

EPM and EPM+

Emergency Platemaking and Veritas Storage Replicator Installation and Operation

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1. OVERVIEW

1.1 What is EPM?

The Emergency Platemaking (EPM) option was developed in response to Prinergy users' concerns about maintaining job throughput in the event of a Prinergy primary server failure. In this situation, EPM mode enables the system to continue to process jobs and produce plates. However, it does not provide complete system redundancy. EPM is based on using a secondary server as a primary server until the original primary server is restored.
The reconfiguration required to switch to and from EPM mode is very straightforward, so the user can be up and running again minutes after detecting a failure of the primary server. The EPM option can be used on all Prinergy 2.0.7 to 2.1.0.21 platforms (x86 only).

EPM+ (Emergency Platemaking Plus) is a solution to the long-standing customer demand for a near-fully redundant primary server for Prinergy® 2.2.x. It has been designed specifically for Prinergy 2.2.x, but there are plans to implement its underlying technology for data-replication purposes over a wide variety of Creo workflow solutions. For an overview of EPM features and limitations, see the *Prinergy Emergency Platemaking* technical bulletin *(78-0127A).*

1.2 How does EPM work?

The EPM option involves installing all of the primary server's Prinergy software components onto a secondary server (or render station). These components include all of the Prinergy executables, libraries, and configuration files, as well as an independent installation of the Oracle database.

During normal system operation, the EPM secondary server uses only the Prinergy components needed by a regular secondary server. All of the other non-secondary components, such as the Oracle database, are dormant and unused.

Overnight, a number of primary server configuration files are copied from the primary server to the EPM secondary server. These files include process plans, JTP distribution information, and standard color entries and fonts. This information captures any configuration information from the original primary server that would be needed by the EPM secondary if invoked.

If the Prinergy primary server fails, the operator reconfigures the EPM secondary server to go into EPM mode. For more about EPM user procedures, see the *Prinergy Emergency Platemaking 1.0 User Guide (03-4223A).*

Note: Archiving and Prinergy Backup are disabled when the system is in EPM mode (failed over). The Oracle database on the EPM server is intended for emergency use only, and thus will not be backed up nightly. Any jobs that need to be saved from operation in failover mode must be exported (as noted later) and then imported into the original database. For this reason, as well as a lack of appropriate supporting hardware on the EPM server, archiving is also disabled when running in EPM mode.

EPM+

EPM+ expands on the Prinergy Emergency Platemaking feature. It combines the basic functionality of failover (allowing a Prinergy secondary/render server to take over primary sever functions if the latter fails) with the proven data replication capabilities of the Veritas Storage Replicator (VSR). This allows the failover server (after failover) to have database and job access up to the time when the primary server went offline (within a few seconds), enabling a customer to pick up production from that point. For more about EPM+ user procedures, see the *Prinergy EPM+ 2.0 User Guide (717-00127A).*

Important: *EPM+ does not replace the need for nightly (or more frequent) backups to tape. The customer must still make regular backups. Failure to make regular backups can result in loss of data.*

1.3 System Requirements

Prinergy Dongle

A Prinergy dongle is required for use by Creo service engineers when they need to repair a primary server while customers are using EPM or EPM+. When you must use the dongle, contact the Creo Response Center to obtain a temporary (~1 week) license key to use with the primary server while performing repairs.

EPM System Requirements

Prinergy must be at version 2.0.7.4 or later.

Emergency Platemaking requires the secondary server that will be used for Emergency Platemaking to have enough RAM to function as a primary server. There is no requirement that the server be identical, or even similar, unlike other failover solutions.

The EPM server requires an available Araxi job volume (that is, a Mac and NT accessible disk volume) with sufficient space to accommodate several full-sized Prinergy jobs. The disk space required depends on the space that the customer's jobs need to run successfully, although more is better. If the server should run out of disk space while the system is in Emergency Platemaking operation, Prinergy processing on the EPM server may fail and the Prinergy system may halt.

The EPM server should have at least the following:

- 2 GB RAM
- 18 GB job volume (varies with the customer – some may need 36 GB)

EPM+ System Requirements

Prinergy must be at version 2.2.1.4 or later.

EPM+ has no specific requirement for identical hardware, as the Rapid Recovery solution did. There are, however, a few strict requirements for the number of servers involved, as well as location of the Prinergy job folders.

Note: All servers *must* have a static IP address, and have their network drivers updated to the latest versions available on TechPlanet. *VSR will not work with dynamic IPs, which means EPM+ will not work either.*

Minimum number of servers: 2

1. **Primary Server**

   The Prinergy primary server must not store any Prinergy jobs. This is a firm requirement of EPM+. All job storage must reside on the failover server, a tertiary server, or another secondary server. Jobs may be stored on more than one of these servers, as well.

