

1508

Data Protector – Recovering Your Data Faster


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HP Enterprise Storage and Servers



Agenda

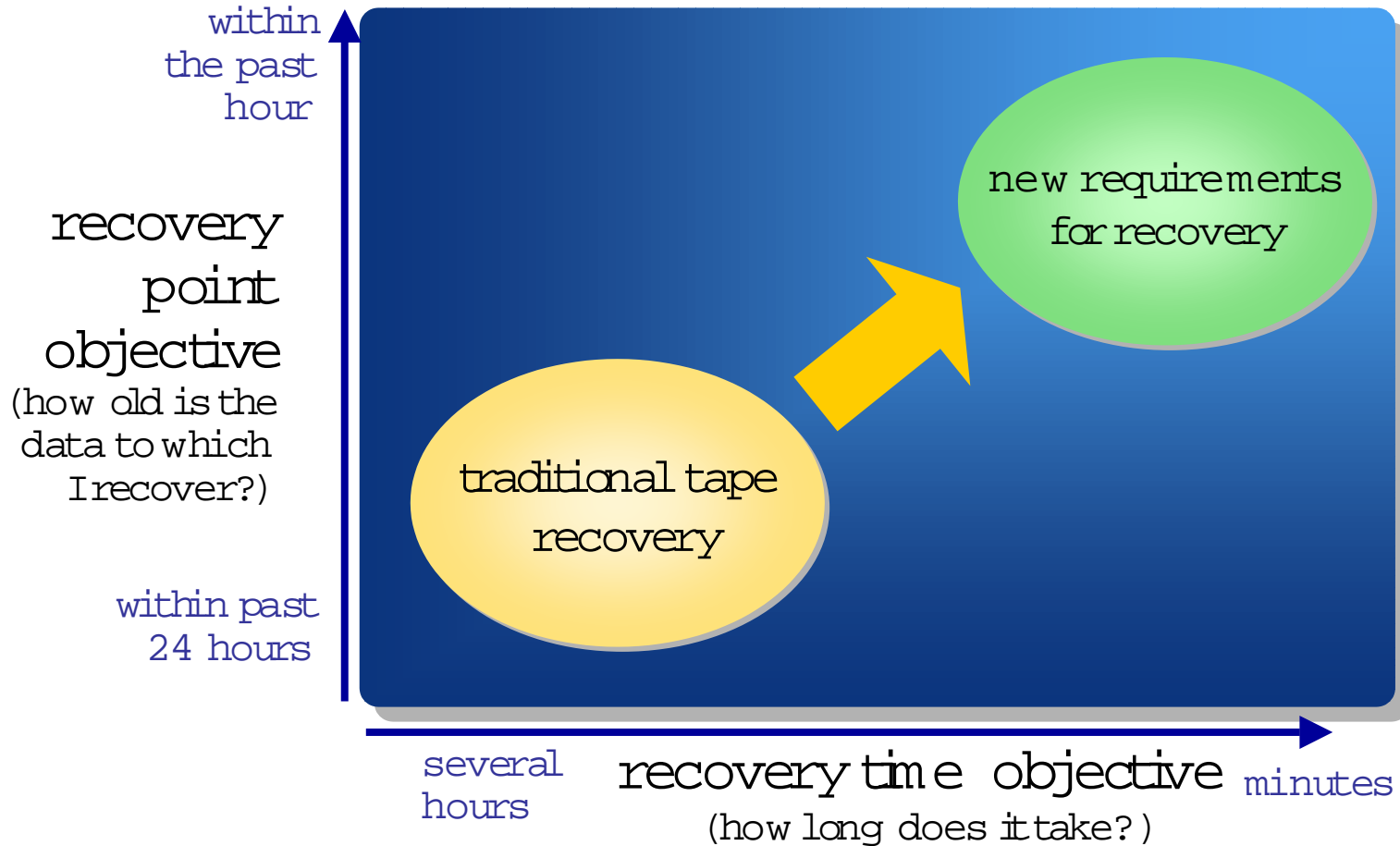
- 
- The business challenge
 - Traditional recovery methods
 - Faster recovery methods using Data Protector
 - Instant Recovery
 - Exchange single mailbox recovery
 - demo
 - Bare-metal disaster recovery
 - Summary

Ability to recover **fresher data faster**



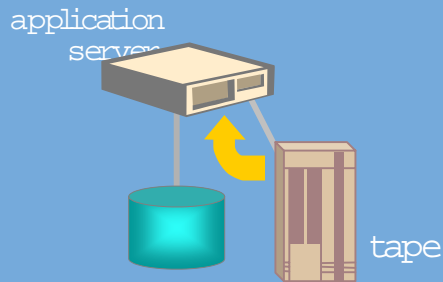
- “my environment is always-on”
- “I’m worried about recovery times”
- “storage keeps growing, but my recovery speeds haven’t improved. How do I protect my business from a lengthy outage?”
- “I need a recent image to recover to - I can’t afford lengthy recovery from logs”

