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: 734-00398A-EN Rev A
Release date: 27 January 2006

Technical bulletin

Configuring Scheduled RAID Backups Using Windows 2000 NTBackup

This document describes how to set up scheduled RAID backups using Windows® 2000 NTBackup and is provided only as a reference for Kodak service personnel. If a customer wants to back up their RAID using Windows 2000 NTBackup, they do so at their own risk. Windows® 2000 NTBackup is not part of the Prinergy® Backup functionality.

Prerequisites

First, determine the schedule you want to use, for example, a full backup every Sunday, and an incremental backup each day of the rest of the week (Monday–Saturday).

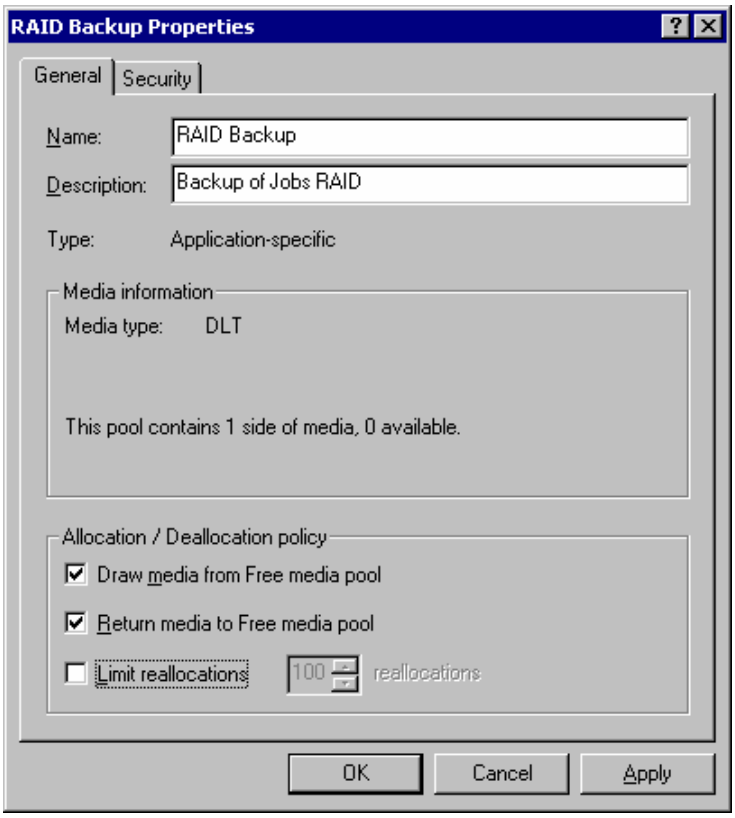
Second, determine the rotation schedule of backup tapes you want to use. For a weekly backup schedule, this is the number of weeks to retain the backups. For example, if you want to retain four weeks of backup information, four tapes must be allocated and named in the pool for the rotation. If you need to have the incremental backup on a separate tape from the full backup—for example, to allow safekeeping of the full backup—four additional tapes must be allocated and named.

Note: RAID backup tapes should be allocated and named before you configure scheduled backup jobs. Configure scheduled jobs to use the allocated and named tapes instead of using new tapes.

