

EPM and Hot Standby (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 *Kodak 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 and later platforms (x86 only).

Hot Standby (EPM+) is a solution to the long-standing customer demand for a near-fully redundant primary server for Prinergy. It has been designed specifically for Prinergy, but there are plans to implement its underlying technology for data-replication purposes over a wide variety of Kodak workflow solutions. *Kodak Link* users should note that Hot Standby will operate with Link, and will provide access to the Link database and reports. 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 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 required by a regular secondary server. All 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, license key information, standard color entries, and fonts. The copying process captures any configuration information from the original primary server required by the EPM failover, if invoked.

If the Prinergy primary server fails, the operator reconfigures the EPM secondary server to operate in EPM mode. See the EPM and Hot Standby (EPM+) user documentation for more information about EPM operating procedures.

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 is not 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.

Hot Standby

Hot Standby (formerly EPM+) expands on the Prinergy emergency platemaking (EPM) feature. Hot Standby combines the basic functionality of failover (allowing a Prinergy secondary/render server to take over primary server functions if the latter fails) with proven data replication capabilities. 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 Kodak Link users, the same principle applies—you will have access to the Link database and reports that will be up-to-date until a few seconds before the primary server went offline.

See the *Hot Standby With VERITAS Storage Replicator for Prinergy User Guide (717-00127B)* for more information on Hot Standby user procedures.

Important: *Hot Standby 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

EPM and Hot Standby include a second Prinergy dongle. This dongle may be used to run the original primary server when the Prinergy system is in EPM/Hot Standby mode. This is useful because the original primary server can be started and run for troubleshooting purposes while production continues on the rest of the system.

Contact the Kodak response center or licensekey@creo.com for a temporary license key to use for running the original primary server separately from the rest of the system.

EPM System Requirements

Prinergy must be at version 2.0.7.4 or later.

EPM requires the secondary server that will be used for emergency platemaking to have sufficient 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 Macintosh® and Microsoft Windows® NT accessible disk volume) with sufficient space to accommodate several full-size 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 operating in EPM mode, Prinergy processing on the EPM server may fail and the Prinergy system may stop.

The EPM server should have at least the following:

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

Hot Standby System Requirements

Prinergy must be at version 2.2.1.4 or later.

Hot Standby 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 that Hot Standby will not work either.*

Minimum number of servers: 2 (Primary Server and Failover Server)

Primary Server

The Prinergy primary server must *not* store any Prinergy jobs. This is a firm requirement of Hot Standby. 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.

Failover Server (secondary/render station with Hot Standby installed)

The failover server must be powerful enough to take over the primary server tasks, in addition to its own tasks. For this reason, Kodak recommends 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, and strongly recommended, if the failover server is also a render station. Hot Standby will run with less RAM and disk space, but performance will suffer proportionally.

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 sufficient space on the failover server to store the replicated database from the primary server (an important 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).

Note: Hot Standby requires the Windows 2000 Server operating system. This means that workstation-class servers (for example, Dell OptiPlex) cannot be used as failover servers.

Job Server (highly recommended)

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 render station.

If Hot Standby 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 Hot Standby*. This is not included in the installation price, and must be paid for at the current Kodak rate for this type of service.

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

2. INSTALLATION (EPM AND HOT STANDBY)

Note: Complete this first section for EPM and Hot Standby. Continue on to Section 5 only if you are installing Hot Standby. To test the completed EPM/Hot Standby installation, continue to Section 8 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 Required Materials

This is a list of materials you will require to complete the EPM/Hot Standby installation:

- Hot Standby Installation CD (EPM does not require an installation CD).
- A server in a customer's system that meets or exceeds the specifications listed in *Prinergy Server Installation for Factory and Field* (if repurposing an existing server as a failover server).
- Server-specific DOS SCSI boot disk or CD-ROM. Download **xx0212ac.img** from the Downloads page of the appropriate Data General 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 later) 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.
- VERITAS Storage Replicator license for each server involved in database or job data replication.