Traditional tape backup no longer meets the need for high-speed recovery

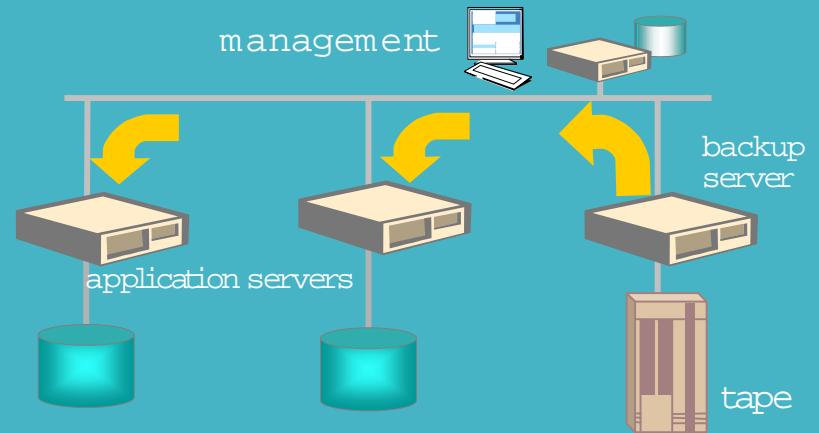


Traditional recovery methods

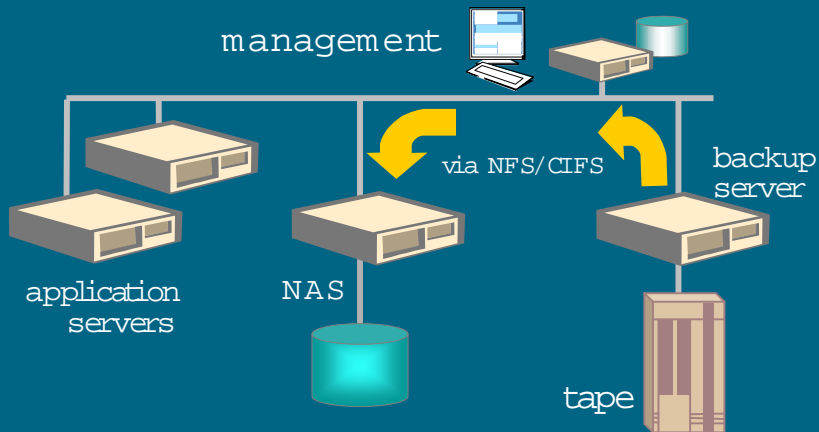
standalone recovery



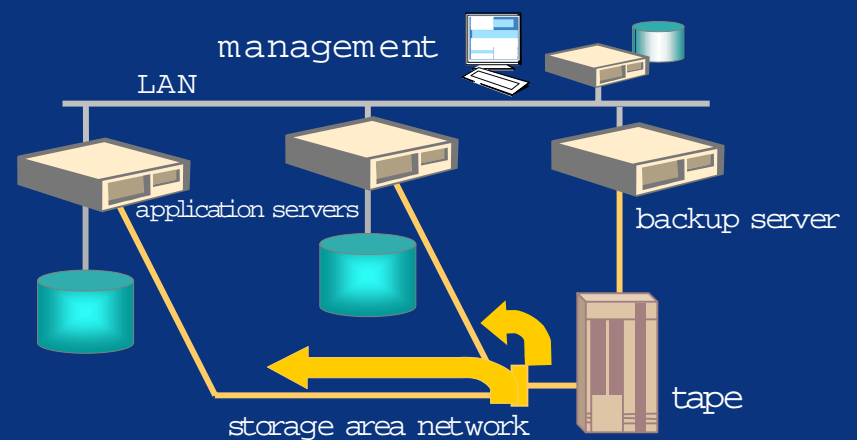
network-based recovery



NAS recovery

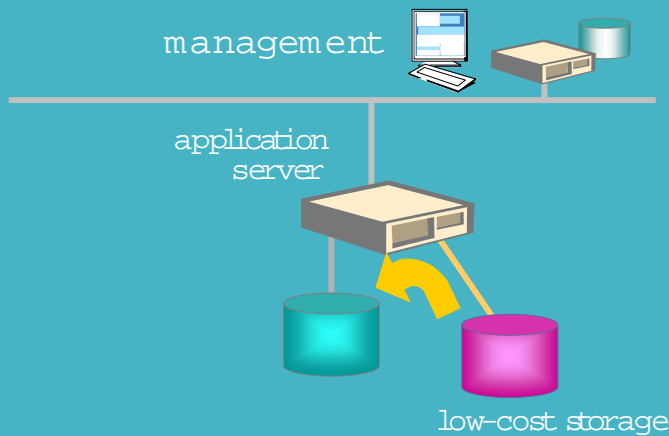


SAN (LAN-free) recovery

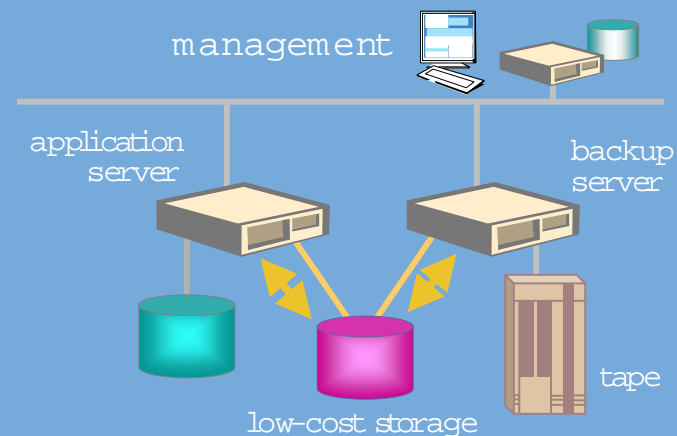


Faster recovery methods using Data Protector

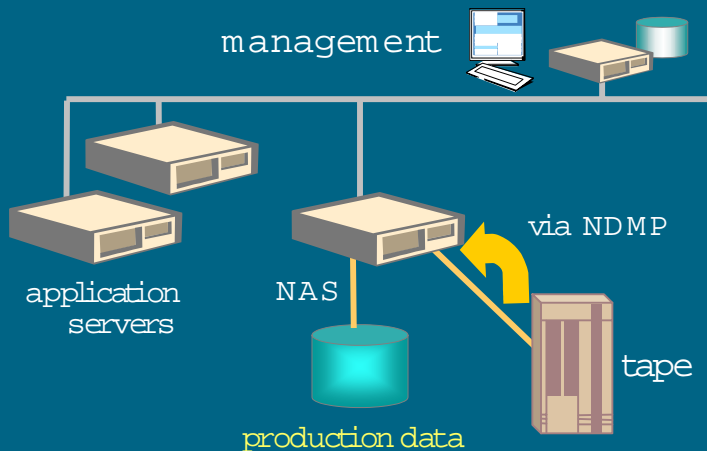
low-cost disk recovery



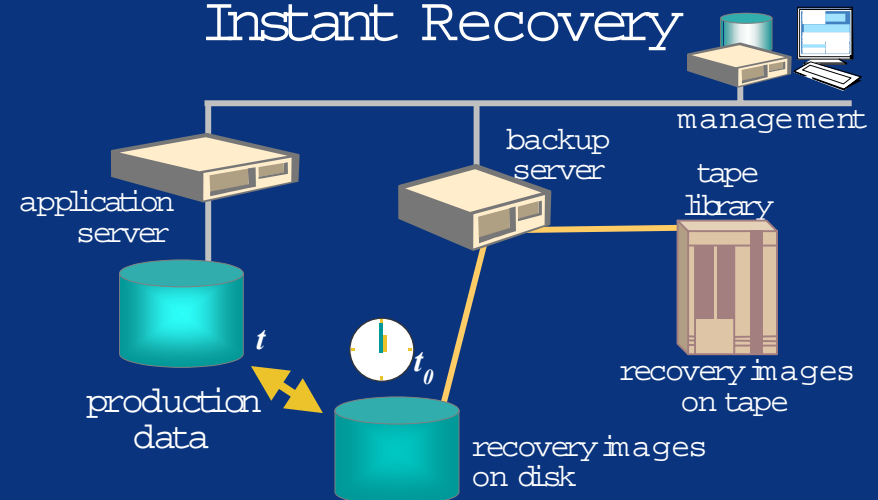