Setting Up Removable Storage Media (Tapes) and NTBackup

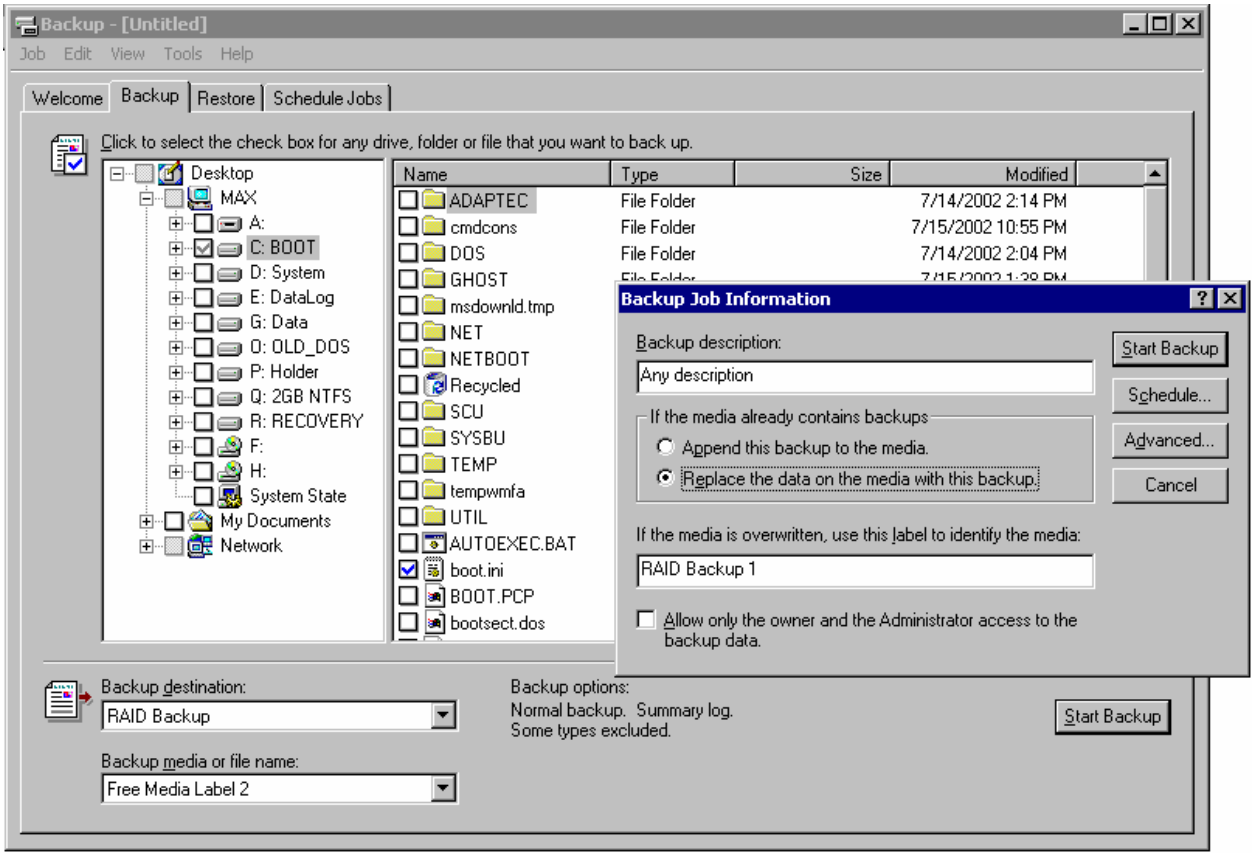
You use the NTBackup wizard to set up the RAID backup job.

1. In **Removable Storage > Media Pools > Backup**, create a backup pool for the RAID. In the RAID Backup Properties dialog box, select the **Draw media from Free media pool** and **Return media to Free media pool** check boxes.



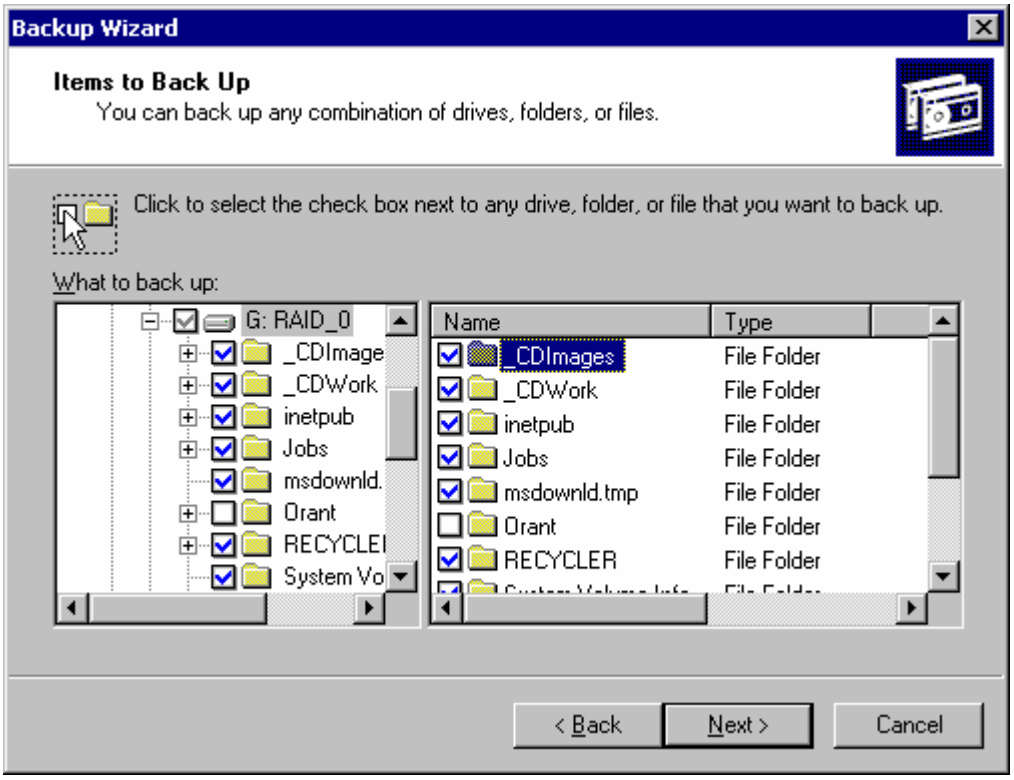
2. Allocate the tapes for the RAID full backup by dragging the required number of free tapes into the pool created in step 1. Twice the number of tapes must be allocated if incremental backups will use separate tapes from the full backups.

