



IBM® Tivoli® Storage Manager 5.4

Collocation of data with active-data pools

Tivoli. software



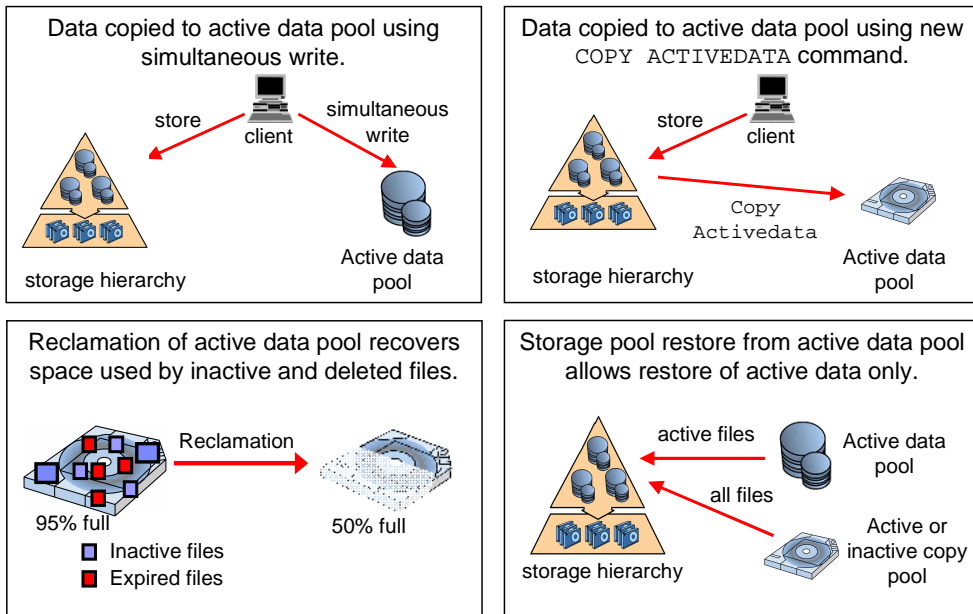
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Objectives

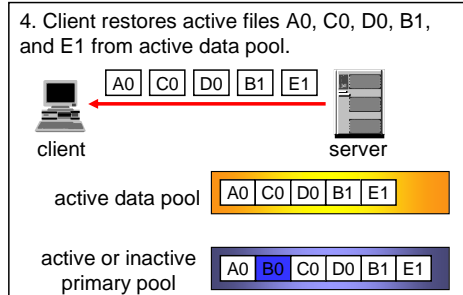
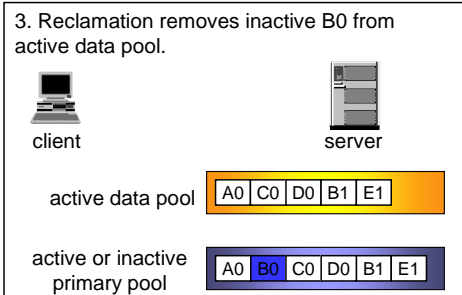
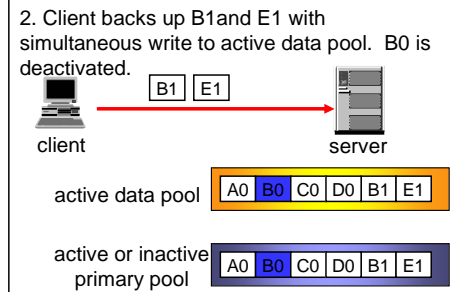
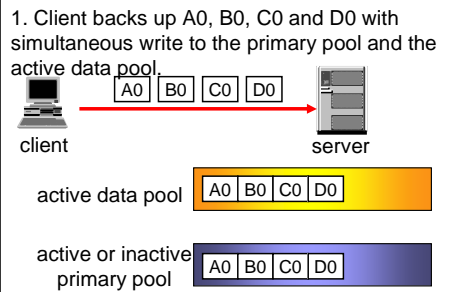
Upon completion of this module, you will be able to:

- Describe collocation of active data
- Describe collocation of active data with the administration center

Collocation of active data



Collocation of active data (cont.)