2. **Failover Server** (secondary/renderstation with EPM+ installed)

   The failover server must be powerful enough to take over the primary server's tasks, in addition to its own. Because of this, we recommend that the failover server hardware be functionally equivalent to the primary (for example, the same amount of RAM and disk space, and the same type and speed of CPU). This is very important if the failover server is also a renderstation. This is only a strong recommendation, however. EPM+ will run with considerably less hardware if absolutely required, but performance will suffer proportionately.

   The one strict requirement is that the failover server drive letter layout must match that of the primary. For example, if the primary has C, D, E, and J drives, the failover server must also have C, D, E, and J drives. Drive size matters only in that there must be enough space on the failover server to store the replicated database from the primary server (not necessarily a trivial requirement at a busy site). The easiest way to guarantee this is to match the configuration drive-for-drive with the primary. This can be done with internal or external disks (internal disks are usually the most economical method).

Very Highly Recommended:

3. **Job Server**

   Jobs can also be homed on a third server, separate from the primary and failover servers. This third server can be configured either as a tertiary (jobs only) or another secondary (jobs and additional JTPs). It is *not* recommended to home jobs on a renderstation.

   If EPM+ is being installed at an existing site that has jobs homed on the primary or the intended failover server, the jobs must be moved to a tertiary or another secondary *before the installation of EPM+*. This is not included in the installation price, and must be paid for at the current Creo rate for this type of service.

Job homing on UNIX® servers (including Brisque®) is not supported by Prinergy; therefore EPM+ cannot use a UNIX tertiary server.

2. INSTALLATION (EPM AND EPM+)

Note: Complete this first section for EPM and EPM+. Continue on to Section 5 only if you are installing EPM+. To test the completed EPM installation, continue to Section 7 after performing these steps.

2.1 Prerequisites

System Drive Letter Requirements

The drive letter layout on the failover server must match that of the primary server. See section 1.3 System Requirements for further details.

Collecting Materials Needed

This is a list of materials you will need to complete the EPM installation:

- A server in a customer's system that meets or exceeds the specifications listed in *Prinergy Server Installation for Factory and Field*.
- Server-specific DOS SCSI boot disk or CD-ROM.

  Download **xx0212ac.img** from the Downloads page of the appropriate DG or Dell server site on TechPlanet, or get the file from the server-specific W2K resource CD.
- Windows 2000 Ghost Image Disk and the Ghost 6.5 (or higher) executable from the server-specific W2K Resource CD in the Prinergy CD set.
- A new Prinergy license key with Emergency Platemaking enabled. You can get the license key by emailing licensekey@creo.com after this option is purchased.

Collecting Reference Documents

This is a list of procedures you will need:

- The section called *Installing Windows 2000 From a Ghost Image* in the procedure for *Windows 2000 Installation for Prinergy 2.x* (72-3476B)
- *Installing Windows 2000 Service Pack 1* (72-3514A)
- *Prinergy 2.0 Server Installation for Factory and Field* (72-3497A)
- *Prinergy 2.0 Major Update Installation* (72-3532B)
- *Replacing a Mirror Disk on Dell Servers* (XX0295AA)
- Emergency Platemaking User Guide (03-4223A)

Updating Prinergy on All Except the EPM Server

Update Prinergy to Major Update 2.0.7.0 and to the most current minor update that supports Emergency Platemaking, on all primary, secondary, and render station servers, except for the secondary that is the designated EPM server. You will update the EPM server later.

Follow the procedures in *Prinergy 2.0 Major Update Installation (72-3532B*).

Note: EPM was first included in Prinergy minor update 2.0.7.4.

Update License Key on Primary

Using Prinergy Administrator, add the new EPM-enabled license key (see *Collecting Materials Needed* for information on where to obtain this) to the primary server.

Archiving Jobs Homed on the EPM Server

As a precaution, use Prinergy Workshop to archive any jobs that are homed on the EPM secondary.

Removing the Mirror Disk

1. If the EPM server's system drive has a mirror disk, power down the server and remove it.
2. Power up the server. The RAID controller, if present on a Dell machine, will display an error message.
3. Follow the directions onscreen to ignore the error and go to the next procedure.

2.2 Installation Procedure

Note: If there are any configured printers/shares/etc. that the customer may want to keep on the failover server, record the information now. All of these settings will be lost during the installation.

Note: You must shut down Prinergy before installing EPM+.

Installation has three phases:

- **Phase 1**: Install the failover server, which includes:
  - Re-ghosting a secondary server
  - Installing Prinergy as a primary server on the secondary server
  - Running the **ConfigEPServer.cmd** script to change the appropriate registry settings and enable Prinergy failover mode
- **Phase 2**: Install VSR software (EPM+ only).
- **Phase 3**: Configure VSR software (EPM+ only).