3. Run NTBackup. Run NTBackup using a small backup job that is configured to replace the data on the tape. Label the media (**RAID Backup 1**, **RAID Incr Backup 1**, and so on).



4. Repeat for each tape in the rotation. After labeling all tapes, proceed to step 5.
5. On the NTBackup **Welcome** tab, start the Backup Wizard, and click **Next**.
6. In the **What to Back Up** dialog box, select **Back up selected files**, and click **Next**.

7. In the **Items to Back Up** dialog box, scroll down to the **RAID**. Select the RAID by clicking the checkbox.



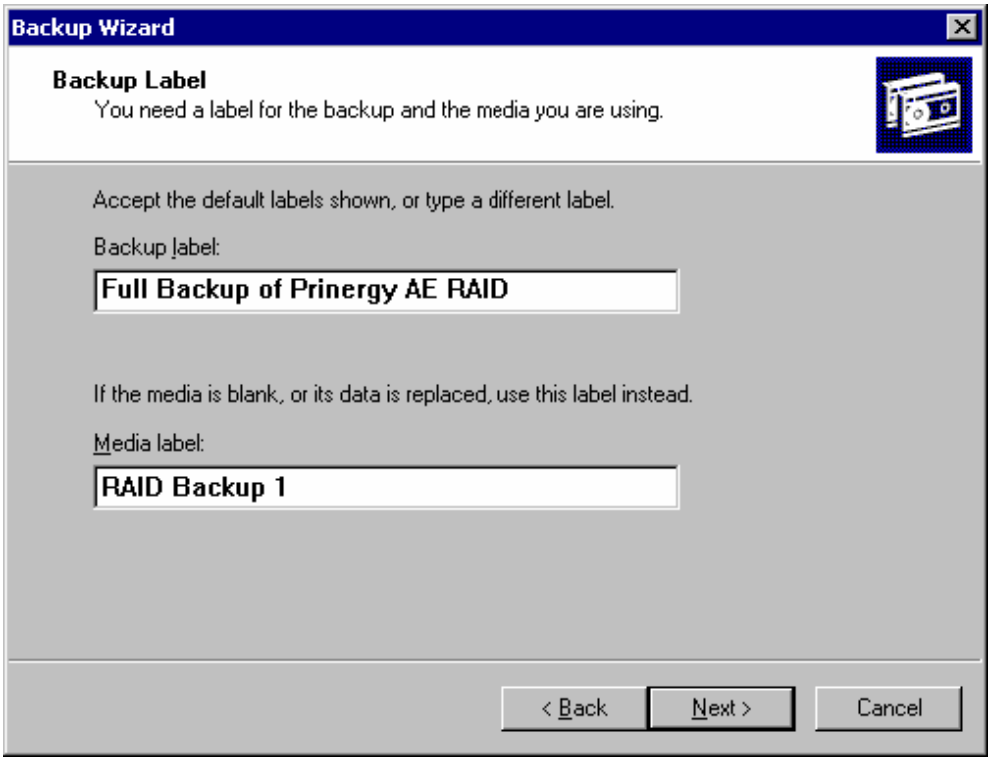
8. If the Oracle® database is in the RAID, exclude the Oracle folders by clearing the check box beside the **Orant** folder. It is important that the following folders *never* be backed up, or you could damage the Oracle database:

   <DataDrive>\Orant\Oracle\ControlFile
   <DataDrive>\Orant\Oracle\OnLineLogFiles
   <DataDrive>\Orant\Oracle\Data
   <DataDrive>\Orant\Oracle\SortSpace

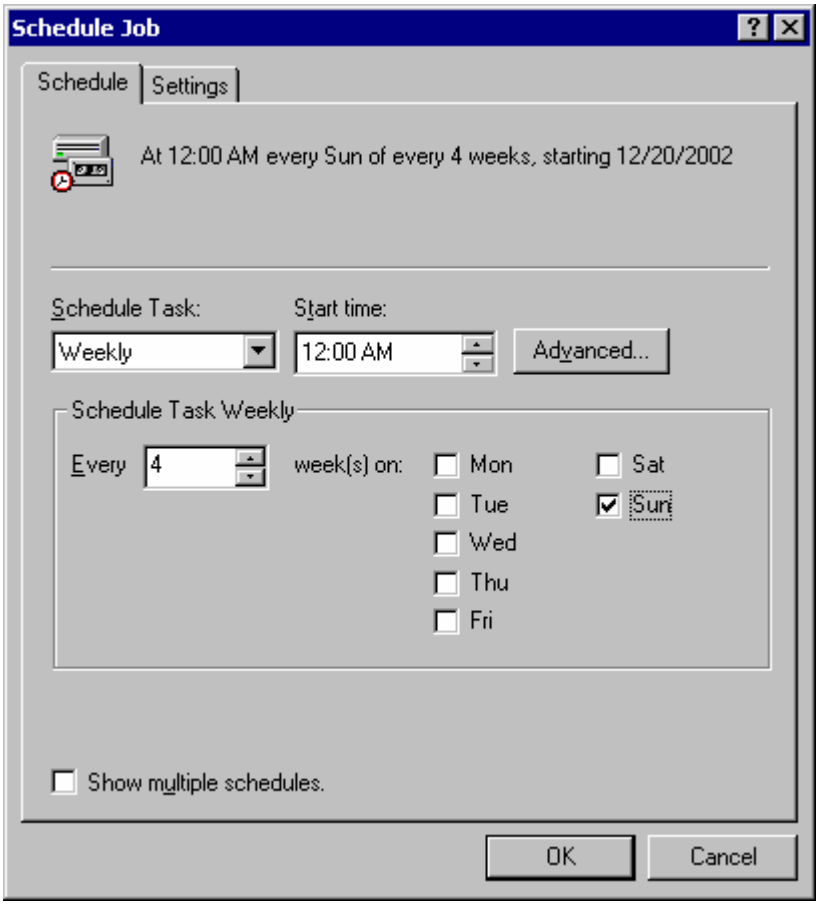
   Note: The Oracle database is backed up by Prinergy Backup (Basic or Online). If Basic Backup is what a customer has purchased, include the database backup location indicated in **OracleBackupManager** in this job selection.

9. Click **Next**.
10. In the **Where to Store the Backup** dialog box, select the pool created in step 1.
11. In **Backup media or file name**, select the first backup media (from the media named in step 3), and click **Next**.
12. In the **Completing the Backup Wizard** dialog box, click **Advanced**.
13. In **Select the backup operation to perform**, select **Normal** (for *full* backup), and click **Next**.
14. In the **How to Back Up** dialog box, select **Use hardware compression if available**. Clear the **Verify data after backup** check box, and click **Next**.
15. In the **Media Options** dialog box, select **Choose to replace the data on the media**, and click **Next**.

16. In the **Backup Label** dialog box **Media label** box, type the name of the backup media selected in step 10. This will ensure that the tape will not be renamed differently. In the **Backup Label** box, change the backup label to something meaningful (such as the RAID identifier), and click **Next**.



17. In the **When to Back Up** dialog box, select **Later**. Enter the account that the backup will use. (This will be the account belonging to the user who will log in to administer the tape backups. This user must have Administrator or Backup Operator rights.) Type a job name—for example, **Full Raid Backup1**.
18. Select **Set Schedule** and select **Schedule Task: Weekly, Every [number of tape sets] week(s)**. Select the day and time. Note that unless there are two tape drives, you should avoid having Prinergy Backup and RAID backups running at the same time.