Section

Collocation of active data using active-data pools with the administration center

Administration center support for active-data pools

Administration center updates:

- ▶ Components that support the **DEFINE STGPOOL** and **UPDATE STGPOOL** commands were updated to include active-data pools.
- ▶ All other components that explicitly display choice of copy pools in cases where active-data pools are applicable were updated to include active-data pools.
- ▶ The new **COPY ACTIVATEDATA** command was added.



Note: The GUI active-data pools support is version specific. Support appears only for TSM server version 5.4.0.0 and above, and in administration center version 5.4 and above.

New 5.4 administration center panels

Copy active-data form

- Enables copying of the active data only primary pool to an active-data pool
 - Similar to using the **BACKUP STGPOOL** command, with the active-data pool as the destination

Move NODEDATA form

- New port in administration center
- Supports active-data pools

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Collocation of data with active-data pools

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DRM support is not yet available (no server support)

Device Configuration Wizard (DCW) does NOT allow creation of ADP pools
Use Storage Pool Wizard instead, refine by desired ADP usage

AC does not provide Restore Storage Pool command support yet
Supports Restore Volume from a copy or from an active-Data pool

Active-data pool updates on existing panels

Storage Pool Wizard

- ▶ New path added to create active-data pool, which includes association with the domains for that pool

Storage Pool Notebook

- ▶ Display for relevant fields and panel text for an active-data pool added
- ▶ New tab added for Primary pools Simultaneous-Write related fields

Policy Domain Wizard

- ▶ Added setup to identify list of active-data pools that can store data for the domain client nodes

Policy Domain Properties

- ▶ Added new expandable category ( Active Data Pools) with a table to operate on the associated active-data pool destination list
 - Add and Delete active-data pools in the list
 - Create new active-data pool action

Active-data pool updates on existing panels

Restore storage pool volume

- ▶ Restore from copy or active-data pool added
 - Either all available for a pool type or specific pool

Add or modify volume form

- ▶ Update panel description added to refer to copy and active-data pools

Move data form

- ▶ Update panel description, added to display handling for active-data pools

View volume content-(primary)

- ▶ Update form modified to support the viewing of content for active-data pools

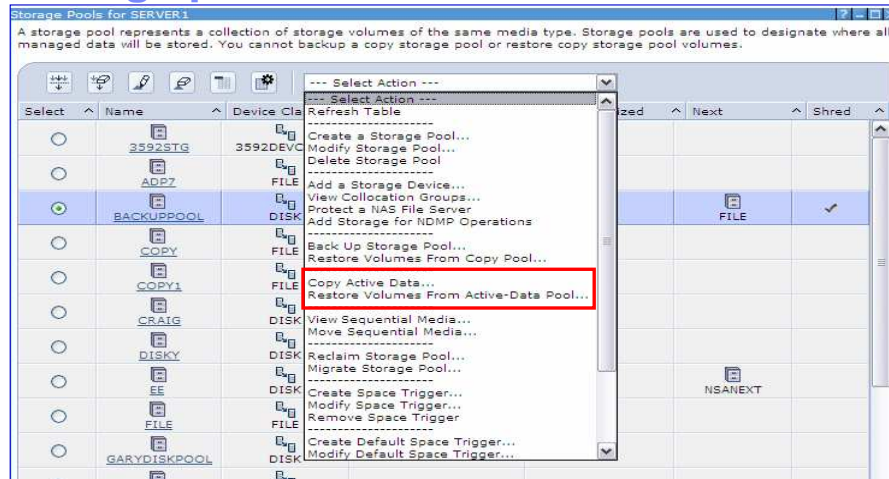
Maintenance plan wizard

- ▶ Added support for the new copy active data command
 - Similar to existing maintenance backup storage pool functionality

Maintenance plan notebook

- ▶ Modified desired setup for the new copy active data command
 - Similar to existing backup storage pool form functionality

View storage pools actions



Active-data pool Related Actions:

Create/Modify Storage Pool

Copy Active Data

Restore Volumes From Active-Data Pool

Create storage pool wizard - General step

General Storage Pool Settings

A storage pool represents a collection of storage volumes of the same media type. A storage volume represents the basic unit of storage, such as a tape cartridge or allocated disk space. Storage pools are used to designate where all managed data will be stored. After you define a storage pool, you cannot change its type.