Configuring the Failover Server

Failover server configuration requires the following procedures:

- Install Windows® using Ghost.
- Install the latest Windows 2000 Service Pack.
- Install Prinergy as a primary server.
- Update Prinergy to an update level that matches the original primary.
- Run the **ConfigEPServer.cmd** script.
- Fix the backup service.

Installing Windows Using a Ghost Image

EPM and EPM+ require Windows 2000 on the failover server to be exactly the same build and patch level as on the primary, and that all drivers are at the same or later version.

To update Windows on the failover server:

4. Install a fresh copy of Windows 2000 on the failover server system drive using the procedure in *Installing Windows 2000 From a Ghost Image* in the document *Windows 2000 Installation for Prinergy 2.x* (part number 72-3476).

   Note: Ensure that the ARAXI service password used for this installation is the same as the password on the existing servers.

5. Rename the server network name to the same name as the original secondary server name, based on the procedure in the Windows 2000 installation document.

Installing Windows 2000 Service Pack

Note: More recent versions of the Ghost images (version H and later) already have Service Pack 3 applied to them. If this is the case, there is no need to reapply it.

Install Windows 2000 Service Pack 3 on the failover server using the procedure in *Installing Windows 2000 SP3 and IE6 SP1 for x86 Platforms* (part number 78-0167A). The customer-installable Service Pack and the procedure are available on eCentral™.

Note: If the primary server is at a Service Pack level higher than 3, install the appropriate Service Pack on the failover server to match it.

Installing Prinergy as a Primary Server

The version of Prinergy on the failover server must match the version of Prinergy on the rest of the system.

Install Prinergy as a *primary server* on the failover secondary, using the document *Prinergy 2.1 Server Installation for Factory and Field* (part number 72-3497B).

2.3 Installing the Latest Prinergy Updates/Upgrades

EPM

To make sure the version of Prinergy on the EPM server is the same as on the rest of the system, install major and minor updates as needed, following the procedure in *Prinergy 2.0 Major Update Installation* (72-3532B).

The Prinergy major update must be at least 2.0.7.0 and the minor update must be the most current one that supports Emergency Platemaking. EPM was first included in Prinergy update 2.0.7.4, with additions in some of the subsequent minor updates. Check the readme files for the updates to verify.

EPM+

Use the procedure in the *Prinergy 2.2 Upgrade Guide* (part number 03-4332B) to upgrade Prinergy to version 2.2.1.

Note: The Prinergy major update must be at least version 2.2.1 and the minor update must be the latest one that supports EPM+. EPM+ was first included in Prinergy update 2.2.1.4, with additions in some of the subsequent minor updates. Check the readme files for the updates to verify version level.

Installing Prinergy 2.2.1 Updates

Install the appropriate Prinergy updates to the failover server so its update level matches that of the primary server (the end result must be version 2.2.1.4 or later).

2.4 Restoring the Original Jobs Folder

If there were no shares or jobs on the server before Prinergy was installed, restoring the original **Jobs** folder on the RAID is optional.

1. Right-click the **My Computer** icon on the desktop, then select **Manage** from the menu.
2. The following Macintosh share is the default Jobs share created during installation. If not applicable, remove it:

   Jobs on <EPMServerName> <RAIDDriveLetter> drive
   Example: Jobs on CWA662 J drive

3. Add any necessary shares, users, printers or other system configurations that existed before the system ghosting.

2.5 Running the ConfigEPServer Script

Perform this part of the procedure on the failover server.

To connect the failover server to the Prinergy system as a secondary server, update the **PrimaryNodeName** and **NodeList** by opening a command line and running the following script and parameters:

```
> ConfigEPServer.cmd –p <NameOfPrimaryServer> -l <path to log file>
```

The **-l** (lowercase L, not the number one) option should specify a directory name only; do not specify the name of the log file in the path. The name of the log file created in the directory is **ConfigEPServer.log**.

Note: **ConfigEPServer.cmd** is located in **%AraxiHome%\CreoAraxi\Support\bin**. You may wish to keep the log file in the same directory.

Changing the Backup Service Account

Perform this part of the procedure on the failover server.

Note: The correct backup service for the failover server was set up in Prinergy 2.0.7.14 and later, so there is no need to install the **instsrv.exe** file as before.

1. Right-click the **My Computer** icon on the desktop and select **Manage**.
2. From the Computer Management dialog box, select **Services and Applications**, and then **Services**.
3. Right-click **AraxiSysStateBackup** to edit the service properties. Change the account that the service runs under to be the same account as the Araxi service.

3. ARAXIFILEREPLICATOR: REPLICATING PRINERGY CONFIG INFO

In Prinergy 2.0.7.17 and later, replication is run by a service called AraxiFileReplicator.

