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Technical bulletin

Prinergy Archive and Backup Comparison

This technical bulletin provides information about archiving and backing up files in the Kodak® Prinergy® software. It includes information about the following topics:

- Differences between a backup and an archive
- Prinergy Archiver system overview, Archiver hardware and software components, and the implications of (and alternatives to) using Prinergy Archiver
- Prinergy backup options, and related hardware and software components
- Configuring backup hardware (removable storage devices)
- Sharing removable storage devices for both archiving and backup

For detailed information about archiving and backing up files from a customer point of view, see the *Prinergy System Administration Guide*. For detailed information about how to archive, purge, and retrieve Prinergy jobs and files, see the Prinergy Workshop Help.

For detailed information about backup and system recovery from a service point of view, see the *Prinergy 3.x Backup Guide* (731-00544B), an internal document intended to provide service personnel with the information required to configure and maintain a backup system and to recover a Prinergy system.

Archive vs. Backup: What's the Difference?

An archive is a potentially permanent record of a set of related files (for example, a job) that may span several file systems on one or more computers. For example, job files in Prinergy can be stored on multiple servers, system files for a job may be stored in a job folder on the primary server, and input files may be stored on a file server. Archiver extracts all related files on the Prinergy system, regardless of which servers they are stored on, and writes the files to archive media.

A backup is a temporary copy of files. It is a duplicate image of a complete disk partition, file system, portion of a file system directory structure, Oracle® database files and logs, and/or system share, which is saved for the purpose of disaster recovery. Files are not saved in job context; there is no relationship between backed up

files and the database. In fact, a system backup may not capture the state of the file system. Unlike an archive, which is often permanent, a backup is normally retained only until a more up-to-date record is created.

The following table describes the major differences between an archive and a backup.

Feature	Archive	Backup
Permanent record?	Yes	No
Job backed up and job context retained?	Yes (if using Prinergy Archiver)	No
Oracle database backed up?	No	Yes
Intended to protect the system against a disaster, such as a fire, disk crash, or flood?	No	Yes

Overview of the Archiver System

The Archiver system migrates job data between online storage (hard drives) and removable storage media. To accomplish this, it performs the following three tasks:

1. Archives job data

2. Purges job data

3. Retrieves job data

For detailed information about archiving, see the Prinergy Archiver chapter in the *Prinergy System Administration Guide*.

Archiving Job Data

When a job is archived, all job files are saved to removable storage media. Metadata about the job, such as job history and how the files are linked together, remains in the Oracle database on the Prinergy primary server. The customer can archive an entire job or selected files.

Purging Job Data

Once a job is archived to removable storage media, the customer may want to purge the job files from the job server to free up disk space. Purging deletes selected files from the server; however, the job remains in the system because job metadata—for example, job history—is retained in the Oracle database. The job metadata indicates which tapes are related to which files.

Retrieving Job Data

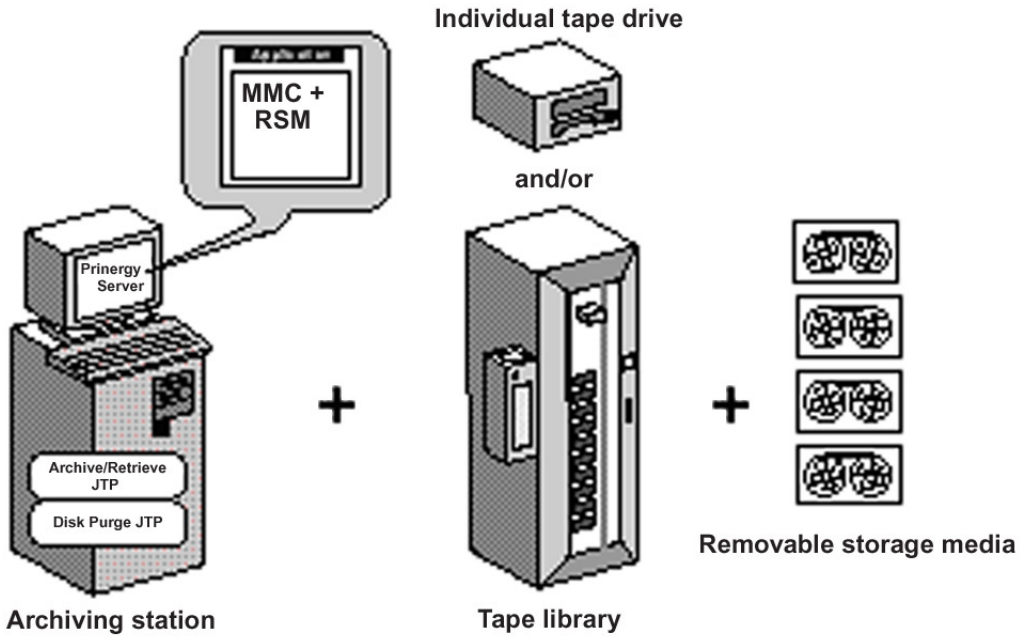
The customer can retrieve archived files to restore a job to the file system. For example, they may want to remake a plate for a job that has been purged from the system. The Oracle database works with the Archiver system to retrieve the necessary files from removable storage media and to restore the files to the Prinergy file system.