Collecting Reference Documents

You will need the following documents:

- The *Ghosting W2Kfrom an OS Image* procedure in the document: *Prinergy, Synapse InSite, and BestRIP Windows 2000 Installation Using Ghost Image* (72 3476B)
- *Installing Windows 2000 SP4 and IE6 SP1 for x86 Platforms* (719-00107A)
- *Prinergy Server Installation for Factory and Field* (72-3497B)
- *Prinergy Upgrade Guide* (731-00072C)
- *Dell Server Hardware Setup for Prinergy* (72-3572A)
- *HP Proliant Hardware Setup (709-00285A)*
- *Prinergy Emergency Platemaking User Guide* (03-4223A)
- *Hot Standby With VERITAS Storage Replicator for Prinergy User Guide* (717-00127B)
- For Kodak Link Users: *Link 2.1 Administration Guide* (731-00607A)

Updating Prinergy to the Required Version

Update Prinergy to the most current update on all primary, secondary, and render station servers, except for the secondary that will be repurposed as the EPM failover server. You will update the EPM server later.

Follow the procedures in the *Prinergy Major Upgrade Guide* (731-00072C)

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

Updating License Key on the Primary Server

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

Archiving Jobs Homed on the EPM Server

As a precaution, use Prinergy Workshop to archive any jobs that are homed on the secondary that will be repurposed as the failover server.

Backing Up the Server to be Repurposed as the Failover Server

You may want to back up the system drive of a server if it will be repurposed as a failover server. You can do this using NTBackup. If the site has the Prinergy Backup option, verify if the previous night's server backup was successful.

2.2 Installation Procedure

Note: If there are any configured printers, shares, and so on that the customer may want to keep on the server that will be used as 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 four phases:

- **Phase 1**: Install the failover server, which includes:
  - Re-ghosting a secondary server (if repurposing an existing server as a failover server)
  - Installing Prinergy as a primary server on the failover server
  - Running the **ConfigEPServer.cmd** script to change the appropriate registry settings and enable Prinergy failover mode
- **Phase 2:** Kodak Link users install Link on the failover server (Hot Standby only)
- **Phase 3**: Install VSR software (Hot Standby only)
- **Phase 4**: Configure VSR software (Hot Standby 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.
- If applicable, install Kodak Link software on the failover server.
- Run the **ConfigEPServer.cmd** script.
- Fix the backup service.

Note: Some of the above procedures may not be required if using a failover server that has already been configured by Kodak Production.

Installing Windows Using a Ghost Image

EPM and Hot Standby 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:

1. 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.

2. 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 already have Service Pack 4 applied to them. If this is the case, there is no need to reapply it.

Install the latest Windows 2000 Service Pack on the failover server using the procedure in *Installing Windows 2000 SP4 and IE6 SP1 for x86 Platforms* (719-00107A). 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 4, 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 Server Installation for Factory and Field* (72-3497B).

2.3 Installing the Latest Prinergy Updates/Upgrades

EPM

To ensure 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 the *Prinergy Upgrade Guide* (731-00072C).

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.

Hot Standby

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

Note: The Prinergy major update must be at least version 2.2.1 and the minor update must be the latest one that supports Hot Standby. Hot Standby (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. On the desktop, right-click **My Computer**, then select **Manage**.
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 Installing Kodak Link Software for Hot Standby

If you use Kodak Link software and your system will be a Hot Standby system, you must install the Link software on the failover server.

It is simpler if you install Link on the failover server before you run the **ConfigEPServer** script. The failover server *cannot* be operating as a secondary when Link is installed. It must be operating as a primary server. However, if you run the **ConfigEPServer** script before installing Link, you must convert the failover server to a primary in order to install Link.

With the failover machine operating as a primary, install Link on the failover server according to the *Synapse Link 2.1 Administration Guide* (731-00607A). Link should be installed on the failover server just as if it was a regular primary server. You should not have to perform any kind of unusual adjustments to install Link on the failover server.

If during installation the message **This machine does have Prinergy Director installed, but was not detected as a Prinergy or Directory Primary node. Should the registry be updated anyways?** is displayed, it means the failover server is not operating as a primary. If this happens, let the installation continue. After the installation finishes, you must uninstall Link from the failover server. Uninstall Link from the failover server *only*—do *not* uninstall it from the primary server. Uninstall Link from the failover server using **Start > Programs > Synapse Link > Uninstall Synapse Link**. When you are finished, switch the server to failover mode, and reinstall Link.