What Does the AraxiFileReplicator Service Do?

AraxiFileReplicator copies Prinergy-specific configuration data from the primary to the failover server. This data cannot be replicated using VSR, as some is contained in the registry, and some is manipulated on its way over. Do not confuse the AraxiFileReplicator with VSR, as they are entirely independent.

The replication functionality is contained within a Python module (**%Araxihome%\lib\python\com\creo\araxi\filereplicator\PReplicateD.py**) that copies all process plans, workflow plans, the primary's registry, and a number of other data files from the primary to the failover secondary.

The script will create a new directory—**%AraxiHome%\CreoAraxi\data\failover**—on the primary and the failover secondary. This is the directory where it stores all of the files needed to convert to failover mode. These files are regularly updated by the service to ensure consistency between the servers.

The AraxiFileReplicator service only runs on the primary server, pushing Prinergy configuration data from the primary to the failover server. The service is present on the failover server (because Prinergy was installed as a primary there before being configured to EPM+), but does not do anything on that server.

After the replication service has run, files like the following may be present in the failover directory, although the number and names of files may not be exactly as shown below:

- **<PRIMARY>_install.bat**
- **<PRIMARY>_per1_clone.vbs**

  <PRIMARY>_per2_clone.vbs
- **<PRIMARY>_prn_clone.vbs**
- **Primaryreg.ini**

Preparing the Service to Run Automatically

Note: This procedure is done on the primary workstation.

Prinergy automatically installs the service on all primary and failover servers. However, you must perform the following procedure to ensure that the service will run automatically:

1. Right-click the **My Computer** icon on the desktop and select **Manage**.
2. In the **Computer Management** dialog box, select **Services and Applications > Services**.
3. In the **Services** area, edit the properties of the **AraxiFileReplicator** service.
4. Change the user name/password so that they are the same as the Araxi service.

5. Run the `at` command and ensure that there is a scheduled task that looks similar to the one below:

```
25   Each M T W Th F S Su   10:00 PM    cmd /c
D:\Prinergy2.0.4\lib\python\com\creo\araxi\FileReplicator
\StartAraxiFileReplicator.cmd
```

   If this task is not present in the list of tasks, add it. To do this, select **Start > Settings > Control Panel > Scheduled Tasks**. Click **Add Scheduled Task** and follow the Scheduled Task Wizard steps.

6. Check to see if the file **%AraxiHome%\CreoAraxi\etc\PReplicateD.ini** is correctly configured. There should be a setting called `AraxiFileReplicatorOn`.[1] Ensure that it is set to `Y`. If this setting is not present, add it to the configuration file: `AraxiFileReplicatorOn=Y`.

Running the AraxiFileReplicator Service

Important: You must manually start the AraxiFileReplicator service once on the primary server before failover will function properly. See *To manually start the service*, below.

Daily automatic running of the service:

The scheduled task launches the command `StartAraxiFileReplicator.cmd`, daily at 10 pm.

The command `StartAraxiFileReplicator.cmd` first checks to see if the **PReplicateD.ini** file is configured to run the service. If `AraxiFileReplicator=Y`, the command will continue, otherwise it exits and no further action is taken.

If the service is configured to run, the command starts the service. At this time, a log file is created: **%AraxiHome%\CreoAraxi\system\log\araxifilereplicator\araxifilereplicator.log**.

If any detectable errors are encountered when the command tries to start the service, a dialog box appears, indicating that the service failed to start and that you should look at the log file for further error information.

To manually start the service (must be done at least once):

1. Right-click the **My Computer** icon on the desktop and select **Manage**.
2. Select **Services and Applications** in the left-hand pane, then select **Services** in the right-hand pane.
3. From the **Services** menu, select the **AraxiFileReplicator** service.
4. Right-click **AraxiFileReplicator** and select **Start**.

[1] The configuration setting AraxiFileReplicatorOn=N is appended to the PReplicateD.ini file by the 2.0.7.17 minor update. Version 2.0.7.17 of ConfigEPServer.cmd will set AraxiFileReplicatorOn to Y when it runs.

4. CONFIGURING JTPS

Select any JTPs that were running only on the primary server and add them to their respective pools on the EPM server.

5. EPM+ VSR INSTALLATION

Note: Complete this section only if you are installing EPM+. If you are installing only EPM, you do not need to perform these steps. Continue to Section 7 to test the EPM installation.

5.1 Setting up Database Replication for EPM+

Terms:

Replication Management Server (RMS)

The RMS maintains a database of replication sets and file details. The RMS service can also be installed on a machine that has an RSA (see below), or a standalone server. The RMS service must be running for replication to occur. EPM+ is used with the RMS service installed on the primary server.