two-stage backup and recovery



NAS recovery using NDMP

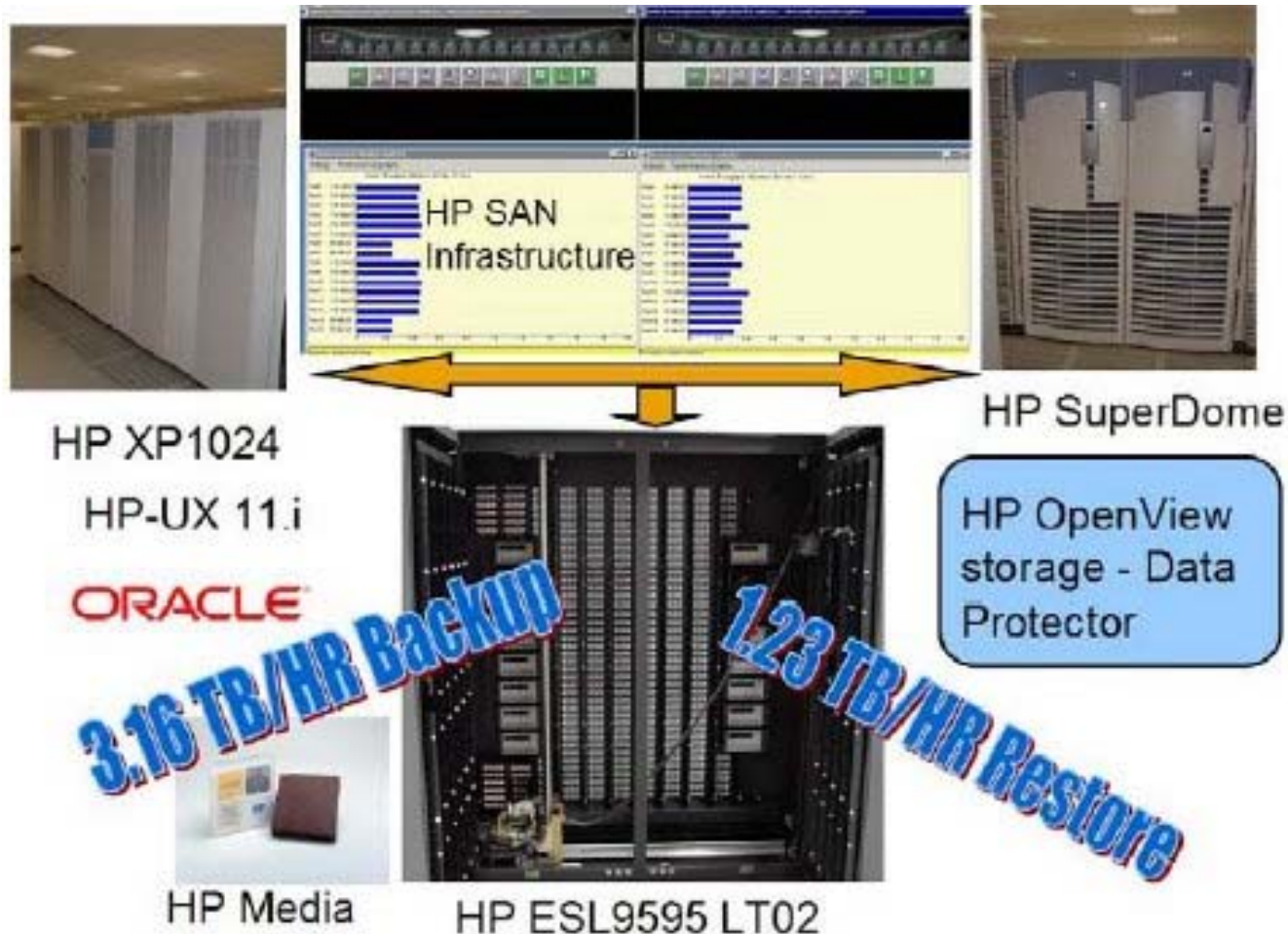


Instant Recovery



Faster recovery methods using Data Protector

And there's always **The Brute Force** method



Faster recovery methods using Data Protector

Instant Recovery

- ◆ Creates multiple images on disk for selective recovery to any point-in-time image
- ◆ Data Protector fully automates the protection process, including creation and rotation of mirrors or snapshots
- ◆ For recovery, administrator selects a specific recovery image from the graphical user interface