*Storage pool name
MYADP

Storage pool description

Storage pool type

Random access - primary pool that uses random-access disk (DISK device class)

Sequential access - uses tape, optical media, sequential-access disk (FILE device class), or the SERVER device class

Active-data

NAS - stores NAS file server data using NDMP

Primary

< Back Next > Finish Cancel

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Collocation of data with active-data pools

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Wizard located in Storage Devices Task, View Storage Pools Portlet

New layout for the Choose Pool Type Step

Choose by desired access type: random or sequential

Sequential selection: Primary / Copy / Active-Data; Bubble Help provides further info

Create storage pool wizard - Active data pool step

The screenshot shows the 'Create a Storage Pool' wizard window. The left sidebar has three items: 'General' (checked), 'Specify storage pool settings' (selected with a right-pointing arrow), and 'Summary'. The main area is titled 'Select a Device Class' and contains the following text: 'A device class represents a set of similar storage devices. It is used to associate storage pool volumes with a compatible storage device. Only the active versions of backup data can be restored from an active-data pool. Inactive files are deleted when the active data is restored. To protect inactive data, create at least one copy storage pool.'

There are three radio button options, each with a dropdown menu below it:

- To enable fast restores of client data, use a FILE device class
* -- Select a device class --
- To reduce the number of volumes, use a tape or optical device class
-- Select a device class --
- To save bandwidth when vaulting data electronically to a remote location, use a SERVER device class.
-- Select a device class --

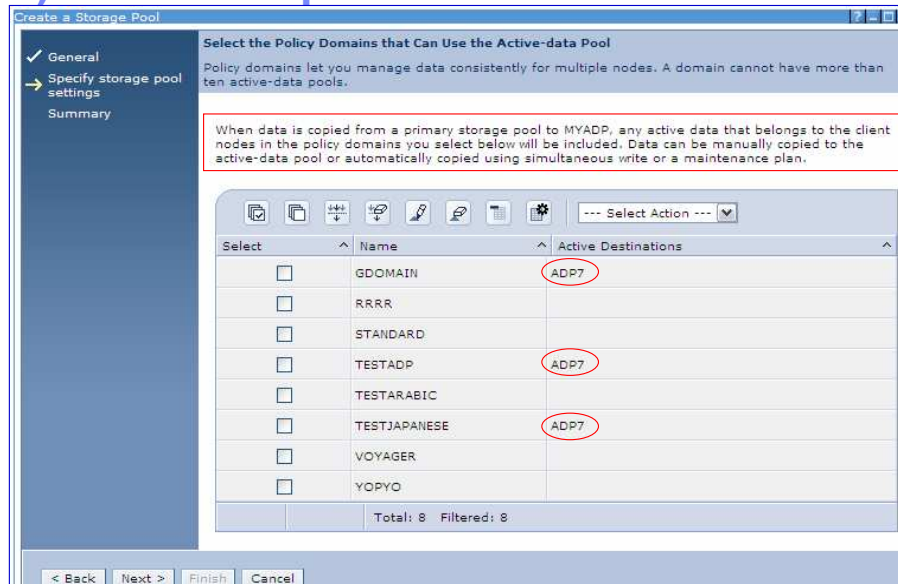
Below these options is a text box for 'Scratch volumes are used to dynamically satisfy mount requests. Consider entering the number of physical volumes available for this storage pool.' with a label '*Maximum number of scratch volumes' and an empty input field.

At the bottom of the window are four buttons: '< Back', 'Next >', 'Finish', and 'Cancel'.