Prinergy Archiver System Components

The Prinergy Archiver system consists of:

- Archiver software (Microsoft Management Console (MMC), Removable Storage Manager (RSM), Archive/Retrieve JTP, Disk Purge JTP), running on a single Prinergy server
- One or more removable storage devices, directly connected to the Prinergy server
- Archiving media

A Prinergy server on which the Archiver system runs is called an archiving station.



Using the Archiver System

For more information about the procedures in this section, see the archiving chapter in the *Prinergy System Administration Guide*. For more information about using Prinergy Workshop, see the Prinergy Workshop Help.

To use the Prinergy Archiver system:

1. Develop an archiving strategy—decide how to organize and store media.

2. Use RSM to set up media pools according to the archiving strategy. Media pools are a logical way to organize information onto media. They appear as options in the Process Plan Editor, enabling the customer to direct an archive to specific media.

3. In Prinergy Workshop, modify or create a process plan to do one of the following tasks:

    - Archive job files to specific media pools (the customer must specify which media pool or pools to archive to.)

    - Purge job files from the system

    - Retrieve job files

4. If necessary, use RSM to physically manage media in the removable storage device.

5. In Prinergy Workshop, run the desired process plan. The Archiver system will carry out the request specified in the process plan.

6. If prompted, complete any user requests. Occasionally, the customer may be required to fulfill a request, such as inserting media into or ejecting media from the storage device.

7. If necessary, remove media from the storage device and store it according to the archiving strategy.

Archiving Jobs Without Prinergy Archiver

Customers who do not have Prinergy Archiver can create a copy of a job in the following two ways:

- Export the job using an Export process plan
- Archive the job folder using a third-party archive solution

Neither option provides the full benefits of Prinergy Archiver. For example, with Prinergy Archiver, jobs are saved in context with automatic tracking, customers can archive and purge partial jobs, and customers can automatically create multiple copies of an archive by archiving to multiple pools.

Exporting a Job Using an Export Process Plan

1. Export a job using an Export process plan.
2. Archive the resulting .zip files using a third-party archiving solution.
3. Remove the original job from the system. Use the Job Finder to destroy the job.
4. Restore the job. Use an Import process plan to import the exported .zip files as a new job.

Consider the following issues when using this option:

- Exported jobs do not include everything that was in the job. For example, original source files (such as EPS, PS, and PDF) are not exported, and some job history may be lost.
- Prinergy does not automatically keep track of which jobs are archived. The customer must manually keep track of which jobs are archived in order to avoid accidentally deleting a job that has not been archived.
- The customer cannot use the Prinergy “purge” function and must manually destroy jobs. Job information is not stored in the Prinergy database, and the customer must keep track of which exported jobs are archived to avoid accidentally destroying a wrong job. (Before purging a job or file, Prinergy Archiver automatically checks to make sure a job is archived.)
- The customer cannot use the Prinergy “retrieve” function and must import an entire job into the system as a new job.

Archiving the Job Folder Using a Third-Party Archiving Solution

1. Archive the entire job folder from the RAID using a third-party archive solution.

2. To free up space on the system, use Windows® Internet Explorer to manually delete the job folder from the RAID. Do not destroy or delete the job in Prinergy.

3. Restore the job folder to the original location on the RAID. Retrieve the folder using a third-party archive solution.

Consider the following issues when using this option:

- An archived job folder may not contain all the files for the job. For example, some job files may be stored on a different server. (Prinergy Archiver automatically archives all files related to a job, regardless of the location.)

- Prinergy does not automatically keep track of which jobs are archived. The customer must manually keep track of which jobs are archived in order to avoid accidentally deleting a job folder that has not been archived.