single scheduler,
single recovery interface

Oracle

SAP

MS SQL

Exchange

application server

production data

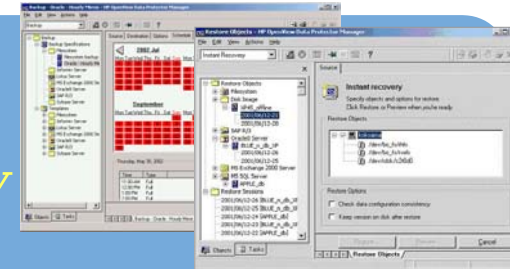
management

media agent

tape library

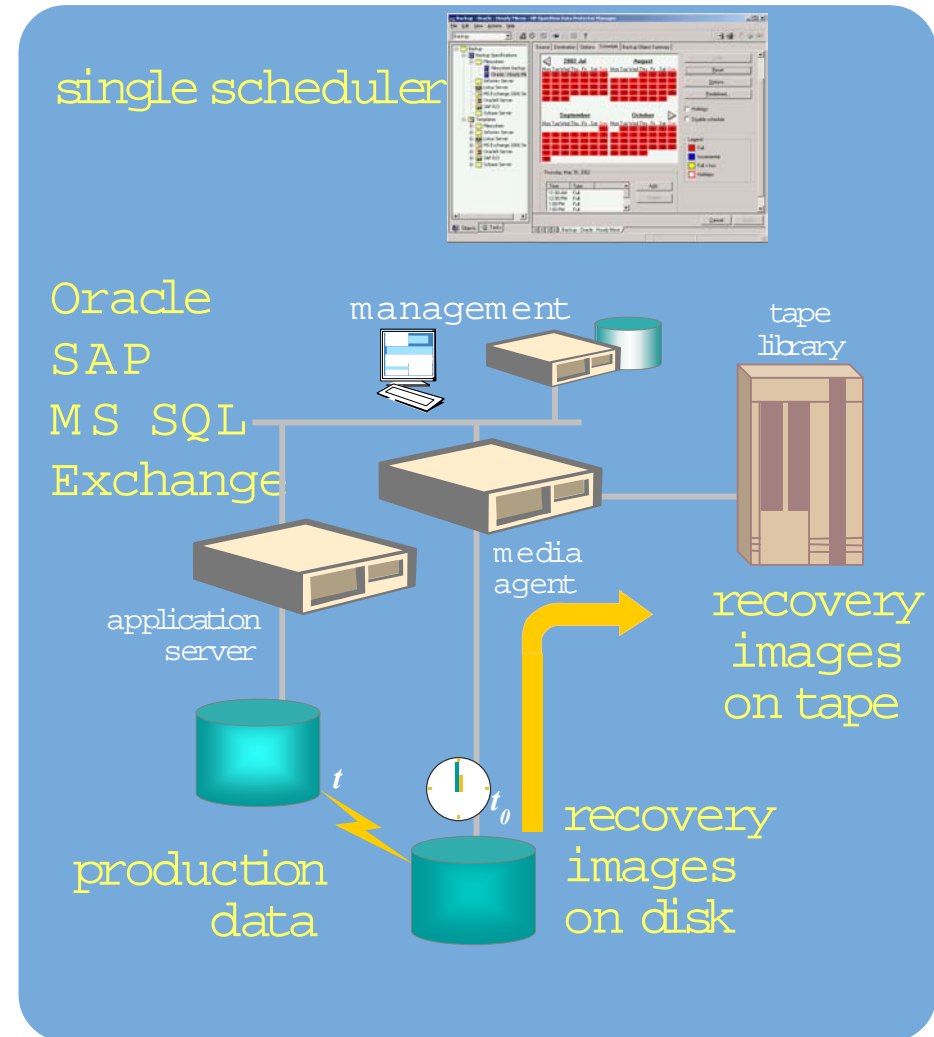
recovery images on tape

recovery images on disk

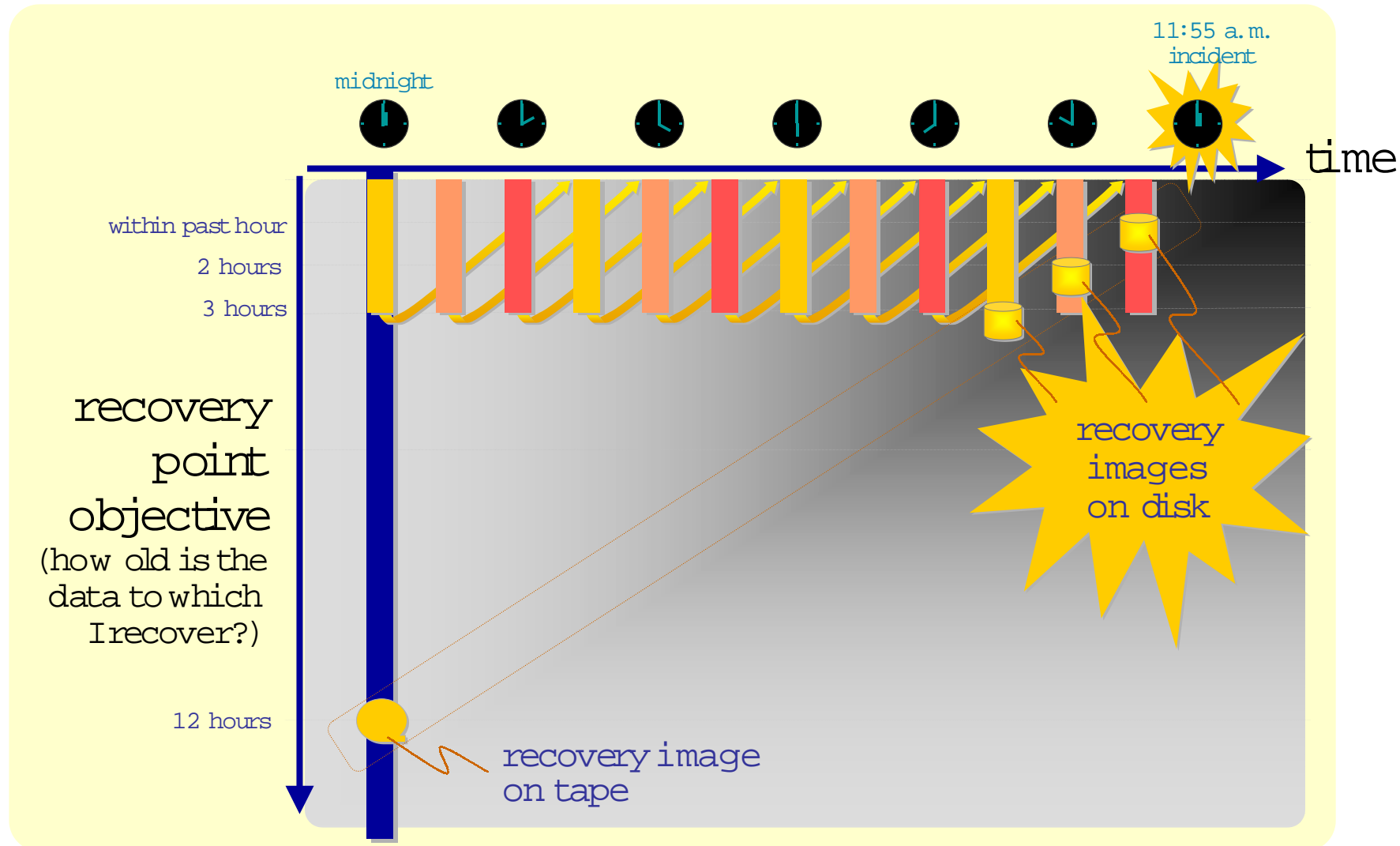


The roots of Instant Recovery: replication

- Disk replication techniques (snap, clone, mirror) create point-in-time images
- HP's replication management, integrated with key applications, guarantees recoverable images.
- Disk Images may be copied to tape via separate data mover for zero impact/downtime backups



Instant Recovery example



Instant Recovery process steps

Preparation

**Scheduling
(reliably ensuring
regular creation of
recovery images)**



**Application Integration
(dynamic data selection
and ensuring consistent
data images for
recovery)**



**Mirror/Snapshot
Initiation**



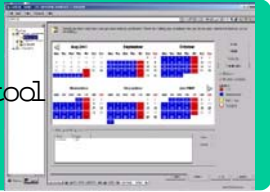
**Backup Integration:
(initiate copy to tape if
required)**



**Multi-copy Management
(disk rotation; selection
of copy for recovery or
re-synch)**

Data Protector

Integrated
Graphical
Scheduling tool



Windows 2000	HP-UX	Solaris
Oracle	Oracle	Oracle
SAP	SAP	SAP
Exchange 2000	file sys	file sys
MS SQL 2000	raw disk	raw disk
file system		
raw disk		

Integrated
business copy XP
business copy VA
business copy EVA

Integrated *via Scripts*
data protector Veritas, Legato
Tivoli, CA
others ...

Integrated
Up to three XP copies
1000+ on VA snapshots

scripted solutions

Integrates with external scheduler of customer's choosing

Requires hand-coded integration based on script-writer's skills; no dynamic selection of data; requires ongoing maintenance of scripted environment.