Replication Storage Agent (RSA)

The RSA is installed on all machines between which you wish to replicate data. It must be running for replication to occur. EPM+ uses the RSA service on both the primary and failover servers.

Installing VSR on the Primary server

Note: If the customer received CD-ROMs with their VSR licenses, do not use them—they are for license purposes only. You will need the activation codes from the packages, but use the Creo-provided installer.

Note: The Creo installer CD-ROM is exactly the same as the retail packaged version, but everything you need is self-contained on one CD-ROM.

1. Insert the Creo Prinergy Database Replication CD-ROM into the CD-ROM drive.
2. Open the folder **Primary_Server_Install**.
3. Start the program **Install_VSR.cmd** from the root folder of the CD-ROM.
4. Click **Next**.
5. Type the name of the server in the **Username** box (for example, `YCSxxx-xxx`), and type the customer company name in the **Company** box.
6. Click **Next**.
7. Select **New Replication Neighborhood**, and name it `Prinergy`.
8. Click **Next**.
9. Select all three options (**RMS**, **RSA**, and **Console**).

10. Click **Next**.

11. Click **Next** to accept the default program group.

12. Ensure the protected dataset path is set for the drive with sufficient free space (usually J:). Keep the same folder structure, changing only the drive letter if necessary.

13. Click **Next**.

14. As in Step 10 above, ensure the path of the journals is set for the drive with sufficient free space (usually J:). Keep the same folder structure, changing only the drive letter if necessary.

15. Click **Next**.

16. Enter the serial number for VSR. If you do not enter a license key at this time, the software will begin a 60-day fully functional trial. The license key can be entered at any point during this 60-day period, however the software will stop working after the 60-day period expires if you fail to enter a valid key.

    Note: If there is no piece of paper with an install key on it (depending on exactly when EPM+ was purchased, there may not be), use the following key (OK for both servers): 0821149995001475

17. Click **Next**.

18. Click **Yes** to accept the EULA.

19. Click **Next** to confirm the installation choices.

20. Click **OK** to acknowledge the warning message about backups.

21. Click **Yes** to begin the installation.
    The installation takes about 4 minutes.

22. Click **No** to skip the **ReadMe.txt** file.

23. Select **No, I'll restart my computer later** and click **Finish**.

Configuring Services on the Primary server

1. Insert the Creo Prinergy Database Replication CD-ROM into the CD-ROM drive.

2. Open the folder **Primary_Server_Install**.

3. Run the program **Configure_Primary_Server.cmd**.

4. Follow the steps to complete the configuration.

5. Restart the server.

Installing VSR Control Scripts

VSR is mostly scripted, and the basic setup and starting of replication are straightforward. The configuration scripts, which can be run as often as required, delete the existing configuration and create a new one. If you type something incorrectly, re-run the setup.

Note: Run this section from the primary server only.

1. Run **install_scripts.cmd** (located in the **Primary_Server_Install** folder of the Creo Prinergy Database Replication CD-ROM).
2. Wait for the script to finish running. When it is finished, you will find a folder named **Creo** in **%programfiles%\Veritas Storage Replicator**. Inside that folder is a folder named **Prinergy-Database** that contains the management scripts for Prinergy database replication. For details about using the scripts, see section 3, *AraxiFileReplicator: Replicating Prinergy Config Info*.

You are now ready to configure exactly what files will be replicated.

Installing VSR on the Failover Server

Note: The primary server must have VSR installed on it and be powered up in order to install VSR on the failover server. If the primary is not accessible, VSR will fail to load on the failover server.

1. Insert the Creo Prinergy Database Replication CD-ROM into the CD-ROM drive.
2. Open the folder **Failover_Server_Install**.
3. Run the program **Install_VSR.cmd**.
4. Click **Next**.
5. Type the name of the primary server in the **Username** box, and the customer company name in the **Company** box.
6. Click **Next**.
7. Select **Existing Replication Neighborhood** and enter `Prinergy` in the field to match the installation on the primary.
8. Click **Next**. VSR will search the network for the primary server (RMS). This takes about one minute. If it fails, you may have spelled the name of the neighbourhood incorrectly on the primary. See section 5, *Troubleshooting* for details on how to change it without reinstalling.
9. If step 7 worked properly, a component selection screen appears. Select the **RSA** and **Console** components and click **Next**.
10. Click **Next** again.
11. Ensure the protected database path is set for the drive with sufficient free space (usually J:). Keep the same folder structure, changing only the drive letter if necessary.
12. Click **Next**.

13. As in step 10 above, ensure the path of the journals is set for the drive with sufficient free space (usually J:). Keep the same folder structure, changing only the drive letter if necessary.

14. Click **Next**.

15. Enter the serial number for VSR. If you do not enter a license key at this time, the software will begin a 60-day fully functional trial. The license key can be entered at any point during this 60-day period, however the software will stop working after the 60-day period expires if you fail to enter a valid key.