- The customer cannot use the Prinergy “purge” function and must manually delete the job folder. The customer must keep track of which job folders are archived to avoid accidentally deleting a wrong folder. (Before purging a job or file, Prinergy Archiver automatically checks to make sure a job is archived.)

- The customer cannot use the Prinergy “retrieve” function and must manually restore the job folder using a third-party archive solution.

- The job or file status shown in Prinergy Workshop is out of synch with the file system.

- The customer is responsible for maintaining the third-party archive solution and for handling any problems that may arise.

What Is a Backup?

A backup is a temporary copy of files. It is a duplicate image of a complete disk partition, file system, portion of a file system directory structure, Oracle® database files and logs, and/or system share, which is saved for the purpose of disaster recovery.

A Prinergy server backup includes the Oracle database. The customer must also back up the system drives of the Prinergy primary server and secondary servers (including render stations) in order to preserve system configuration settings.

Why Is a Backup Important?

The Prinergy database and operating system must be regularly backed up to media to minimize data loss or damage caused by problems such as disk failures, power outages, and virus infections. A daily backup provides the best opportunity for maximum data recovery.

If the Prinergy system is not backed up or the backups are out-of-date:

- If the Prinergy system fails and must be restored, it will take substantially longer to get the system running to pre-failure specifications. For example, process plans, Kodak Harmony® software curves, and ICC profiles will need to be recreated. Exact times will vary, but it can take two to three times as long to restore a system that has not been backed up. In some cases, it may take longer.
- Software updates and system customizations must be manually reapplied, which also increases recovery time.
- The database may not be recoverable. This has a larger impact on active jobs and on jobs that have been archived and purged from the Prinergy system.

Prinergy Backup Components

A Prinergy backup system consists of the following components:

- Oracle Backup Manager software, for creating a backup of the Oracle database onto disk
- Software for backing up the Prinergy system drives and backing up the Oracle database to media (The exact software depends on which backup option the customer is using.)
- One or more removable storage devices (If customers want to use the same storage device that they use for archiving, they must use a tape library. A storage device is not automatically included with the Prinergy backup system.)

- Microsoft Management Console (MMC) and Removable Storage Manager (RSM), which are included in the Windows 2000 operating system (also used by Prinergy Archiver)
- Backup media

Prinergy Backup Options

Prinergy includes the following two backup options:

- Basic Backup (default)
- Prinergy Online Backup (recommended)

The table on page 10 compares the features the backup options.

Basic Backup (Default)

Basic Backup is the default backup option for Prinergy. It includes the Oracle Backup Manager software, which automatically backs up the Prinergy database onto a local disk at a scheduled time. Basic Backup does not include a backup of the Prinergy system drives.

The backup database is not automatically saved to media. The customer must provide a backup software package—for example, NT Backup—to write the backup copy of the Oracle database to media and to back up the system drives. This software must be Windows 2000-compatible. For information about which files to back up, see the *Prinergy System Administration Guide*. A removable storage device is not included with the Basic Backup option, however; customers can purchase a suitable device from Kodak as part of their Prinergy system.

Note: If a customer plans to use the same device for archives and backup, the customer must use a tape library which is RSM-compatible. The customer cannot use a stand-alone DLT drive.

Basic Backup is standard with each Prinergy system. For this solution to be successful, the customer must ensure that the files necessary to recover a system are backed up regularly. If a customer is using Basic Backup:

- A Kodak service representative will configure Oracle Backup Manager to back up the database to disk at a scheduled time.
- A Kodak service representative will help customer use the most recent backup to restore the Prinergy database. The customer must provide a backup media from which to restore the database.
- The customer is responsible for restoring their system drives.

Prinergy Online Backup (Recommended)

The Prinergy Online Backup option enables online backups of the Prinergy system to disk and to media—in this case, DLT tape. The Prinergy system is backed up while the Prinergy software is running, and the system can continue to process jobs.

This option includes Oracle Backup Manager and the Prinergy Backup software. A Kodak service representative configures the software to create a scheduled online backup onto media. The Prinergy Online Backup option saves a copy of the following items:

- Oracle database
- System drives of the Prinergy primary and secondary servers

Prinergy Online Backup performs a full backup and overwrites existing backup media—it does not append media. In addition, eight hours after the backup finishes, the Prinergy system runs a check to confirm whether the backup was successful. The customer can use Prinergy Administrator to monitor the backup status.

Note: For guidelines on media rotation, see the *Prinergy System Administration Guide*.