Hand-coded

Hand-coded

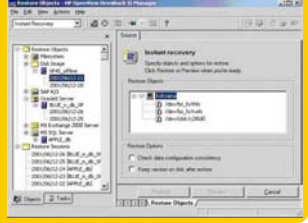
Not practical using scripts; very complex & dynamic environment to manage

Recovery

**Recovery automation
process management**

*Integrated
GUI*

XP
VA
EVA



No GUI; hand-coded approach

Instant Recovery support matrix

Storage Arrays

Operating Systems

	hp XP <i>Integrated</i> Zero Downtime Instant Recovery	hp EVA <i>Integrated</i> Zero Downtime Instant Recovery	hp VA <i>Integrated</i> Zero Downtime Instant Recovery
Win 2000	Single-site (b.c.) Multi-Site (c.a.) Exchange 2000 MS SQL 2000 Oracle SAP File System /Raw	Single-site (Bus. Copy) Exchange 2000 MS SQL 2000 File System /Raw	Single-site (Bus. Copy) Exchange 2000 MS SQL 2000 Oracle SAP File System /Raw
Win 2003	Single-site (b.c.) Multi-site (c.a.) Exchange MS SQL Oracle SAP File System	Single-site * Bus. Copy Exchange 2000 MS SQL 2000 File System /Raw	Single-site * (Bus. Copy) Exchange 2000 MS SQL 2000 Oracle SAP File System /Raw
Win NT	Single-site (b.c.) Multi-site (c.a.) Exchange File System		
HP-UX 11.0 11.11	Single-site (b.c.) Multi-site (c.a.) Oracle/OPS/RAC SAP File System /Raw	Single-site (Bus. Copy) Oracle/OPS/RAC SAP File System /Raw	Single-site (Bus. Copy) Oracle/OPS/RAC SAP File System /Raw
Solaris 7,8,9	Single-site (b.c.) Multi-site (c.a.) Oracle/OPS/RAC SAP File System /Raw	Single-site (b.c.) Oracle/OPS/RAC SAP File System /Raw	

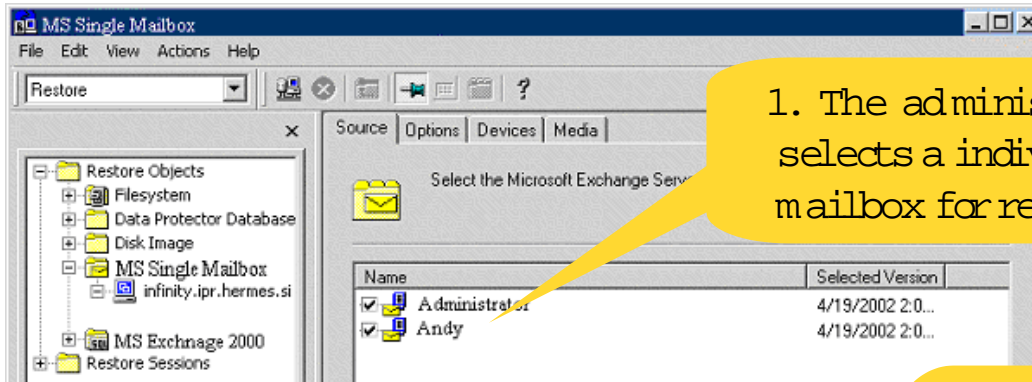
Business value of instant recovery

- reduced cost of downtime
- increased application service levels
 - premium service levels
- operational efficiencies and cost savings
 - consolidation of servers, applications



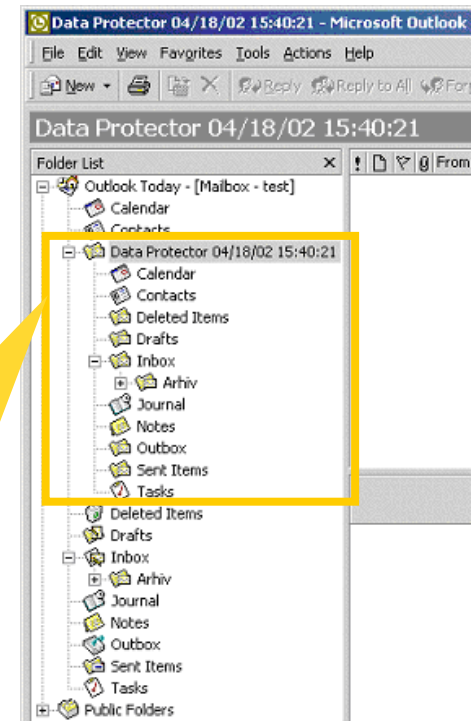
Faster recovery methods using Data Protector

Microsoft Exchange Single Mailbox recovery



1. The administrator selects a individual mailbox for restore

- **Fast for backup administrators:** just click and restore mailbox.
- **Fast for user:** complete mailbox shows up in Outlook for user to search for any needed email, calendar item, etc - no phone tag with the backup administrator
- **Unique:** Items selected by the user to protect privacy



2. Unique: The mailbox user can copy individual objects, for example single mails, from the backup to the current mailbox. This protects the users privacy!

Faster recovery methods using Data Protector



Microsoft Exchange Single Mailbox recovery

Exchange single mailbox backup/restore demo

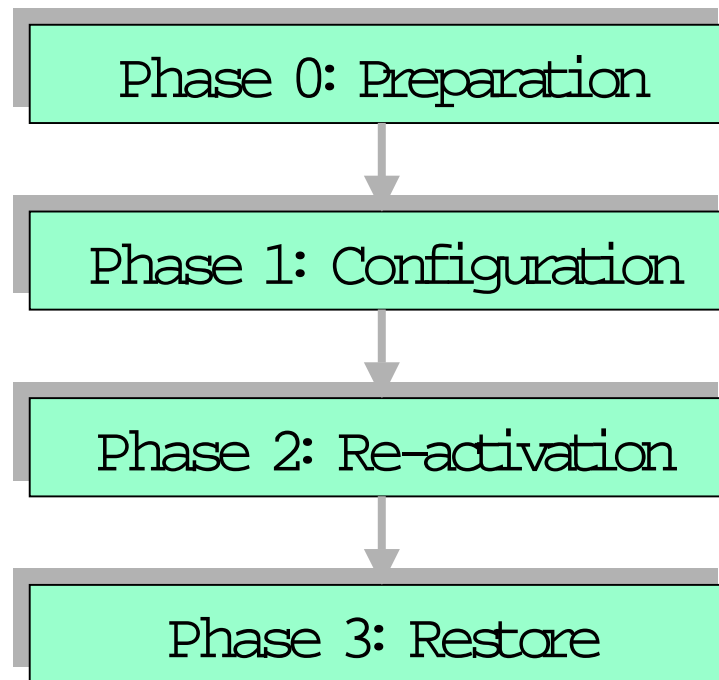
Bare-metal Disaster Recovery



Choose from 6 disaster recovery options in Data Protector



Data Protector disaster recovery phases



Manual disaster recovery & Assisted manual disaster recovery



Manual DR

- install operating system
- install Data Protector agent
- restore data from tape
- HP-UX, Solaris

Assisted Manual DR

- install operating system
- Data Protector restore command
- Windows NT /2000 /XP/2003



Bare-metal restore using ASR and Data Protector

1. Locate:

- the previously created backup media
- the previously created (ASR) floppy disk
- the original operating system installation CD