Choose pool device class based on desired use

->> See specifics in Server ADP Go-Training document

Create storage pool wizard; Active-data pool (ADP) domain step



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Collocation of data with active-data pools

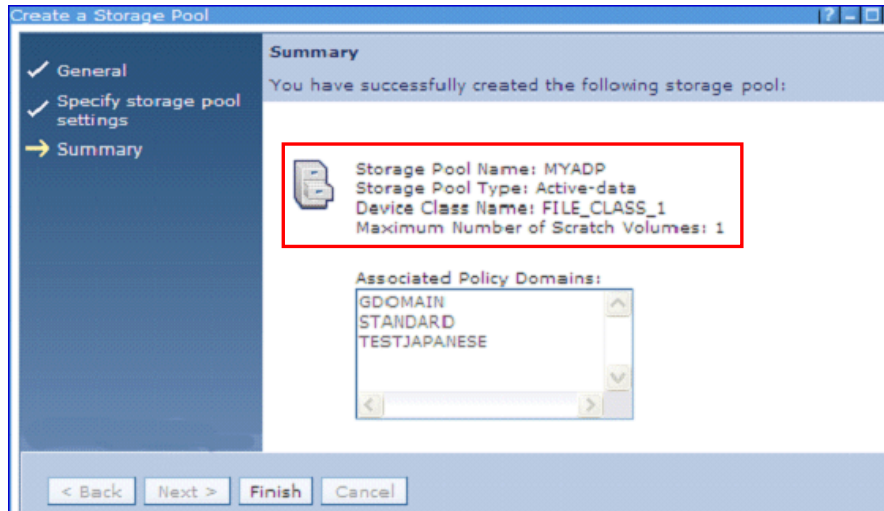
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Allow to associate the new ADP with domains available on the server

Optional

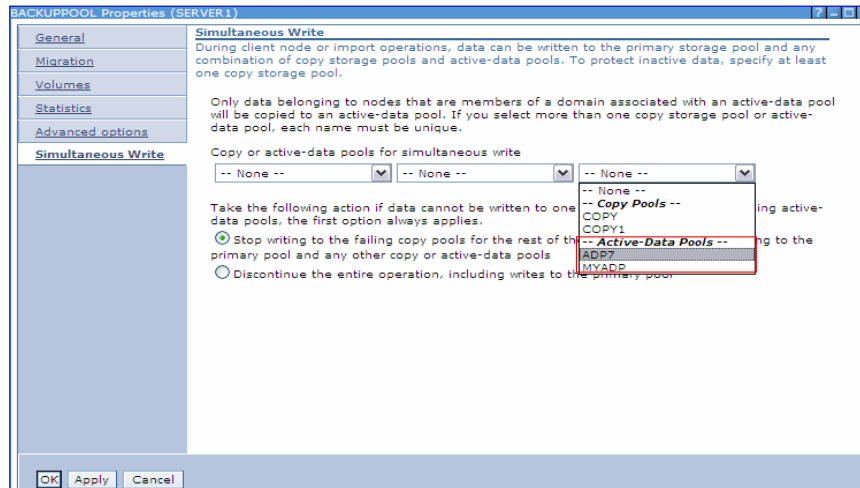
Displays the associated active data pools for each domain defined on the server