After installation, if desired, you can configure and save the settings in the Link Administration Client. Settings that are configured and saved on the **Configuration** tab of the Link Administration Client on the primary server are not replicated to the failover server.

Note: Information saved in the **Process Mapping** and **Customer Mapping** tabs of the Link Administration Client *is* replicated from the primary server to the failover server. You *do not* need to set and save any information in the **Process Mapping** and **Customer Mapping** tabs.

IMPORTANT: After installing Link on the failover server, ensure it is stopped (**Start > Programs > Synapse Link > Stop Server**). When VSR is installed, Link should not be running on the failover server. Link should *only* run on the failover server when the server is running in failover mode.

2.6 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. On the desktop, right-click **My Computer** and select **Manage**.
2. In the **Computer Management** dialog box, select **Services and Applications** > **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 data is contained in the registry, and some is manipulated during transfer. 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 all of the files needed to convert to failover mode are stored. To ensure consistency between the servers, these files are updated nightly by the service.

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 Hot Standby), 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:

- **<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 server.

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. On the desktop, right-click **My Computer** 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 to be 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`. Set the `AraxiFileReplicatorOn` 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 p.m. local time.

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 (service must be started at least once before failover is initiated):

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

4. CONFIGURING JTPS

JTPs and JTP pools must be configured the first time that the system is switched to failover mode. The JTP/JTP pool configuration on the failover server is independent from those on the primary server.

5. HOT STANDBY VSR INSTALLATION

Note: Complete this section only if you are installing Hot Standby. If you are installing EPM only, you do not need to perform these steps. Continue to Section 8 to test the EPM installation.

5.1 Setting Up Database Replication for Hot Standby

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. Hot Standby 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. Hot Standby 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 Kodak -provided installer.

Note: The Kodak 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 Kodak Prinergy Database Replication CD-ROM in 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**. If this is the first Hot Standby system at the site, you can name the replication neighborhood **Prinergy**.

   Note: Each Hot Standby system must be in a unique replication neighborhood. Use a different replication neighborhood name for each succeeding Hot Standby system.
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 drive J). Keep the same folder structure, changing only the drive letter if necessary.
13. Click **Next**.
14. As in Step 12 above, ensure that the journals path is set for the drive with sufficient free space (usually drive 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, if you fail to enter a valid key, the software will stop working after the 60-day period.

    Note: If there is no piece of paper with an install key on it (there may not be, depending on when Hot Standby was purchased), 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 four 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 Kodak 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 Kodak 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 7, *Hot Standby Further Configuration.*

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 Kodak 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 type the replication neighborhood name that matches 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 11, *Troubleshooting Hot Standby* for instructions on how to change it without reinstalling.
9. If Step 8 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 drive J). Keep the same folder structure, changing only the drive letter if necessary.
12. Click **Next**.
13. As in Step 11 above, ensure the journals path is set for the drive with sufficient free space (usually drive 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, if you fail to enter a valid key, the software will stop working after the 60-day period.

    Note: If there is no piece of paper with an install key on it (there may not be, depending on when Hot Standby was purchased), 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 two 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 Kodak 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 on-screen instructions to complete the configuration.
5. Restart the server.
6. Upon completion:
   - if you are a Kodak Link user, proceed to Section 6, *Link Configuration*
   - if you are not a Kodak Link user, proceed to Section 7

6. LINK CONFIGURATION

Perform the following procedures only if you are a Kodak Link user. These procedures are performed on the primary server.

6.1 Link Replication Configuration

1. On the primary server, locate the folder **%programfiles%\Veritas StorageReplicator\Creo\PrinergyDatabase**.
2. Make a copy of the file **Create&StartPrinergy-DatabaseJob.cmd** and name the copy **Create&StartPrinergy-DatabaseJobCopy.cmd**.
3. Right-click **Create&StartPrinergy-DatabaseJobCopy.cmd** and set the **Properties** to **Read-only** (**Properties > General > Read-only**).
4. Open **Create&StartPrinergy-DatabaseJob.cmd** in edit mode. This file must be modified so that the folders **<system drive>:\Program Files\Synapse Link\X.x\data\db**, and **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data** get replicated.
5. Locate the following line in the **Create&StartPrinergy-DatabaseJob.cmd** file:

```
srtoolur -cmd set var1 to `add rule to job "%jobname%" with
SourceServer="%PrimaryServer%",uncpath="%OracleDBPath%"`;set var2 to
`add selrule to ^%%var1 with
namespec="*.*",IsExclude=0,IsRecursive=1`;add destrule to ^%%var1 with
TargetServer="%failoverserver%",UNCPath="%OracleDBPath%";
```

