Kodak Graphic Communications Canada Company
3700 Gilmore Way
Burnaby, B.C., Canada
V5G 4M1
Tel: 1.604.451.2700
Fax: 1.604.437.9891

Request support: http://graphics.kodak.com
ecentral.creo.com

Internal: 734-00446B-EN Rev A
Release date: 22 Feb 2007

Technical Bulletin

Prinergy Hot Standby With Double-Take

Hot Standby with NSI® Double-Take® software is a high availability solution for Kodak® Prinergy® software that provides protection in cases where the primary server fails. An upgrade option includes job data replication to allow work to continue in cases where the tertiary server fails.

Why Is Kodak Switching to Double-Take From VERITAS Storage Replicator?

Kodak needs to offer Prinergy job data replication. VERITAS® Storage Replicator™ (VSR) and VERITAS Replication Exec™ (the latest version of VSR) do not allow exclusion of folders with wild card names. Prinergy creates many temp files in folders such as **<JobsFolder>\JobName\System\SubPagesWorking**, in which **JobName** is dynamic. These temp files need to be excluded from replication. Testing has proven that Replication Exec becomes overloaded when these temp files are replicated. The server becomes sluggish after a few hours of file loading, to the point where the server stops responding.

Advantages of Double-Take

- Double-Take software can be configured with wild card paths in the temp files and folders exclusion list.
- Exclusion of the temp files and folders reduces the network bandwidth used.
- During testing with Double-Take software, no slowdown was observed, unlike that seen with VSR and Replication Exec.

Related Documentation

- *Emergency Platemaking and NSI Double-Take Installation and Operation* (731-00450A)
- *Hot Standby with NSI Double-Take for Prinergy User Guide* (731-00451A)
- *Hot Standby for Prinergy with Double-Take Quick Reference Card* (732-00042A)
- *NSI Double-Take User's Guide*, available on the Prinergy installation CD (651-00325A)

Comparison of Double-Take and VSR (as used in Hot Standby)

Feature/Description	Double-Take	VSR
Vendor	NSI Software, Inc.	Symantec Corporation (formerly sold by VERITAS Corporation)
Database replication	Yes	Yes
Job data replication	Available as upgrade	Not available—must switch to Double-Take software to support job data replication
Operating system services name	Double-Take	Storage Replicator RMS (primary only) Storage Replicator RSA
Replication neighborhood	Not applicable	Each Prinergy Hot Standby system in the same network must have a unique neighborhood or one RMS per Hot Standby system.
Notification on replication problem	Replication monitor and/or e-mail notification	Replication monitor
Minimum Prinergy version	Prinergy 2.3.1.3	Prinergy 2.2.1.5
Support for multiple failover servers	No	No

Hot Standby Configurations

Prinergy Primary Failover

The basic Hot Standby configuration has a primary and failover server. This configuration is the same for Hot Standby with VSR and Hot Standby with Double-Take software. The requirements are:

- Server class platform
- Drive letter assignments for the system drive (usually **D:**), **Temp** drive (usually **E:**), and **DataLog** drives (usually **G:** or **J:**) should be identical for the primary and failover servers.
- Identical Prinergy and Oracle® software program paths for the primary and failover servers
- Prinergy 2.3.1.3 or later (Hot Standby with Double-Take software)
- Sufficient space in the failover **Temp** and **DataLog** drives to accommodate replicated data from the primary server
- 2 GB RAM recommended for primary and failover server
- More than 100 MB of free space available on the **Temp** drive during installation.
- At least 68 MB of free system disk space available during Double-Take software installation.

- Sufficient disk space (more than 1 GB) for disk queuing on the primary server **DataLog** drive.
- Jobs homed on a server other than the primary, for job data to be accessible during failover.
- Static IP addresses for the primary and failover servers.

When the primary server fails, the prepress manager must decide when to switch over to the failover server. For the switchover, the Prinergy dongle must be removed from the primary server and installed on the failover server. Prinergy must be stopped on all servers (using the failover Administrator). Switchover can then be initiated from the failover Administrator. Work can continue on current jobs while the system is in failover mode.

An extra dongle is supplied with the Hot Standby system. This dongle is intended to be used to troubleshoot the primary server. A Kodak service representative can provide a temporary license key for this dongle.

When the primary server becomes operational again, failback can be initiated. Prinergy must first be stopped. Prinergy database replication must be disconnected from the Double-Take Management Console. The failover server can be switched to become a secondary server, again using the failover server Administrator. At this point, the database in the primary server will be older than the one in the failover server. The Oracle software databases are synchronized using Double-Take software. The Hot Standby with Double-Take user guide, installation guide, and quick reference card describe the procedures for failover and failback.