19. Click **OK**.
20. Click **Next** and verify that the settings are OK.
21. Click **Finish**.
22. Create a scheduled job for the incremental backups.

    - **To append the incremental backup to the full backup tape:**
      This method is easier to configure and manage. Create another backup schedule (steps 5 to 21). In this case, select **Incremental** to run every day from Monday to Saturday within the required week (depending on the rotation schedule). Use the same media that was used in the full backup. Configure the job to append the data on the media. If necessary, NTBackup will pull an additional tape from the free media pool to extend the backup beyond the tape capacity.

- **To use a different tape for incremental backup:**
  With this method, you can take the full backup tape offline for safekeeping. Create another backup schedule (steps 5 to 21). Select **Incremental** to run every Monday of the required week (depending on the rotation schedule). Choose the incremental backup media allocated and named in steps 2 and 3. Configure the job to replace the data on the media.

  Create one more backup schedule (steps 5 to 21). In this case, select **Incremental** to run every day from Tuesday to Saturday within the required week (depending on the rotation schedule). Use the same media that was used in the Monday incremental job. Configure the job to append to the data on the media. If necessary, NTBackup will pull an additional tape from the free media pool to extend the backup beyond the tape capacity.

23. Repeat the procedure for each tape in the rotation set, giving them sequential names as suggested and setting the start date for one week later each time. This will complete a rotating schedule that will cycle through all of the tapes in the set, and then repeat starting at the first tape again.

Notes

A. Before the backup, make sure that there are enough free tapes for data spanning. On subsequent backups, spanned media will be automatically returned to the free pool.

B. Differential backup can be used instead of incremental backup. Note that more tapes will be needed for differential backup, unless you configure the differential backup to replace data on the media (do not configure the differential backup to replace the full backup data).

C. A manual loading tape drive is not recommended because of the amount of data typically on a Jobs RAID. Consult the chart at the end to determine if it is possible to use a manual device. In any case, ensure the tapes required for the upcoming full and incremental backups are in the drive or jukebox prior to the backup starting for the week. If the expected tapes are not in the jukebox, the backup will stall while waiting for the right tape to be mounted.

D. You can view the scheduled jobs using the **Schedule Jobs** tab in the NTBackup GUI when you are logged in as the user that the jobs run under. You can view backup logs using the **Reports** option from the **Tools** menu.

E. When you replace a retired tape (due to damage, wear, and so on.) in the tape rotation, the scheduled backup jobs that use the retired tape must be modified to use the new tape. If this is not done, the backup will stall while waiting for the retired tape.

Tape Device Information

Table 1: AIT Drive Specifications

Drive Specification	AIT-2	AIT-3
Capacity (native)	50 GB	100 GB
Data Transfer Rate (native)	6 MB/sec	12 MB/sec
Interface	LVD SCSI	LVD SCSI
Tape Head Life	> 50,000 hours	
Media Life	> 30,000 hours	

Table 2: DLT Drive Performance

DLT Type	Compression	Capacity (DLT IV tapes)	Backup (MB/s) measured / spec	Restore (MB/s) measured / spec
DLT 4000	None	20 GB	1.46 / 1.5	1.47 / 1.5
DLT 7000	None	35 GB	2.06 / 5	4.97 / 5
DLT 7000	Hardware	> 35 GB*	2.07 / 10	5.8 / 10
DLT 8000	None	40 GB	(not tested) / 6	(not tested) / 6

* **Note**: Prinergy PDF data has internal compression applied, and therefore gains little benefit from storage compression when writing to tape.

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. Creo joined the GCG in June 2005, when it became a wholly owned subsidiary of Kodak. With corporate headquarters located in Rochester, N.Y., Kodak (NYSE: EK) had sales of $13.5 billion in 2004 and is committed to a digitally oriented growth strategy.

© 2006 Kodak. The Creo product names mentioned in this document are trademarks or service marks of Creo Inc., a subsidiary of Kodak, and may be registered in certain jurisdictions. Other company and brand, product, and service names are for identification purposes only and may be trademarks or registered trademarks of their respective holders. Data subject to change without notice.