6. After the line above, add the following section of text:

   Note: If Link is installed somewhere other than drive D, or if your version of Link is other than 2.1 alter the text accordingly (for example if you are using Link 2.0 and it is installed on drive C, then change **d:\Program Files\SynapseLink\2.1\...** to **c:\Program Files\SynapseLink\2.0\...**).

```
:: **********START OF SECTION ADDED FOR LINK - PRIMARY REPLICATION
***************

:: Adds Selection Rule to %jobname%, d:\Program
Files\SynapseLink\2.1\data\db *.*
```

```
echo.

echo Adding file selections for d:\Program
Files\SynapseLink\2.1\data\db to %jobname%

srtoolur -cmd set var1 to `add rule to job "%jobname%" with
SourceServer="%PrimaryServer%",uncpath="d:\Program
Files\SynapseLink\2.1\data\db"`;set var2 to `add selrule to ^%%var1
with namespec="*.*",IsExclude=0,IsRecursive=1`;add destrule to ^%%var1
with TargetServer="%failoverserver%",UNCPath="d:\Program
Files\SynapseLink\2.1\data\replicateddb";


:: Adds Selection Rule to %jobname%, d:\Program
Files\SynapseLink\2.1\yoho\server\default\data *.*

echo.

echo Adding file selections for d:\Program
Files\SynapseLink\2.1\yoho\server\default\data to %jobname%

srtoolur -cmd set var1 to `add rule to job "%jobname%" with
SourceServer="%PrimaryServer%",uncpath="d:\Program
Files\SynapseLink\2.1\yoho\server\default\data"`;set var2 to `add
selrule to ^%%var1 with namespec="*.*",IsExclude=0,IsRecursive=1`;add
destrule to ^%%var1 with
TargetServer="%failoverserver%",UNCPath="d:\Program
Files\SynapseLink\2.1\yoho\server\default\replicateddata";


:: **********END OF SECTION ADDED FOR LINK - PRIMARY REPLICATION
***************
```

6.2 Link Restoration Configuration

1. On the primary server, locate the folder **%programfiles%\Veritas Storage Replicator\Creo\Prinergy-Database**.
2. Make a copy of the file **\RestorePrinergy-Database.cmd** and name the copy **\RestorePrinergy-DatabaseCopy.cmd**.
3. Right-click **RestorePrinergy-DatabaseCopy.cmd** and set the **Properties** to **Read-only** (**Properties > General > Read-only**).
4. Open **RestorePrinergy-Database.cmd** in edit mode. This file must be modified so that the folders **<system drive>:\Program Files\Synapse Link\X.x\data\db**, and **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data** get restored to the primary server after a failover.
5. Locate the following line in the **RestorePrinergy-Database.cmd** file:

   ```
   srtoolur -cmd set var1 to `add rule to job "%restorejobname%" with
   SourceServer="%Failoverserver%",uncpath="%oracledbpath%"`;set var2 to
   `add selrule to ^%%var1 with
   namespec="*.*",IsExclude=0,IsRecursive=1`;add destrule to ^%%var1 with
   TargetServer="%PrimaryServer%",UNCPath="%oracledbpath%";
   ```