    Note: If there is no piece of paper with an install key on it (depending on exactly when EPM+ was purchased, there may not be), use the following key (OK for both servers): 0821149995001475

16. Click **Next**.

17. Click **Yes** to accept the EULA.

18. Click **Next** to confirm the installation choices.

19. Click **OK** to acknowledge the backup warning message.

20. Click **Yes** to begin the installation.
    The installation takes about 2 minutes.

21. Click **No** to skip the **ReadMe.txt** file.

22. Select **No, I'll restart my computer later** and click **Finish**.

Configuring Services on the Failover server

1. Insert the Creo Prinergy Database Replication CD-ROM into the CD-ROM drive.

2. Open the folder **Failover_Server_Install**.

3. Run the program **Configure_Failover_Server.cmd**.

4. Follow the steps to complete the configuration.

5. Restart the server.

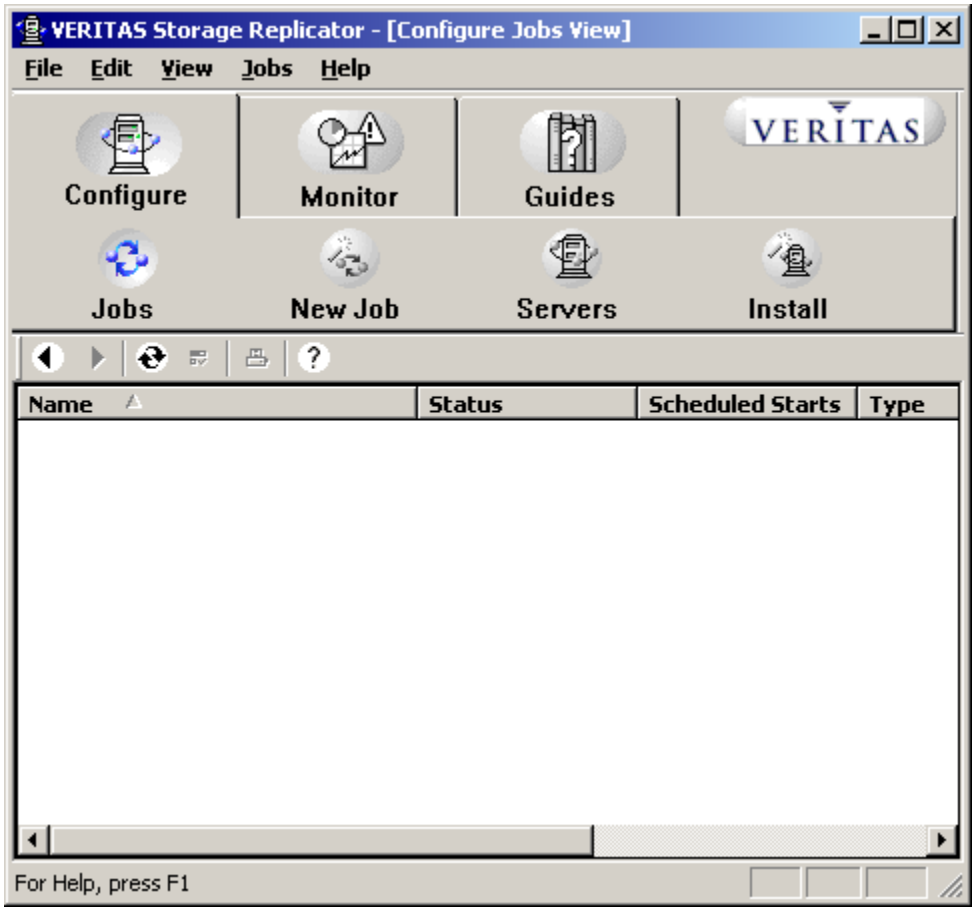
6. EPM+ FURTHER CONFIGURATION

Note: This section is applicable only to EPM+. If you are only configuring EPM, skip this section.

6.1 Setting up the Replication Job

Using the VSR Management Console

Locate the VSR Management Console by selecting **Start > Programs > Veritas Storage Replicator > Console**. When open, it appears with no replication jobs defined, as below:



Because it is only used for monitoring, Management Console operations are not covered here. Management Console documentation is supplied with the VSR software package.

Open the VSR Management Console and set it to monitor jobs by clicking the **Monitor** tab, and then the **Jobs** button.

Creating and Starting the Replication Job

Perform this procedure from the primary server.