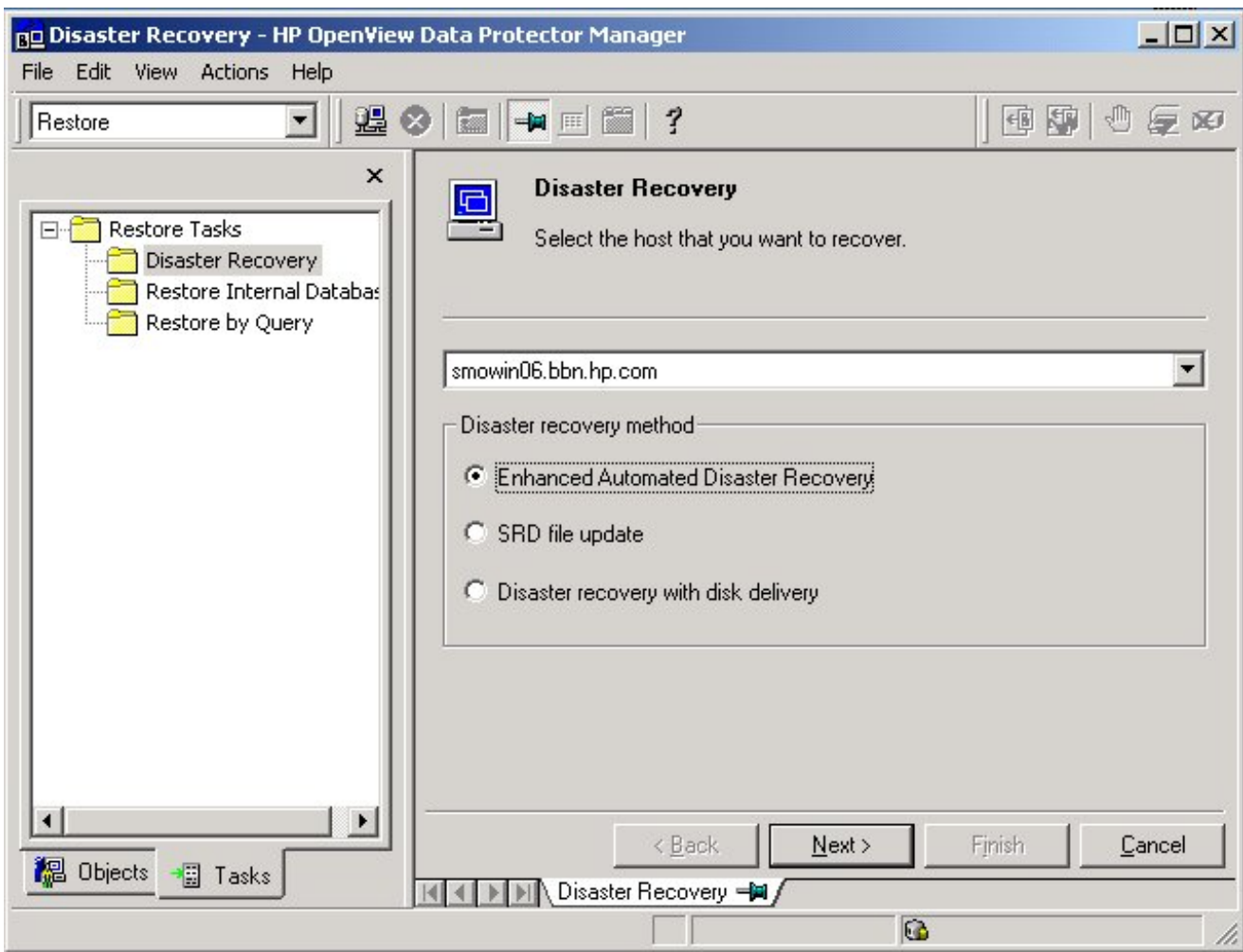
2. Insert the original system installation CD into the CD drive and boot the system

3. Restart the Windows Server 2003 or XP workstation. You will be prompted to insert the ASR floppy disk you have previously created

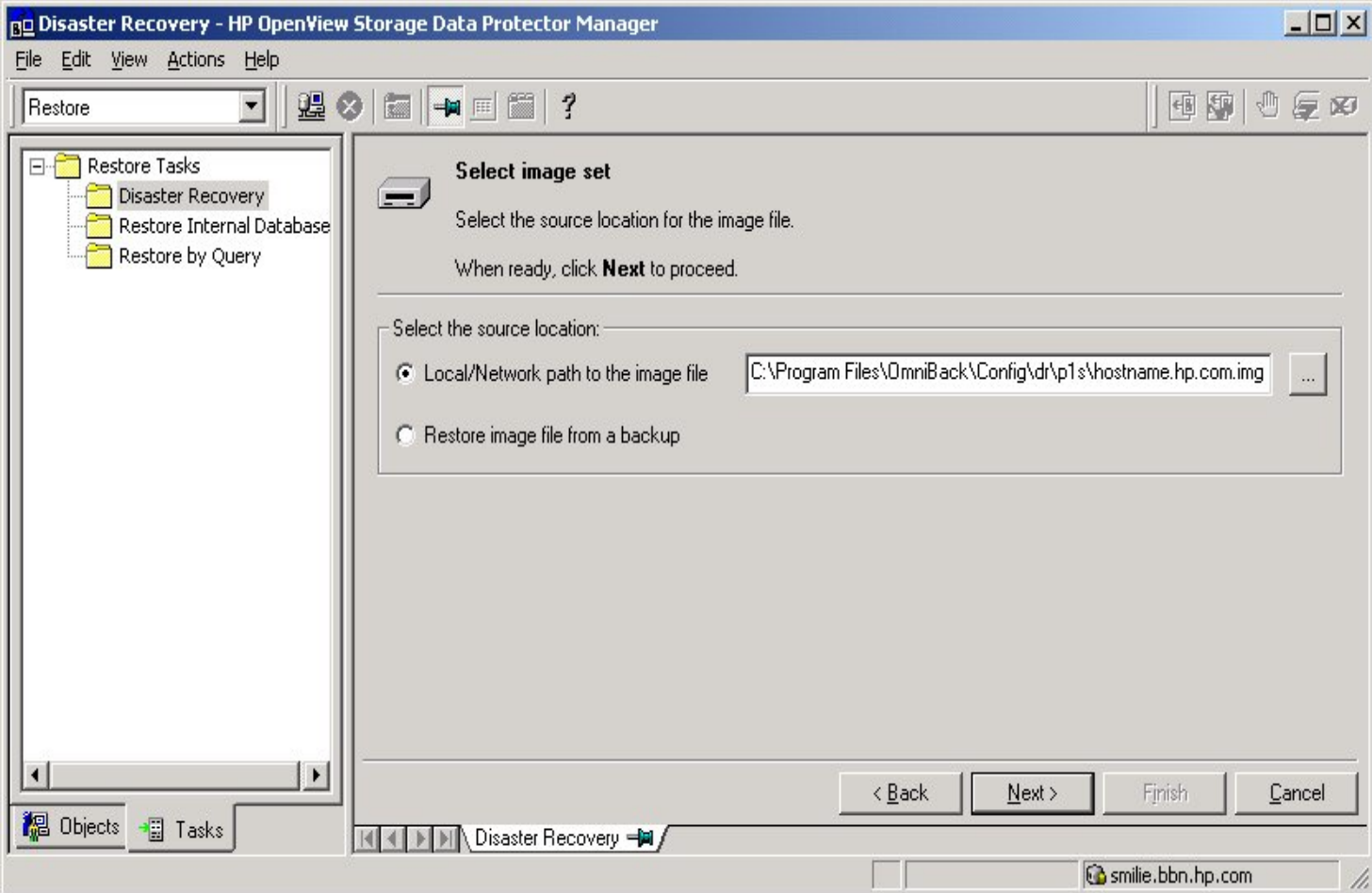
4. Run normal restore using the recovered Data Protector 5.1

