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: 78-0127B-A
Release date: 22 Feb 2007

Technical Bulletin

Prinergy Hot Standby

Hot Standby was developed in response to Kodak® Prinergy® software users' concerns about maintaining job throughput in the event of a Prinergy primary server failure. If the Prinergy primary server fails, Hot Standby mode enables the system to continue to process jobs and produce plates, with full access to any jobs not stored on the primary server. Hot Standby is based on using a secondary (failover) server as a primary server until the original primary server is restored. The reconfiguration required when switching to and from Hot Standby mode is very straightforward, so you can be up and running again minutes after detecting a failure of the primary server.

Hot Standby is based on Kodak's Emergency Platemaking (EPM) technology, and is very similar in operation. If you have experience with EPM, you should find it easy to use Hot Standby.

Description

Hot Standby involves installing all of the primary server's Prinergy software components on 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® software database. A data replication engine is installed on the primary and failover servers.

During normal system operation, the Hot Standby failover server uses only the Prinergy components required by a regular secondary server. All other non-secondary server components, such as the Oracle database, are inactive and unused. The primary server database is replicated to the failover server in real time.

Once nightly (at 10:00 PM local time), the following primary server configuration files are copied from the primary server to the Hot Standby failover server:

- Process plans
- Prinergy license key
- Standard color entries
- Fonts

This action captures any configuration information from the original primary server that is required by the Hot Standby failover, if you invoke switchover.

If the Prinergy primary server fails, you reconfigure the Hot Standby failover server to enter Hot Standby mode and resume processing of jobs (at a somewhat reduced capacity).

The procedure includes:

- Physically swapping the Prinergy dongle from the original primary server to the Hot Standby failover server
- Stopping Prinergy on all servers
- Invoking Hot Standby mode by selecting the **Switch to Primary** menu item from the Hot Standby failover server. This allows the Hot Standby server to switch from its typical secondary functions to its temporary role as a Prinergy primary server. The Hot Standby server uses the primary server configuration files copied from the previous night as the initial configuration for the system.
- Some manual reconfiguration of JTPs and process plans may also be required. Any JTPs or process plans that were modified or added after 10:00 PM the previous night must be manually reconfigured.

Once in Hot Standby mode, you can process files through the Hot Standby failover server (now operating as a primary server) until the original primary server is restored. Because the Hot Standby failover server's database is an up-to-the-second mirrored copy of the primary server's, all of your jobs will be available and ready to use (except for any job stored on the now-unavailable primary server).

All of the other secondary servers and render stations that were part of the original system configuration are available in Hot Standby mode. For example, a Prinergy system that originally consisted of a primary server, a Hot Standby failover server, one standard secondary server, and two render stations in normal operating mode will run in Hot Standby mode with the Hot Standby failover server operating as a primary server, one standard secondary server, and two render stations.

When the original primary server is restored, you select the **Revert to Secondary** menu item on the Hot Standby failover server to switch the Hot Standby server back to operating as a normal secondary server. After resynching the primary server's database with the database on the failover server, you can restart the Prinergy system in normal operating mode.

In order to achieve adequate system performance in Hot Standby mode, the Hot Standby failover server should have at least 2 GB of RAM.

To achieve the greatest level of redundancy, use the job replication option of storing all jobs on a tertiary file server, and not on the primary or secondary servers. This configuration requires a minimum of three servers (one primary, one failover secondary/render station, and one tertiary).

The job replication option adds tertiary server redundancy (see *Prinergy Hot Standby With Double-Take* (734-00446A) and *Prinergy Hot Standby (EPM+) and Job Replication With Double-Take* (734-00507A). It is possible to store jobs on the Hot Standby failover server and use a configuration of two servers (one primary, and one failover secondary/render station with a job volume attached). This provides considerably less redundancy, but requires less hardware.

Jobs that need to be accessed in Hot Standby mode should not be homed on the primary server. If jobs are stored on the primary server, it will be impossible to access them should the server fail.

Benefits

Failing Over is Fast

It takes 5 to 20 minutes to fail over a Prinergy system if the primary server fails. Larger systems will take more time than smaller ones.

Production Can Continue While the Primary Server Is Down

Being able to continue job processing while the primary server is down provides an important fallback option for Prinergy users. Hot Standby makes this capability even more attractive because all previously created jobs are available.

Prinergy Software Updates Are Easily Applied

By installing all of the primary server components on the Hot Standby server, Prinergy major and minor updates are easily applied to the secondary server. Prinergy 2.2.1.5 and later update installation scripts recognize a Hot Standby server and install the appropriate updated components for both normal secondary mode and Hot Standby mode.

Same User Interface and Features Are Used in Hot Standby Mode

Even after a failure, you can continue to work with exactly the same Prinergy user interface and features. You do not need to learn a simplified user interface or be restricted to a subset of Prinergy features after a failure of the primary server.

Jobs Created on the Hot Standby Server Are Still Available After the Problem Is Fixed

When switching the system back to normal functionality, the working database on the Hot Standby failover server is replicated back to the original primary. This enables full job access during and after a primary server failure.

Known Limitations

Archiving While in Hot Standby Mode Is Not Supported

Archiving is not currently supported on the Hot Standby server. This means that Jobs archived on the original primary cannot be retrieved while using the Hot Standby server as the primary server.

Overall System Throughput May Be Reduced

While using the Hot Standby server as the primary server, the system throughput will be reduced because the total number of servers in the Prinergy system has decreased. However, Hot Standby mode will continue to support distributed system processing across multiple servers other than the original primary server.

JTP Configuration On the Hot Standby Server Requires Some Manual Reconfiguration

JTP configurations on the primary server and Hot Standby server are independent of one another. To configure the Hot Standby JTPs and JTP pools, the server they are on must be running as a primary. Initial configuration is done during the installation. If the process plans are changed to target a new JTP or pool on the primary server, you must add the new JTP or pool on the Hot Standby server when you switch it to run as the primary server.

Job Files On the Primary Server Are Not Accessible

Job data files on the primary server will not be available in Hot Standby mode. This may require that you restore source files from their initial locations so that jobs can be restarted from scratch on the Hot Standby server. All jobs should be stored on tertiary file servers with job data replication, to enable access to job data under most failure conditions.

Process Plans From the Original Primary Server May Require Some Manual Reconfiguration

The process plans from the original primary server are migrated nightly to the Hot Standby server.

You may have to manually reconfigure process plans for:

- Any references to primary-server-specific JTPs (as opposed to pools)

  These must be replaced with either generic pool references or new versions of the primary server JTPs that have been manually configured on the secondary server.
- Any files explicitly referenced in the process plans that refer to files existing only on the original primary server

The process plans must be updated to refer to new locations. You must identify these files in advance and ensure that they are accessible from somewhere other than the primary server for Hot Standby mode.

In particular, the following files should be reviewed:

- Mark sets

  The nightly configuration migration copies the mark sets from their standard location at **%AraxiHome%\Creoaraxi\data\MarkSets** on the original primary server to the identical location on the EPM+ server. If, however, the process plan references mark sets that are not at the standard location, but somewhere else on the original primary server, the location references will need to be updated in the process plans.

- ICC profiles

  If the ICC parameters in the process plan refer to profiles located on the original primary server, you must update these location references in the process plans.

Some Fonts May Not be Accessible

Any fonts stored on the original primary server in a location other than **%AraxiHome%\Creoaraxi\data\fonts** will not be accessible, so you must duplicate these fonts on the Hot Standby server.

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.