6. After the line above, add the following section of text:

Note: If Link is installed somewhere other than drive D, or if your version of Link is other than 2.1 alter the text accordingly (for example if you are using Link 2.0 and it is installed on drive C, then change **d:\Program Files\SynapseLink\2.1\...** to **c:\Program Files\SynapseLink\2.0\...**).

```
:: **********START OF SECTION ADDED FOR LINK – SECONDARY
RESTORATION***************


:: Adds Selection Rule to %restorejobname%, d:\Program
Files\SynapseLink\2.1\data\db, *.*

echo.

echo Adding file selections for d:\Program
Files\SynapseLink\2.1\data\db to %restorejobname%


srtoolur -cmd set var1 to `add rule to job "%restorejobname%" with
SourceServer="%Failoverserver%",uncpath="d:\Program
Files\SynapseLink\2.1\data\db"`;set var2 to `add selrule to ^%%var1
with namespec="*.*",IsExclude=0,IsRecursive=1`;add destrule to ^%%var1
with TargetServer="%PrimaryServer%",UNCPath="d:\Program
Files\SynapseLink\2.1\data\replicateddb";


:: Adds Selection Rule to %restorejobname%, d:\Program
Files\SynapseLink\2.1\yoho\server\default\data, *.*


echo.

echo Adding file selections for d:\Program
Files\SynapseLink\2.1\yoho\server\default\data to %restorejobname%

srtoolur -cmd set var1 to `add rule to job "%restorejobname%" with
SourceServer="%Failoverserver%",uncpath="d:\Program
Files\SynapseLink\2.1\yoho\server\default\data"`;set var2 to `add
selrule to ^%%var1 with namespec="*.*",IsExclude=0,IsRecursive=1`;add
destrule to ^%%var1 with
TargetServer="%PrimaryServer%",UNCPath="d:\Program
Files\SynapseLink\2.1\yoho\server\default\replicateddata";



:: **********END OF SECTION ADDED FOR LINK – SECONDARY RESTORATION
***************
```

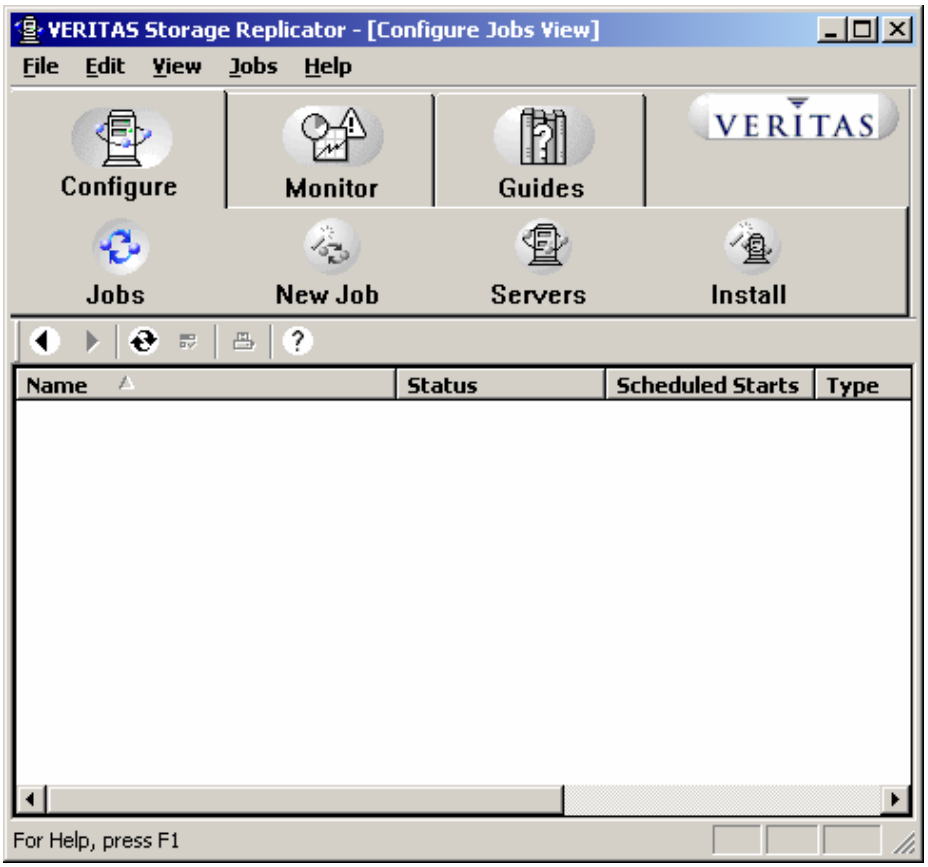
7. HOT STANDBY FURTHER CONFIGURATION

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

7.1 Setting Up the Replication Job

Using the VSR Management Console

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



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 needs to be done only 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.* Kodak Link users viewing the file tree will notice that the **<system drive>:\Program Files\Synapse Link\X.x\data\db**, and **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data** folders are part of the replication set.

