

RDS

Directory Synchronization

Clustering Guide

Software Version 3.1.1

For Windows, Linux and UNIX operating systems

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1. Installing RDS in Windows Cluster Environment

Since RDS is by design a “stateless” application (i.e. it’s operation does not rely or depend on a given state of its host, nor does it maintain any run-time state information in RAM), it is ideally suited for installation and operation on High availability systems such as Advanced Servers and Datacenter Servers.

This enables the entire cluster to act as both a highly available source and target of any replication, deployment or consolidation operation.

When installed in this configuration, all running jobs on the cluster will resume operations from within the block within a file (if desired), guaranteeing 100% data integrity even in the event of corrupted disk write-caches and swap files.

NOTE: For more information about the Windows 2003 Advanced Server and Datacenter Server, refer to the following Microsoft web sites:

<http://technet.microsoft.com/en-us/windowsserver/2003/default.aspx>

Interrupted RDS operations are resumed through partially written files to find the point at which source and target data are identical and continue from that point within the file.

Installation Steps

In order to run in a fully available, fault tolerant mode on clustered Windows Servers or NAS appliances, the following steps should be taken at installation time.

Installation Prerequisites

Ensure that a fully functional cluster service with a shared cluster disk is set up between two or more clusters.

RDS Installation

NOTE: RDS should be installed on both the Active and Passive servers, on a shared cluster device.

To install RDS v3.1.1:

1. Install the RDS v3.1.1 kit according to the [RDS Installation & Setup Guide](#) on both the Active and Passive servers, on a shared cluster device.
2. In the **Custom Setup** screen of the setup wizard, make sure the installation path points to your machine's shared storage area.

The same path should be used for RDS installation on each cluster's shared storage area.

Services Installation on Clusters

In order to enable clustering RDS, you must configure the following three services:

The Services List

Name	Service Name	Registry Key
RDS Server	repliweb_server.exe	SOFTWARE\RepliWeb
RDS Scheduler	repliweb_scheduler_service.exe	SOFTWARE\RepliWeb
FASTCopy Server (fcopyd)	fcservice.exe	SOFTWARE\Softlink

NOTE: Repeat steps 2-4 for each service referenced in the **Services List** table above.

Installation on Windows 2000 / Windows Server 2003

NOTE: Before performing this procedure, make sure RDS is installed in your shared storage area, as described in the [RDS Installation](#) procedure.

To install the services on a cluster:

1. On the cluster's active node, open **Cluster Administrator** and then open the **Active Resources** directory.
2. Right click anywhere in the right pane of the **Cluster Administrator**, select **New** and then **Resource**.

The **New Resource** wizard opens.

3. Using the **New Resource** wizard, add the services to the cluster as follows:
 - a. In the **Name** field, enter the resource's name that appears in the **Name** column in the **Services List** table. For example, RDS Server.
 - b. (Optional) In the **Description** field, provide a description for the resource.
 - c. In the **Resource type** drop-down list, select **Generic Service**.

NOTE: Using **Windows 2000**, select **General Service**.

- d. From the **Group** drop-down list, select the cluster group and click **Next**.
- e. From the **Available nodes** list, select the clusters on which you want to run RDS and move them to the **Possible owners** column. Click **Next**.

- f. From the **Available resources** column, select the cluster's shared disk resource and move it to the **Resource dependencies** column. Click **Next**.
- g. In the **Service name** field, enter the **Service Name** column as it appears in the **Services List** table. For example, RDS Server.
- h. Click **Next**.
- i. In the **Registry Replication** dialog box, click **Add**.
- j. In the **Registry Key** dialog box, enter the **registry key's** path that appears in the **Services List** table.

NOTE: For **Windows 2000**, enter:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\RepliWeb]
```

If installing RDS 32 bit on a **64 bit** machine, enter:

```
[SOFTWARE\Wow6432node\RepliWeb]
```

- k. Click **OK**.
- l. Click **Finish** to complete the installation wizard.

The newly added service resource is offline and should be left as is for now.

4. To move the cluster to the next node, perform steps a-b for each node separately:
 - a. Open the **Active Groups** directory.
 - b. Right click an active group and select **Move group**.

The cluster is reactivated on the next node.

5. In the **Control Panel**, open **Administrative Tools** and then open **Services Manager**.
6. In **Services Manager**, verify that all services that appear in the **Services List** table are installed.
7. Return to the **Cluster Administrator** window, right-click each offline resource and select **Bring Online**.

Installation on Windows Server 2008

NOTE: Before performing this procedure, make sure RDS is installed in your shared storage area, as described in the [RDS Installation](#) procedure.

In order to install RepliWeb services on a Server 2008 cluster, you must first create a cluster service for RDS, register each service in the cluster separately, and activate the RDS Cluster Service after installing all three RepliWeb services.

NOTE: RepliWeb services are referred to as resources once they have been installed on the cluster.

Creating the RDS Cluster Service

This process creates the RDS Cluster Service container. This container connects the RepliWeb services to the relevant clusters.

To prepare a cluster:

1. Open the active cluster and access **Failover Cluster Management**.
2. Right click **Services and Applications**, select **More Actions**, and then select **Create Empty Service or Application**.
3. In the **Services or Applications** pane, right click the **New service or application** item.
4. In the **New Service or Application Properties** dialog box, change the name to **RDS Cluster Service**.
5. From the **Preferred Owners** area, select the computers on which RDS is installed and click **OK**.
6. From the **Actions** pane, select the **Add storage** link.
7. From the **Add Storage** dialog box, select the relevant shared cluster disk where RDS is installed and click **OK**.

Registering RepliWeb Resources

In order to enable clustering RDS, you must configure each RepliWeb resource that appears in the [Services List](#) by repeating this process for each service.

To register RepliWeb services on a cluster:

1. From the Actions pane, select the **Add a resource** link, and then select the **Generic Service** option.

The **New Resource Wizard** opens.

2. From the wizard's **Services** table, select the relevant RepliWeb service as it appears in the **Services List** and complete the wizard.
3. In the left pane, right click **RDS Cluster Service**, select the resource you have just added, and then select **Properties**.

The resource's **Properties** dialog box appears.

4. In the **Registry Replication** tab, click **Add**, and enter the relevant **Registry Key** as it appears in the **Services List**.
5. In the **Dependencies** tab, click **Insert** and select the storage resource that appears.
6. Click **OK**.

Activating the RepliWeb Resources

Make sure all three RepliWeb resources are registered before activation.

To activate the RepliWeb resources on a cluster:

- From the left pane, right click the **RDS Cluster Service** and select **Bring this service or application online**.

2. Upgrading to RDS v3.1.1

This procedure upgrades your RDS cluster settings to the new RDS v3.1.1. You should perform this procedure for each RDS cluster resource as it appears in the **Services List**.

NOTE: In order to upgrade to RDS (64-bit), refer to the [Upgrading to RDS 64-bit](#) section.

To upgrade your cluster settings to RDS v3.1.1:

1. On the cluster's active server, open the **Cluster Administrator**.
2. Open the **Active Resources** directory of the current active cluster.
3. Right click each resource in the **Services List** table and select the **Take offline** option.
4. Right click **FASTCopy Server (fcopyd)** and select the **Delete** option.
5. Run the relevant RDS installation kit on each cluster's shared storage area using the same path and directory name.
6. In the setup wizard's **Modify, Repair or Remove Installation** screen, click the **Repair/Update** button and continue according to the [RDS Installation & Setup Guide](#).
7. After installation completes, perform steps 3 - 4 in the [Services Installation on Clusters](#) section to add back **RDS FASTCopy Server (fcopyd)**.
8. After installation completes, perform steps 3 - 4 in the **Services Installation on Clusters** section to add back the RDS FASTCopy Server (fcopyd).
9. Right click each offline resource in the **Services List** below, and select the **Bring Online** option.

Upgrading to RDS 64-bit

This procedure upgrades an RDS 32-bit system to an RDS 64-bit system.

To upgrade to RDS 64-bit:

1. Using the **Backup & Restore** feature, back up your current RDS configuration settings and scheduled jobs to a directory on your computer.

For more information about **Backup & Restore**, refer to the [RDS User Guide](#).

2. Remove RDS from your computer. For more information, refer to the [RDS Installation Guide](#).
3. Using the **Backup & Restore** feature, restore the RDS settings and scheduled jobs you previously backed up.

3. Monitoring and Submitting Jobs

From a third machine, one located on the public network, you can connect to the cluster at its designated IP address or hostname, using the RDS Console. It is now fully operational.

When an active Cluster fails, it takes 60 seconds for a running program to time out and quit its operation. You will need to “reconnect” from the Console in order to continue monitoring or submit new jobs. Scheduled jobs that were halted due to the failover will resume their operation as scheduled.

4. Uninstalling RDS from Windows Clusters

Perform this procedure to uninstall RDS from a cluster environment.

Repeat steps 2-4 for each service referenced in the [Services List](#) table.

To uninstall RDS from a cluster:

1. On the cluster's active server, open the **Cluster Administrator**, and then open the **Active Resources** directory of the current active cluster.
2. Right click each resource appearing in the **Services List** table and select the **Take offline** option.
3. From each cluster, uninstall RDS according to the [RDS Installation Guide](#).
4. From the **Cluster Administrator**, open the **Active Resources** directory of the current active cluster node.
5. Right click each resource appearing in the **Services List** table and select **Delete**.

For any additional information, contact us at support.repliweb.com.