Prinergy Online Backup is an optional feature. If a customer is using Prinergy Online Backup:

- A Kodak service representative will configure Oracle Backup Manager to back up the database to disk at a scheduled time.
- A Kodak service representative will configure Prinergy Backup software to back up the backup database and system drives to media.
- A Kodak service representative will help restore the database and system drives from the most recent backup to tape.

The Prinergy Online Backup option cannot be used to back up the RAID or non-Prinergy servers. This means that job data must be archived (to retain job context). Alternatively, the customer may want to devise a separate backup plan for backing up job data, independent of the system backup.

Prinergy Online Backup does not create duplicate tapes (copies of the backup).

Note: In order for any backup strategy to be successful, the customer must monitor and maintain the backup process on a regular basis.

Comparing Basic Backup and Prinergy Online Backup

Note: Neither backup solution backs up job content from the RAID or local drives. The customer should use Prinergy Archiver to back up job content, or devise an additional (unsupported) backup solution to back up the RAID.

Description	Basic Backup (Standard)	Prinergy Online Backup (Optional)
Includes the Oracle Backup Manager software	Yes	Yes
Includes the Prinergy Backup software	No	Yes
Automatically backs up the Oracle database to a local disk	Yes	Yes
Automatically detects the location of the Oracle database backup (on disk) and writes a backup to media	No	Yes
Automatically backs up the Prinergy primary server system drive and system state to media	No	Yes
Automatically backs up the secondary server(s) system drive and system states to media	No	Yes
Automatically runs a check to confirm whether the backup was successful	No	Yes
Enables the customer to monitor the backup status in Prinergy Administrator	No	Yes
Prinergy can run and process jobs during a backup	Yes	Yes
A Kodak service representative will assist with database recovery (if a database backup is available on media)	Yes	Yes
A Kodak service representative will assist with system drive(s) recovery	No	Yes

Hardware Configuration Guidelines (Storage Devices)

For the Prinergy Online Backup option, the storage device(s) must be connected directly to the Prinergy primary server.

The following table outlines the recommended drive capacity, based on the number of servers.

Drive Type	Capacity	Number of Servers Supported (Primary and Secondary, Including Render Stations)
AIT 2	50 GB	8
AIT 3	100 GB	15

Note: These figures are estimates only. Actual numbers may vary, depending on the Oracle database size. This table is based on backup data of 8 GB for the Prinergy primary server and 6 GB data for each secondary server and render station.

- If a customer is purchasing the Prinergy Online Backup option and the number of servers in their system exceeds the number in the above table, the customer should purchase a tape library to ensure that backups are successful. Prinergy Online Backup allows backups to span more than one tape only when using a tape library. If a customer is using an individual tape drive and the backup exceeds a single tape, the backup will fail.

- If a customer wants to back up their RAID, they should purchase a tape library to enable unattended backup. The RAID (and, therefore, job data) is not backed up as part of either Prinergy backup option. If customers want to back up their RAID, they must devise a separate strategy. Customers are responsible for configuring their own RAID backup and for recovering the RAID.

Using a Removable Storage Device for Archiving and Backup

Both the Prinergy Archiver and Prinergy Online Backup use RSM to manage media and storage devices. RSM enables a customer to use the same removable storage device(s) for archiving and backup. This can help customers to reduce costs by maximizing hardware use.

If a customer wants to use the same removable storage device for hardware and backup, they must follow these hardware guidelines:

- If the customer is using the Prinergy Online Backup option or NT Backup with Basic Backup, the Prinergy primary server must be used as the archiving station. The archiving JTPs must be running on the Prinergy primary server and the storage device(s) must be directly connected to the primary server. The backup requires the storage device to be directly connected to the Prinergy primary server, and Prinergy Archiver requires that the device be directly connected to the server running the archiving JTPs.

- It is highly recommended that the customer purchase a tape library to minimize media switching to maximize performance.

- Individual tape devices are not recommended for use with both archiving and backup, because it is not possible to simultaneously archive and back up on a single drive. The customer must manually switch media on a regular basis to ensure that backup occurs. This increases the risk of backup failure.

If a customer wants to use a removable storage device for both archives and backups, they must keep archiving media separate from backup media to avoid overwriting important data and follow these guidelines:

- Clearly label media.

- Create separate media pools for archiving and backup, with a well-defined naming convention.

If the backup solution includes automatic backups and the customer is using an individual tape drive, you may want to help the customer devise a workflow schedule that prevents backup and archiving from occurring simultaneously.

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