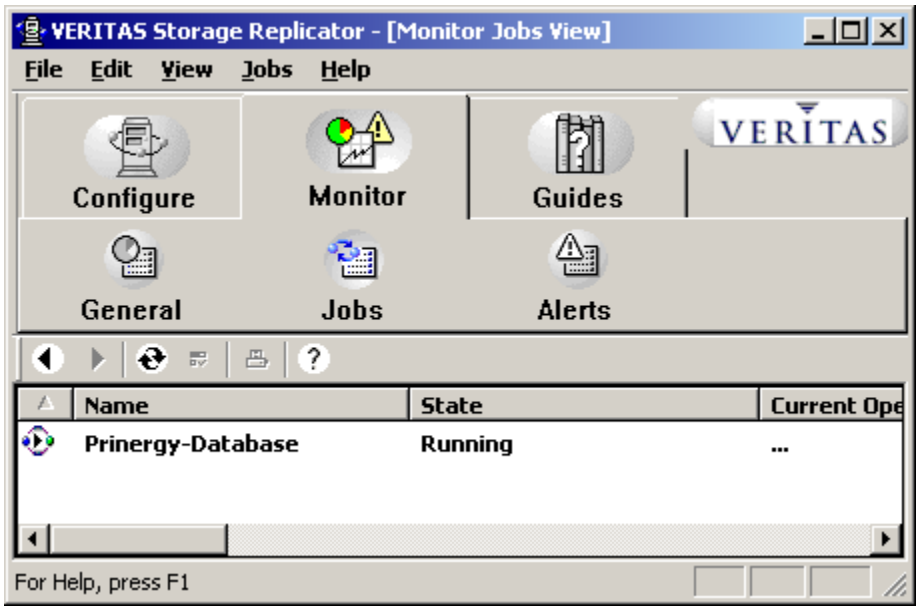
1. Open the VSR Management Console and select the **Monitor Jobs** tab.

2. From the **Control Scripts** folder **%programfiles%\Veritas Storage Replicator\Creo\Prinergy-Database**, run the **Create&StartPrinergy-DatabaseJob.cmd** script.

3. Enter the name of the failover server when prompted.

4. Enter the location of the Oracle database files when prompted (usually j:\orant or g:\orant).

5. A new replication set appears in the VSR Management Console window:



This step only needs to be done once, unless the replication set is deleted. If you typed something incorrectly and replication doesn't work, re-run the configuration script.

You can browse the file tree that VSR replicates by double-clicking the job in the **Configure Jobs** tab. *Do not modify the replication job.*

Database replication begins immediately. You can monitor its progress in the VSR Management Console via the **Monitor > Jobs** tab.

Because this is the first time this connection has been activated, it mirrors the complete contents of the replication set to the failover server. This can take a long time if the database is large. The throughput measured in the Creo lab was around 7MBps on 100baseT, and around 20 MBps over GigE, though these numbers can vary depending on network conditions at the time.

If something does not work, a good place to start troubleshooting is the **Monitor Alerts** tab in the VSR management console, which logs all VSR errors.

Ensure you test the failover operation twice before you leave the site. Treat the first test as a sanity check to ensure everything is in order. Perform the second test with the customer present, for training purposes.

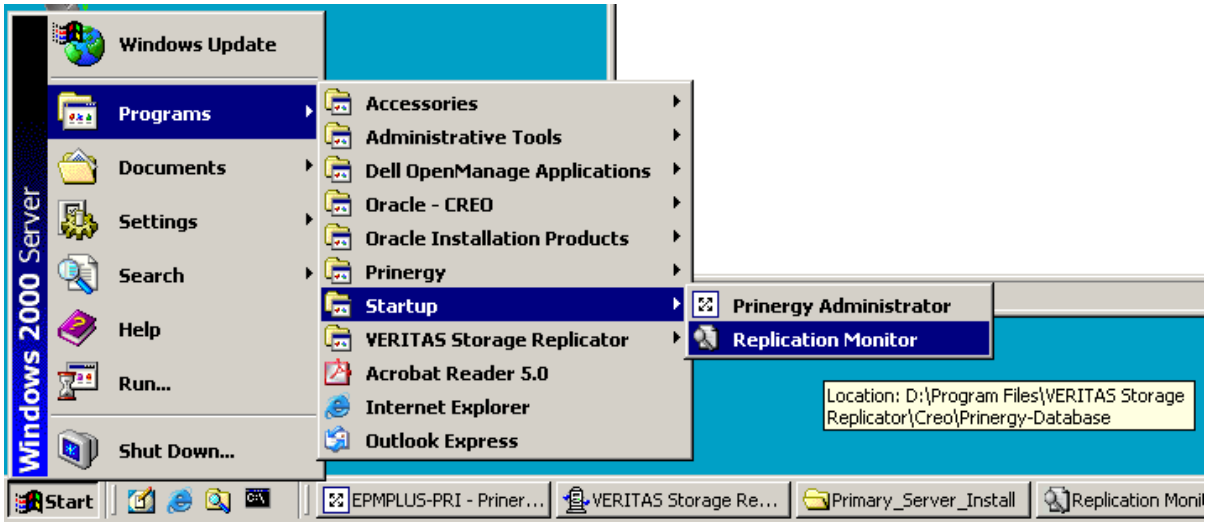
6.2 Day-to-Day Operation

VSR essentially runs itself. Only occasional monitoring of the Alerts window is necessary.

