlackBerry Controller
    - BlackBerry Dispatcher
    - BlackBerry Mobile Data Service (MDS) Connection Service
    - BlackBerry Policy Service
    - BlackBerry Router
    - BlackBerry Synchronization Service

6   Ensure that the VCS template for BES, BlackBerryVMGroup.tf, is installed on the cluster nodes.
    The templates are located in the following directory:
    `%VCS_HOME%\Templates`
    `%VCS_HOME%` is the default product installation directory for VCS, typically, `C:\Program Files\Veritas\Cluster Server`.

7   Start the Cluster Manager (Java Console) and log on to the cluster.

8   On Cluster Explorer window click **Tools > Configuration Wizard**.

9   On the Service Group Configuration Wizard Welcome panel, click **Next**.

10 Fill in the following information and then click **Next**:

■ Specify a name for the service group.

■ Select the systems for the service group. For example, *System5* and *System6*.

Click the target systems in the Available Systems box, then click the right arrow to move the systems to Systems for Service Group.

If you are configuring the BlackBerry service group on systems that belong to the same cluster where you have configured the Exchange service group, then ensure that the systems in both the service groups are exclusive.

■ Leave the service group type as the default, **Failover**.

11 Click **Next** again.

12 In the Templates list, select **BlackBerryVMGroup** and then click **Next**.

The Templates box lists the templates available on the system to which Cluster Manager is connected. The resource dependency graph of the templates, the number of resources, and the resource types are also displayed.

13 Click **Next**. The wizard starts creating the service group.

14 After the service group is successfully created, click **Next** to edit attributes using the wizard.

15 The wizard lists the resources and their attributes. You must modify some of the attributes.

To modify an attribute, do the following:

■ Click the resource.

■ Click the attribute to be modified.

■ Click the Edit icon at the end of the table row.

■ In the Edit Attribute dialog box, enter the attribute values.

■ Click **OK**.

The following table shows the resources and corresponding attributes that you must modify:

BB-Alert BB_Attachment BB_Controller BB_Dispatcher BB_MDS BB_PolicySvc BB_Router BB_SyncSVC	These are the GenericService resources for the BlackBerry services. The ServiceName attribute displays the name of the BlackBerry service that the resource is monitoring. For more information on other GenericService agent attributes, refer to the *Veritas Cluster Server Bundled Agents Guide.*

BB-IP	**Address:** Select **Global** and assign a unique IP address; this is the BlackBerry virtual IP address rather than the IP addresses of individual cluster nodes. **MACAddress:** Select **Per System**, select the system and specify its local address. Repeat for each system selected for the BlackBerry service group. **SubNetMask:** Select **Global** and specify the subnet mask associated with the IP address.
BB-MountV	**Mount Path:** Type the mount path for the volume that you created for the BlackBerry log files. For example, type **T:**. **Volume Name:** Type the name of the volume that you created for storing the BlackBerry log file. For example, *BB_VOL*.
BB-NIC	**MACAddress:** Select **Per System**, select the system and specify its local address. Repeat for each system selected for the BlackBerry service group.
BB-SQLRG	This is the RemoteGroup resource. **IP Address:** Specify the IP address used in the SQL service group that you configured earlier. **GroupName:** Specify the name of the SQL service group that you configured earlier. **VCSSysName:** Specify **ANY** as the value of this attribute. **ControlMode:** Set this to **OnlineOnly**. Specify the remaining mandatory and optional attributes as desired. See the *Veritas Cluster Server Bundled Agents Reference Guide* for more information on the RemoteGroup agent attributes and their definitions.
BB-VMDg	**DiskGroupName:** Type the name of the disk group you created for the BlackBerry service group. For example, *BB_DG*.

The remaining resources listed in the window are preconfigured by the template for BlackBerry and do not require editing.

16 Click **Finish**.

17 Right-click on the newly created service group and select **Enable Resources**.

18 Right-click on the newly created service group, then select **Online** and then select a system from the list, to bring the service group online.

Verifying the HA configuration

To verify the configuration of a cluster, either move the online groups, or shut down an active cluster node.

- Use Veritas Cluster Manager (Java Console) to switch all the service groups from one node to another.

- Simulate a local cluster failover by shutting down an active cluster node.

To switch service groups

1   In the Veritas Cluster Manager (Java Console), click the cluster in the configuration tree, click the Service Groups tab, and right-click the service group icon in the view panel.

- Click **Switch To**, and click the appropriate node from the menu.

- In the dialog box, click **Yes.** The service group you selected is taken offline on the original node and brought online on the node you selected.
   If there is more than one service group, you must repeat this step until all the service groups are switched.

2   Verify that the service group is online on the node you selected to switch to in step 1.

3   To move all the resources back to the original node, repeat step 1 for each of the service groups.

To shut down an active cluster node

1   Gracefully shut down or restart the cluster node where the service group is online.

2   In the Veritas Cluster Manager (Java Console) on another node, connect to the cluster.

3   Verify that the service group has failed over successfully, and is online on the next node in the system list.

4   If you need to move all the service groups back to the original node:

- Restart the node you shut down in step 1.

- Click **Switch To**, and click the appropriate node from the menu.

- In the dialog box, click **Yes.**
   The service group you selected is taken offline and brought online on the node that you selected.