Enhanced automated disaster recovery (Win NT/2000)

Select system and disaster recovery method, ...



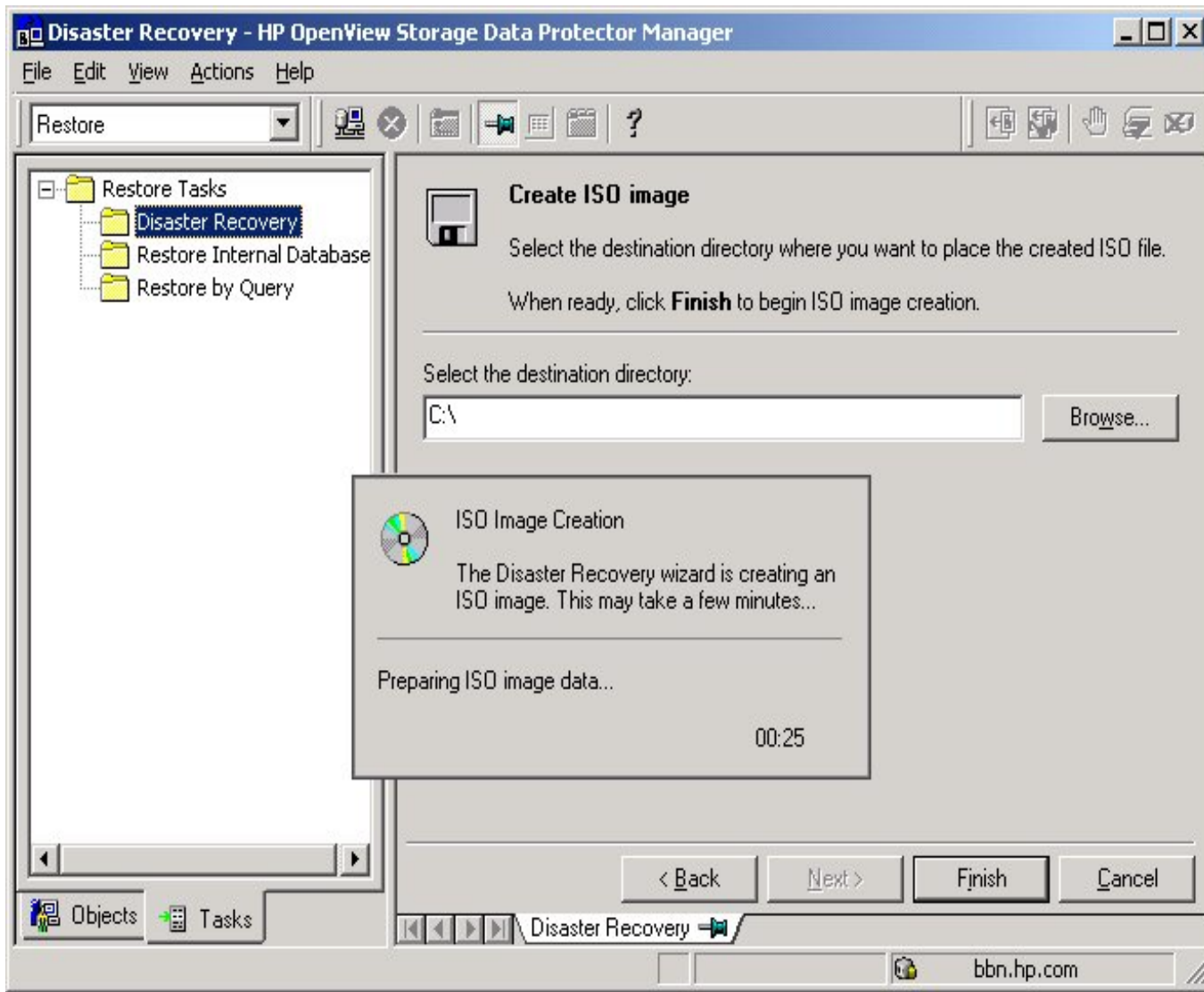
Enhanced automated disaster recovery (Win NT/2000)