The Creo Replication Monitor utility has been developed to prevent an old database from overwriting a current one. This utility runs on the primary server and queries the status of the VSR replication job.

If the status changes to anything other than *Running* (normal operational status), a dialog box is displayed on the first 10 servers in the Prinergy nodelist, showing the current status of the replication job and advising the operator to check the primary server.

Replication Monitor starts when a user logs in to the primary. The startup item is located in **Programs > Startup > Replication Monitor**.



If the primary or failover server(s) are rebooted, VSR automatically picks up where it left off, and re-mirrors the database files if necessary.

6.3 Failing Over

Note: This procedure is also described in the *EPM+ Quick Reference Card* that should be left beside the primary server.

1. Shut down Prinergy on all servers.
2. Move the dongle to the failover server.
3. On the failover server, fail over Prinergy by selecting **Prinergy Administrator > File > Switch To Primary**.
4. Start Prinergy. All jobs should be accessible.

Note: *Ensure that the database is up to date, and all of the jobs are present and accounted for. It has happened where VSR was accidentally disabled, and resulted in a valid but out-of-date database on the failover server.*

6.4 Restoring Normal Operation

WARNING: *This procedure must be performed in the exact, step-by-step, numbered sequence below. Failure to do so can permanently corrupt the database, and require a restoration from tape backup.*

1. Stop Prinergy on all servers.
2. Move the dongle back to the primary server.
3. On the primary server, delete the Prinergy-Database replication job using VSR Management Console.
4. On the failover server, switch the failover server to a secondary again, by selecting **Prinergy Administrator > Revert to Secondary**.
5. On the primary server, run the **RestorePrinergy-Database** script. Enter the name of the failover server when prompted, as well as the location of the Oracle database (usually j:\orant or g:\orant) The script will ask you to confirm before it starts the restore. Do so.
6. On the primary server, you can monitor restoration progress using the **Monitor** tab in VSR Management Console. *You must let this process finish.* Interrupting a restore will leave an unusable database on the primary server.

Note: If there is an unexpected interruption (a power outage, for example) the restore process can be restarted by running the **RestorePrinergy-Database** script again. The restore process will overwrite the unusable database on the primary server with the still-good copy on the failover server.

7. On the primary server, after the restore is completed, delete the **Restore-Database** job from VSR Management Console.
8. On the primary server, run the **EnableOracle** script. This will start Oracle on the primary.
9. On the primary server, start Prinergy on all servers. Make sure Prinergy is operating properly before proceeding to the next step.
10. On the primary server, after confirming that Prinergy is operating correctly, reconfigure VSR to replicate the database onto the failover server again by performing the procedure in section 6.1, Setting up the Replication Job.

7. TESTING THE EPM SYSTEM IN NORMAL OPERATING MODE

After the Emergency Platemaking installation, run a test job through the system to ensure that it processes as before.

8. TESTING EPM

Check that Emergency Platemaking is working as a failover solution on this Prinergy system by switching to EPM mode, configuring any JTPs needed, and producing output from a test job. This test assumes that all proofing and output devices have been configured and are working.

Note: Ensure that the PReplicateD script has been run on the primary server.

9. VERIFYING EPM

11. Open Prinergy Workshop on a Prinergy client, and connect to the EPM server (now operating as the primary) when prompted.

12. Run the test job(s), from refining through to plating.

10. RESTORING THE MIRROR ON THE EPM SERVER

After you have confirmed that your installation has been successful and EPM is working on this system, you can replace the mirror on the EPM server, if broken earlier.

Restore the mirror disk by using the procedure in *Replacing a Mirror Disk on Dell Servers (XX0295AA).*

11. TROUBLESHOOTING EPM+

11.1 During VSR installation, the Failover server can't find the replication neighborhood

If this happens, you probably misspelled the name of the Prinergy replication neighborhood when you were installing VSR on the primary.

You can change the name of the neighborhood without reinstalling by modifying the following registry key:

\\HKLM\Software\VERITAS\ENL\System\netgroup

Netgroup is a string value. Make any necessary corrections and restart.

If the problem still exists, verify the network connectivity between the two servers. Ensure there are no routers or firewalls between the two servers.

11.2 Accidental deletion of the replication job

You can easily fix this by repeating the procedure *Creating and Starting the Replication Job* in section 6.1.