Create storage pool wizard - Summary panel



Display all chosen domains

Modify storage pool notebook; Simultaneous Write tab

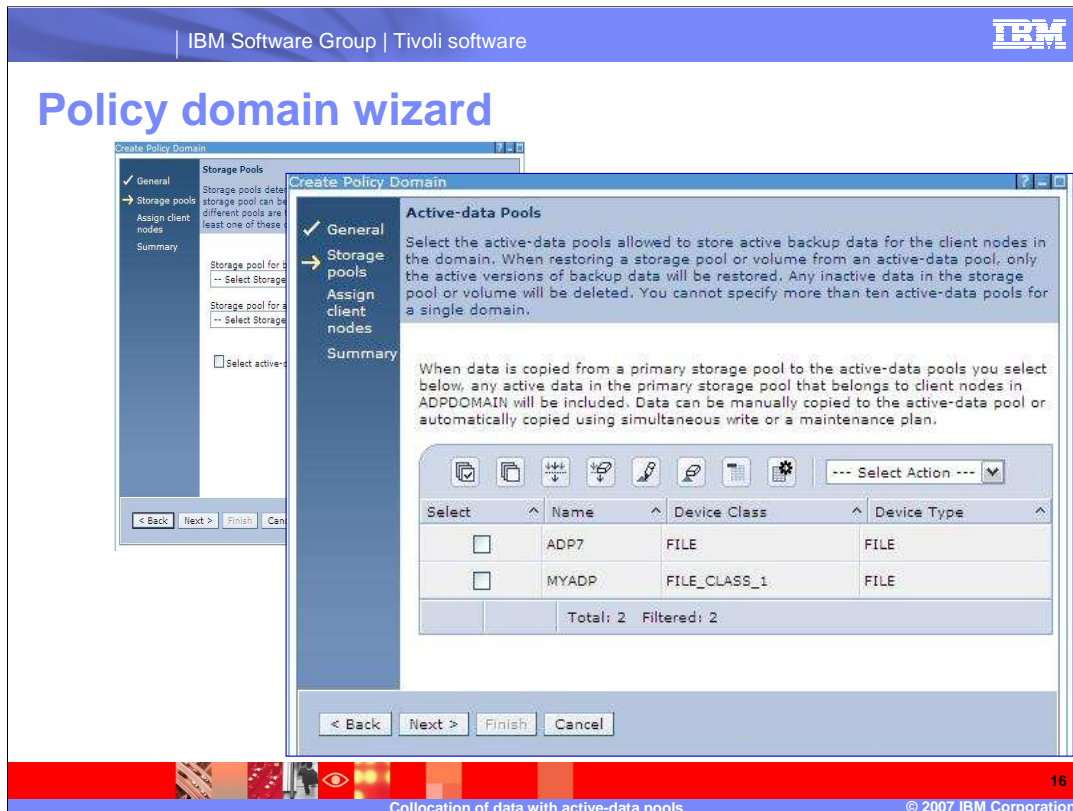


Destinations pool drop downs add separators to explicitly depict the pool type

Similar approach all over the interface where mix of pools is displayed

Copy Continue is now a radio button group and explicitly states available options

Displays for AC 5.4 and above only



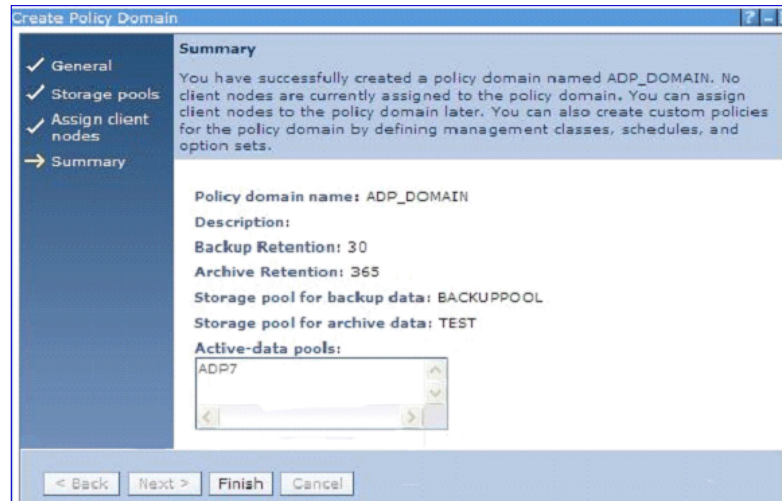
Located in the Policy Domains task, View Policy Domains Portlet

Added a check box to allow choosing active-data pools destinations

By default, unselected

New Active-Data pools Step is displayed, if check box selected

Domain wizard: Summary, command issued



The command used:

```
UPDATE DOMAIN <user_domain_name> <other user parameters..>  
ACTIVEDEST='ADP1,ADP2'
```

Summary identifies chosen active-data pool destinations, if any

Policy domain properties for active data pools

DOMAIN Properties

- ▶ Domain Properties
- ▶ Client Nodes
- ▶ Option Sets
- ▶ Client Node Schedules
- ▶ Management Classes
- ▼ Active Data Pools

Active-data pools can enable faster restores, reduce the amount of space required for offsite storage, or save bandwidth when vaulting data electronically. The table shows the active-data pools that can be used to store active backup data for the client nodes in the domain. A domain cannot have more than ten active-data pools.