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 during Kodak testing was approximately 7MBps on 100baseT, and around 20 MBps over GigE, although these numbers can vary, depending on network conditions.

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.

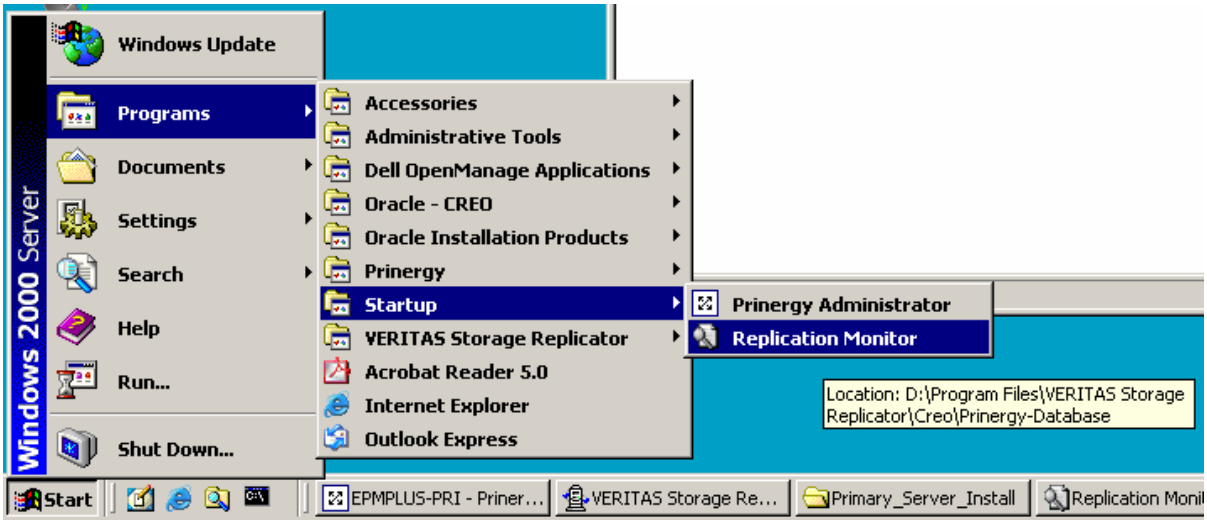
7.2 Day-to-Day Operation

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

The Kodak 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.

7.3 Failing Over

WARNING: *Because of the possibility of database corruption if the restoration procedure is not followed correctly for planned failover (running a test, for example), it is highly recommended that you have a current Oracle database backup on tape and a cold database backup(Oracle services stopped and make a copy of the E:\Orant and <Datadrive>:\ Orant folders) before running a failover test.*

Note: This procedure is also described in the quick reference card that should be left beside the primary server.

1. If running a test, disconnect the primary server network connection, to simulate a failure.
2. Shut down Prinergy on all servers.
3. If installed, stop Kodak Link on the primary server (**Start > Programs > Link > Stop Server**).
4. Move the dongle to the failover server.
5. On the failover server, fail over Prinergy by selecting **Prinergy Administrator > File > Switch To Primary**.

   Note: If the Hot Standby failover server is a render station with a *Kodak* Print Console dongle, Prinergy Administrator may report that there is a dongle mismatch. This is caused by Prinergy Administrator detecting the Print Console dongle security code. If this happens, replace the Print Console dongle with the Prinergy dongle and restart Prinergy Administrator. After restarting Prinergy, install the Print Console dongle where the Prinergy dongle was originally installed.

6. If Kodak Link is installed, rename the following folders on the failover server:

   Note: The folder paths contain the Link version number which, in the examples below, is 2.1. Your version number may be different, but the path is the same.

   - **<system drive>:\Program Files\Synapse Link\2.1\data\db** to **<system drive>:\Program Files\Synapse Link\X.x\data\db_orig**
   - **<system drive>:\Program Files\Synapse Link\2.1\data\replicateddb** to **<system drive>:\Program Files\Synapse Link\X.x\data\db**
   - **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data** to **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data_orig**
   - **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\replicateddata** to **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data**

   Note: If the files are locked and you are unable to rename the folder, wait a few minutes and try again.