Prinergy Job Data Replication

Prinergy job data replication provides work continuity for Prinergy in the event that the server hosting the Prinergy job data fails. The requirements for Prinergy job data replication are:

- A tertiary server that is a Microsoft® Windows® 2000 or Windows 2003 standard edition server with direct attached storage.
- Identical drive letter and Job volume paths on the tertiary and backup tertiary servers.
- No Prinergy JTPs hosted on the tertiary server, other than archive and purge JTPs.
- Job data storage capacity on the backup tertiary server at least equal to that of the tertiary server.
- The backup tertiary server can be a secondary server; however, a dedicated backup tertiary is recommended for full redundancy. If the failover server is also used as the backup tertiary server, job data replication will be stopped during failover mode. Double failures (Prinergy primary and main tertiary server failure) are not supported.
- Static IP addresses on the main tertiary and backup tertiary servers.
- Gigabit network connection (recommended).
- 1 GB RAM for the main tertiary server (recommended).

- 1 GB RAM (recommended) for dedicated backup tertiary server; 2 GB if it is also used as secondary server.
- More than 100 MB of free space available on the **Temp** drive during installation.
- At least 68 MB free system disk space available during Double-Take software installation.

Double-Take Failover Control Center (FCC) runs on the backup tertiary server and continuously monitors the main tertiary server. When the FCC fails to communicate with the main tertiary server within a 25-second period, a failover condition dialog box appears on the backup tertiary desktop. If configured, an e-mail notification is also sent to warn that a failover condition was met. Operators will also bring the problem to the attention of the prepress manager because they will not be able to access the main tertiary server.

If the prepress manager decides that a failover to the backup tertiary server is required, they just need to respond according to the dialog box. Prinergy Workshop clients may need to be restarted after the failover.

During failover mode, the backup tertiary server will take on the main tertiary server's identity in addition to its own. It will respond to connection requests intended for the main tertiary server. The main tertiary server should be isolated from the network while in failover mode.

Regular production work can continue while in failover mode. When the main tertiary server is repaired and is ready to be put back in service, failback should be scheduled. This is because synchronization of the data from the backup tertiary to the main tertiary may take significant time, depending on the connection and amount of new or changed data.

The failback procedure is described in the Hot Standby with Double-Take user guide and installation guide.

How Is Hot Standby With VSR Migrated to Hot Standby With Double-Take?

Emergency Platemaking and NSI Double-Take Installation and Operation (731-00450A) describes the procedure for migrating from VSR to Double-Take software. The procedure includes:

- Uninstalling VSR from primary and failover servers
- Installing Double-Take on the servers using the Kodak installer CD
- Configuring the database replication set using the Kodak installer CD
- Configuring replication monitoring

Note: Job data replication can be added to this configuration (see Prinergy Job Data Replication on page 3).

How Is Hot Standby With Double-Take Installed From Scratch?

Emergency Platemaking and NSI Double-Take Installation and Operation (731-00450B) describes the procedure for installing Double-Take software from scratch. Note that *Prinergy job replication* is an option only, so some installations will require only the *Prinergy server database replication* procedure. When the installation is for an existing Prinergy system using a new server as the failover, the procedures are as follows.

Primary Server Database Replication

- Installing Prinergy (as primary) on the failover server. Use the same Araxi service login account as the existing primary server.
- Converting the failover server to a secondary by running the **ConfigEPServer** script
- Configuring AraxiFileReplicator
- Installing Double-Take software on the servers
- Configuring the database replication set
- Configuring replication monitoring
- Testing failover and configuring JTPs and JTP pools while in failover mode
- Failing back to normal mode

Prinergy Job Data Replication

- Installing Double-Take software on the main tertiary and backup tertiary servers
- Configuring the job data replication set
- Configuring replication monitoring
- Configuring backup tertiary shares
- Configuring Failover Control Center and failover/failback scripts
- Testing failover
- Failing back to normal mode

About Kodak Graphic Communications Group (GCG)

The leading provider of graphic communications solutions worldwide, Kodak's Graphic Communications Group (GCG) offers image capture systems; professional color, copydot, and high-speed document scanning systems; inkjet printing and proofing systems; workflow and color management software; thermal imaging devices for film, plates, and proofs; high-quality proofing media, printing plates, and recording film; on-demand color and black-and-white printing systems; data storage products; and professional services. With corporate headquarters located in Rochester, N.Y., Kodak (NYSE: EK) has the largest global sales force and is committed to a digitally oriented growth strategy.

© Kodak, 2007. All rights reserved. Kodak, Creo, and Prinergy™ Hot Standby are trademarks of Kodak. Adobe, Acrobat, Adobe Illustrator, Distiller, Photoshop, PostScript, and PageMaker are trademarks of Adobe Systems Incorporated. Apple, AppleShare, AppleTalk, iMac, ImageWriter, LaserWriter, Mac OS, Power Macintosh, and TrueType are registered trademarks of Apple Computer, Inc. Macintosh is a trademark of Apple Computer, Inc., registered in the U.S.A. and other countries. PANTONE, Hexachrome, PANTONE Hexachrome, and PANTONE MATCHING SYSTEM are the property of Pantone, Inc. PEARL, PEARLsetter, PEARLhdp, PEARLdry, and PEARLgold are registered trademarks of Presstek, Inc. XEROX is a trademark of XEROX CORPORATION.

Technical data subject to change without notice.