Select	Name	Device Class	Device Type
<input type="checkbox"/>	ADP7	FILE	FILE

Total: 1 Filtered: 1

Added new *Active Data Pools* Twisty

Table shows currently defined active data pool destinations

Domain properties active data pools expandable category table actions

Add active data pools

- ▶ Launches the add active pool form. No selection is necessary

Delete active data pools

- ▶ Immediately removes the selected active pools from the table (no conformation message needed)

Create an active data pool

- ▶ Launches the storage pool wizard with default path of active data pool
- ▶ Allows you to create a new active-data pool immediately
- ▶ Parent domain is pre-selected in the storage pool wizard domains step table

Domain properties - Select active-data pools form

Select Active-data Pools

You can specify additional active-data pools in which to store active backup data for the client nodes in the domain. You cannot specify more than ten active-data pools for a domain.

You can specify up to 9 additional active-data pools for this domain. For fast client restores, select an active-data pool with a device class of type FILE. To reduce the number of volumes that data is stored on, select an active-data pool with a device class of type tape or optical media. To save bandwidth when vaulting data electronically to a remote location, select an active-data pool with a device class of type SERVER.

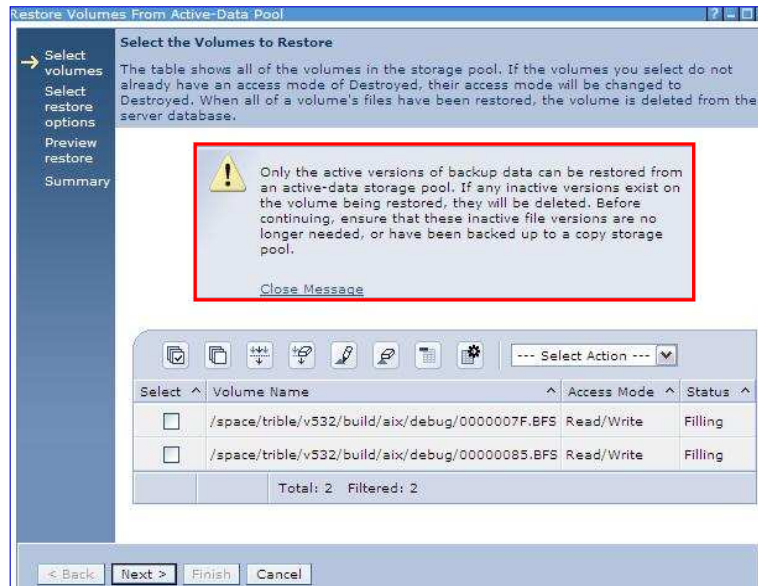
Select	Name	Device Class	Device Type
<input type="checkbox"/>	MYADP	FILE_CLASS_1	FILE

Total: 1 Filtered: 1 Selected: 0

OK Cancel

Can add additional destinations for the domain that are not yet defined
Up to 10 – (number of already associated ADP destinations)

Restore volume from ADP wizard - Select volumes to restore



New wizard for ADP based restore

Initial ~Select the Volumes to Restore~ is shown ONLY if action was requested from the View Storage Pools portlet table

- Skipped if launched from the Storage Pool Notebook's Volumes table

Restore volume from ADP wizard - Select restore options

The screenshot shows a wizard window titled "Restore Volumes From Active-Data Pool". The window has a sidebar on the left with four steps: "Select volumes" (checked), "Select restore options" (highlighted with a right-pointing arrow), "Preview restore", and "Summary". The main area is titled "Select How to Restore the Volumes" and contains the following text and controls:

To restore a volume from an active-data pool, it must belong to a storage pool that had its active data copied to an active-data pool.

Restore files from active-data storage pool.
-- All Active Data Pools --

Reclamation processing should not be performed during the restore. This option disables reclamation processing for all of the active data storage pools involved in the restore. To re-enable reclamation, reset the reclamation threshold for each active data storage pool.