7. Start Prinergy. All jobs should be accessible.
8. If Kodak Link is installed, start Link on the failover server (**Start > Programs > Link > Start Server**).
9. Redirect the InSite server to the failover server (see Section 7.5).

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

7.4 Restoring Normal Operation

WARNING: *Because of the possibility of database corruption if the restoration procedure is not followed correctly for planned failover (running a test, for example), it is highly recommended that you have a current Oracle database backup on tape and a cold database backup(Oracle services stopped and make a copy of the E:\Orant and <Datadrive>:\ Orant folders) before reverting the failover server to secondary mode.*

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. Disconnect the primary server network cable.
2. **Critical Step:** On the primary server, delete the Prinergy-Database replication job using VSR Management Console.
3. Stop Prinergy on all servers.
4. If Kodak Link is installed, stop Link on the failover server (**Start > Programs > Link > Stop Server**).
5. Move the dongle back to the primary server.

   WARNING: *Never switch the failover server back to being a secondary server while the Prinergy Database replication job is active. If you do, the database will be corrupted.*

6. Reconnect the primary server network cable.
7. On the failover server, switch the failover server to a secondary again, by selecting **Prinergy Administrator > Revert to Secondary**.
8. If Kodak Link is installed, verify that Link is not running on the primary server (**Start > Programs > Link > Stop Server**).

   Note: To save time when performing tests, you can skip restoration of the Oracle database files (steps 9 to 13), especially if the database is large. However, any work done while the system is in failover mode will be lost.

9. 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.
10. 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.

11. On the primary server, after the restore is completed, delete the **Restore-Database** job from VSR Management Console.
12. If Kodak Link is installed, rename the following folders:

    Note: The folder paths contain the Link version number which, in the examples below, is 2.1. Your version number may be different, but the path is the same.

    - **<system drive>:\Program Files\Synapse Link\2.1\data\db** to **<system drive>:\Program Files\Synapse Link\X.x\data\db_orig**
    - **<system drive>:\Program Files\Synapse Link\2.1\data\replicateddb** to **<system drive>:\Program Files\Synapse Link\X.x\data\db**
    - **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data** to **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data_orig**
    - **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\replicateddata** to **<system drive>\Program Files\Synapse Link\X.x\ yoho\server\default\data**

    Note: If the files are locked and you are unable to rename the folder, wait a few minutes and try again.

13. On the primary server, run the **EnableOracle** script. This will start Oracle on the primary.
14. On the primary server, start Prinergy on all servers. Make sure Prinergy is operating properly before proceeding to the next step.
15. If Kodak Link is installed, start Link on the primary server (**Start > Programs > Link > Start Server**).
16. 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 7.1, *Setting Up the Replication Job*.

7.5 Redirecting InSite in Prinergy Hot Standby

- For Prinergy 3.1.0.3 and earlier, contact a Kodak service representative, who will perform the redirect.
- For Prinergy 3.1.0.4 and later, run the ICU to perform the redirect. See the *Hot Standby With VERITAS Storage Replicator for Prinergy User Guide* (717-00127B) for details.

8. TESTING THE EPM/HOT STANDBY SYSTEM IN NORMAL OPERATING MODE

After the EPM/Hot Standby installation, run a test job through the system to ensure that it processes as before.

9. TESTING EPM/HOT STANDBY FAILOVER

WARNING: *Because of the possibility of database corruption if the restoration procedure is not followed correctly for planned failover (running a test, for example), it is highly recommended that you have a current Oracle database backup on tape and a cold database backup(Oracle services stopped and make a copy of the E:\Orant and <Datadrive>:\ Orant folders) before running a failover test.*

Check that EPM 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.

10. VERIFYING EPM/HOT STANDBY OPERATION IN FAILOVER MODE

1. Open Prinergy Workshop on a Prinergy client, and connect to the EPM server (now operating as the primary) when prompted.
2. Run the test job(s), from refining through to plating.

11. TROUBLESHOOTING HOT STANDBY

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 7.1.