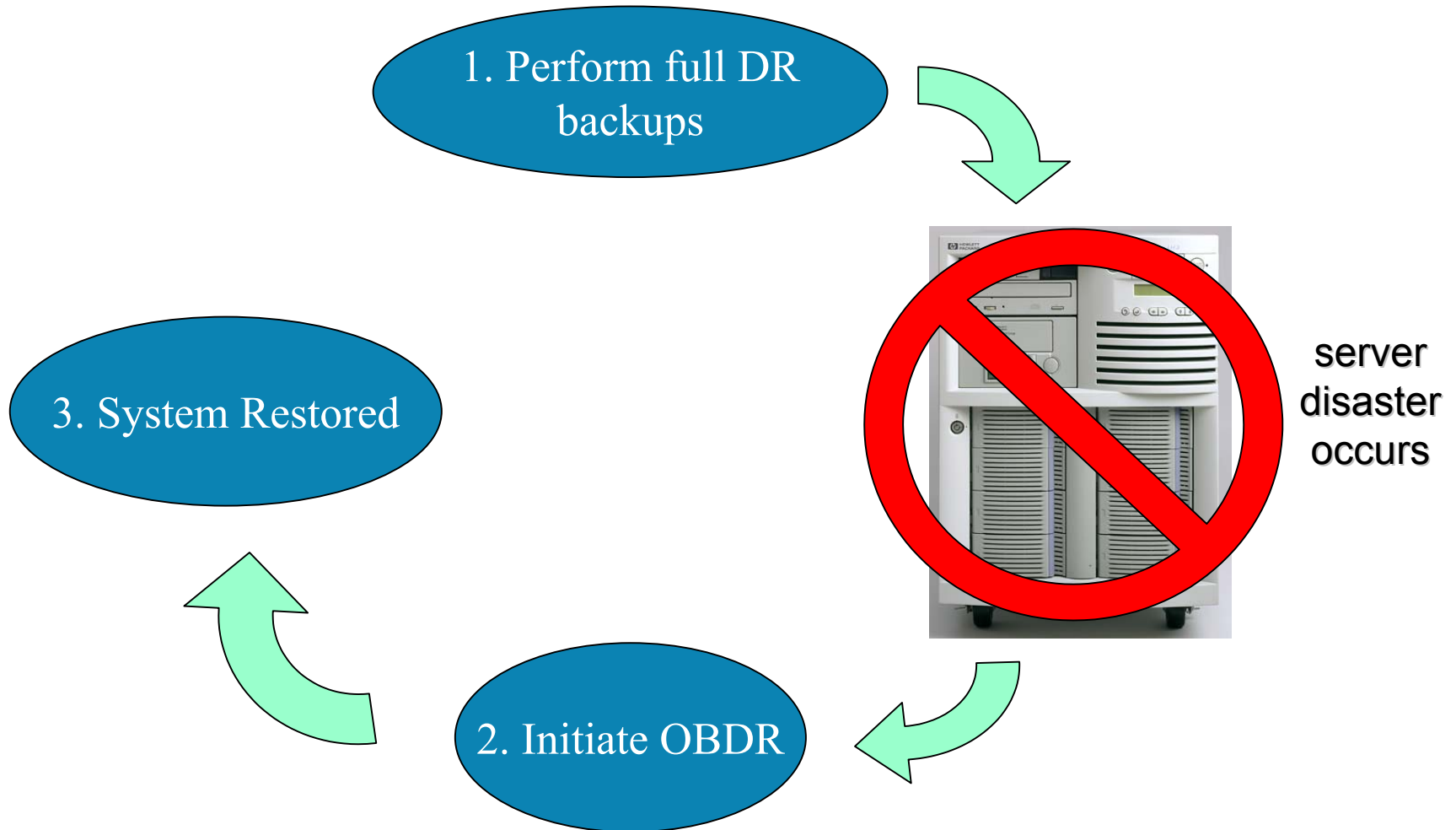
... choose image file containing system configuration data ...

Enhanced automated disaster recovery (Win NT/2000)

... and let Data Protector create the bootable CD image incl. all necessary system files and drivers.



One button disaster recovery (OBDR) (Win NT/2000)

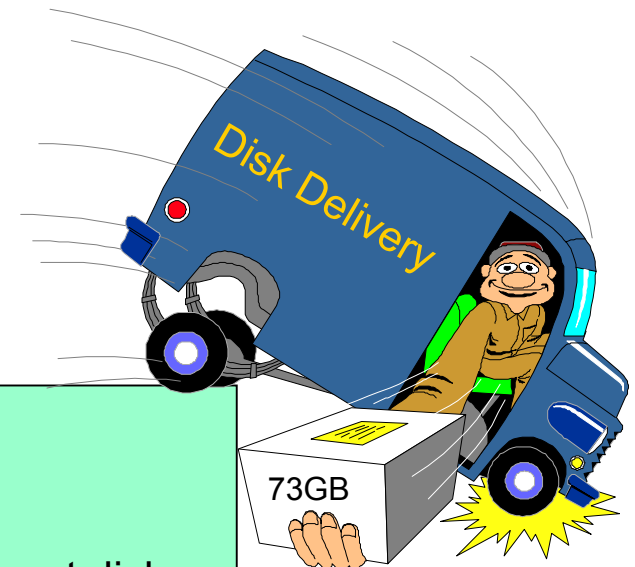


Disk delivery

(HPUX, Solaris, Win NT/2000/XP/2003, Tru64, AIX)

Disk Delivery offers the fastest means of recovery as it bypasses:

- Use of recovery diskettes
- Installation of OS from CD-ROM
- Installation of Data Protector agents



1. Auxiliary Disk Method

- Failed client boots from an *Auxiliary* disk.
- Replacement disk is partitioned and formatted.
- Data Protector used to restore data to replacement disk.
- System boots from replacement disk.

2. Hosting System Method

- The replacement disk is attached to another Data Protector client..
- The replacement disk is partitioned and formatted.
- The Data Protector GUI is used to restore to the replacement disk.
- The replacement disk is installed in the failed client.
- The failed client is booted from the replacement disk.

Summary - disaster recovery options in Data Protector



Data Protector 5.1 supported environments

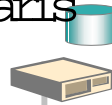
user interface:

- Windows
- HP-UX
- Solaris



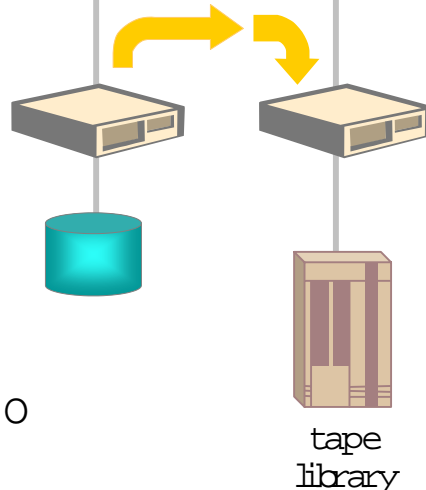
cell manager:

- Windows
- HP-UX
- Solaris



backup agents:

- Windows
- HP-UX
- Linux
- Sun Solaris
- IBM AIX
- HP Tru64 UNIX
- HP MPE/iX
- HP OpenVMS
- Novell Net Ware
- SCO OpenServer; SCO Unixware
- SNI SINIX; SGI IRIX; NCR MP-RAS
- Additional platforms via NFS, shared disk (CIFS) or NDMP



backup device server:

- Windows
- HP-UX
- Linux
- Solaris
- AIX
- Tru64 UNIX
- MPE/iX
- OpenVMS
- Net Ware
- SCO OpenServer, Sinix

on-line backup:

- Oracle
- MS SQL Server
- MS Exchange
- MS VSS API
- SAP R/3, SAP DB
- Informix
- Sybase
- Lotus Notes / Domino
- DB2
- OpenView NNM

complete Data Protector support matrices are available at:
<http://www.hp.com/go/dataprotector>

Summary

Data Protector provides faster recovery of fresher data via:

- Instant Recovery
- Low-cost disk recovery
- NDMP recovery for NAS
- Two-stage backup and recovery
- Microsoft Exchange single mailbox recovery
- 6 Disaster Recovery options (bundled free w/ cellmgr)
 - Manual Disaster Recovery
 - Assisted Manual Disaster Recovery
 - Automated System Recovery
 - Enhance Automated Disaster Recovery
 - Disk Delivery



For More Information

- For More Data Protector Info:
 - <http://www.hp.com/go/dataprotector>
 - Product info
 - Support matrices
 - Data Protector manuals
 - Evaluation software (60-day full-function trial)



- See us at the Technology Showcase for more information or for a custom demo



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