Prevent reclamation processing during the restore operation

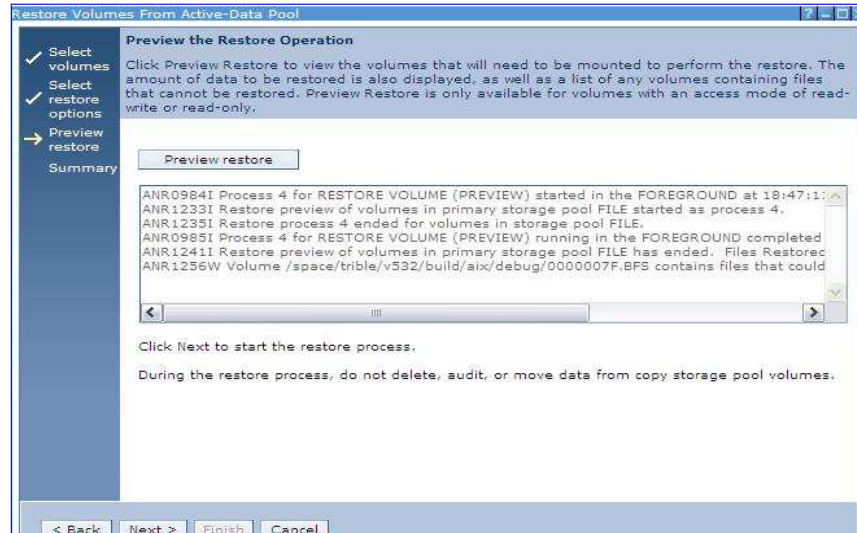
The storage pool to which the data is being restored must have enough scratch volumes available to contain all of the data from the volumes being restored.

By default, files are restored to the original storage pool. You can also select a different primary storage pool.
-- Select Storage Pool --

Maximum number of parallel processes to use for the restore
1

At the bottom of the window are four buttons: "< Back", "Next >", "Finish", and "Cancel".

Restore volume from ADP wizard: Preview restore



Copy active data form

Copy Active Data for pool BACKUPPOOL

Copy Active Data

Copy active versions of backup data to an active-data pool. The node to which the backup data belongs must be a member of a domain that specifies the pool as destination for active data. If migration for a storage pool starts while data is being copied, some files might be migrated before they are copied. As a best practice, copy active data for each primary storage pool in a hierarchy. To ensure that active backup data is copied to the active-data pool on a regular basis, you can use the Server Maintenance work item.

Active-data pool
-- Select an active-data pool --

Maximum number of parallel processes to use for the copy
1

Preview Copy
Click Preview Copy to view the volumes that will need to be mounted to perform the copy

Display the number of files and amount of data that will be copied. Selecting this option can increase the processing time

Preview Copy

Click OK to start the Copy Active Data process.

OK Cancel

- Similar to Backup Storage Pool, but handles active-data pools
- Valid for pools with NATIVE or NONBLOCK format
- Enforces that pool data format is the same as source primary pool

Maintenance plan task ADP support

Support for the new **COPY ACTIVEDATA** command was added to the maintenance plan wizard and notebook.

- ▶ Issue the command as part of the maintenance plan for up to three primary storage pools.
 - The number 3 was chosen for simplicity; similar to backup storage pool capability.
- ▶ Enforces that the chosen primary pool and active-data pool (ADP) are of the same data format.

Command added to the plan for each defined primary pool to ADP relationship:

```
COPY ACTIVEDATA <prim_stgpool_name>  
<ADP_pool_name> preview=no WAIT=YES
```



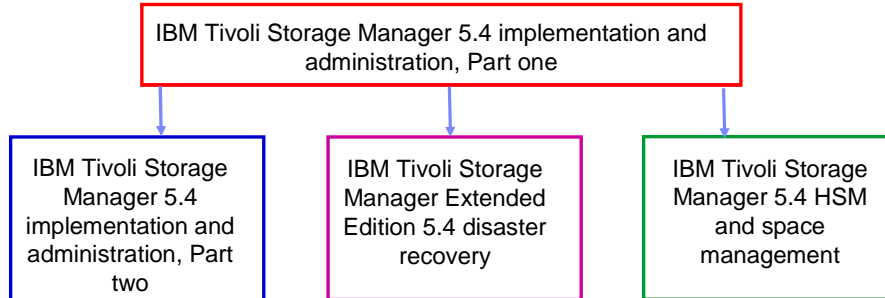
Best practice: When active-data pools are used, copy the active data for the primary pools in a hierarchy on a regular basis.

Summary

You should now be able to:

- **Describe collocation of active data.**
- **Describe collocation of active data with the administration center.**

IBM Tivoli Storage Manager 5.4 curriculum roadmap for implementers and administrators



http://www.ibm.com/software/tivoli/education/edu_prd.html

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