BackPak® Software Suite

Open Options for NonStop Tape

Andrew Hall

Infrastructure Objectives

- Consolidation (Green Data Center)
- Centralization of Operations Staff
- Client / Server Storage Management
  - Tivoli TSM, NetBackup, NetWorker
- VMware, Private & Public Clouds
  - “Adaptive Infrastructure”
- Data Deduplication / Encryption

ETI-NET Product Family

- BackHome®
- BackBox®
- BackPak®

Software and hardware to integrate NonStop with prevailing data center infrastructure objectives

BackHome®

- Network-based Backup/Restore
- SNA → TCP/IP
- Disk-to-Disk Performance
- IBM Target / Mainframe Tape
- First Customer – UBF - 1989
- Latest deployment – June 2009

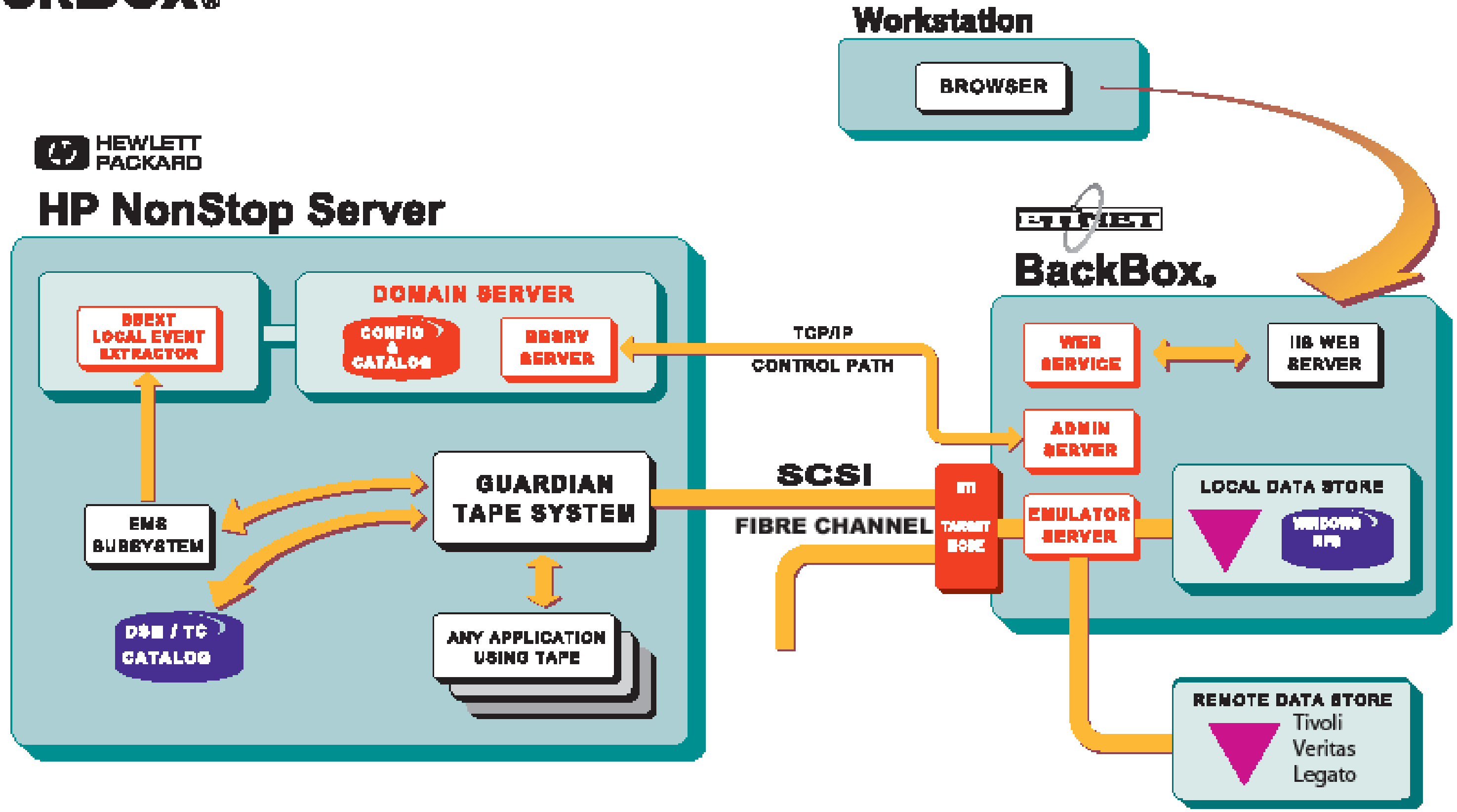
BackHome/TSM®

- Client / Server Backup/Restore
- Tivoli Storage Manager API in NonStop
- Policy Managed Object Lifecycles
- Centrally Managed Vaulting
- First Customer - 1995
- Worldwide Customers

BackBox®

- NonStop-based Management Software
  - Configuration
  - Integrated Interfaces (DSM/TC, Mediacom, Zsvr)
  - Script Management
- Fibre or SCSI channel I/O
- Context-free “VTC” controllers
- Open storage / open storage management
- First Customer – 2004
- Only De-dup solution for NonStop
- Happy Worldwide Customers
  - Component of flagship HP projects
  - Widely adopted in managed data centers

BackBox®



Workstation

BROWSER

HEWLETT PACKARD

HP NonStop Server

DBEXT LOCAL EVENT EXTRACTOR

DOMAIN SERVER

CONFIG & CATALOG

DBSRV SERVER

EMS SUBSYSTEM

GUARDIAN TAPE SYSTEM

DSM / TC CATALOG

ANY APPLICATION USING TAPE

TCP/IP

CONTROL PATH

SCSI

FIBRE CHANNEL

ETINET

BackBox®

WEB SERVICE

IIS WEB SERVER

ADMIN SERVER

ETI TARGET MODE

EMULATOR SERVER

LOCAL DATA STORE

WINDOWS NTFS

REMOTE DATA STORE

Tivoli

Veritas

Legato

ETINET COMPONENTS IN RED

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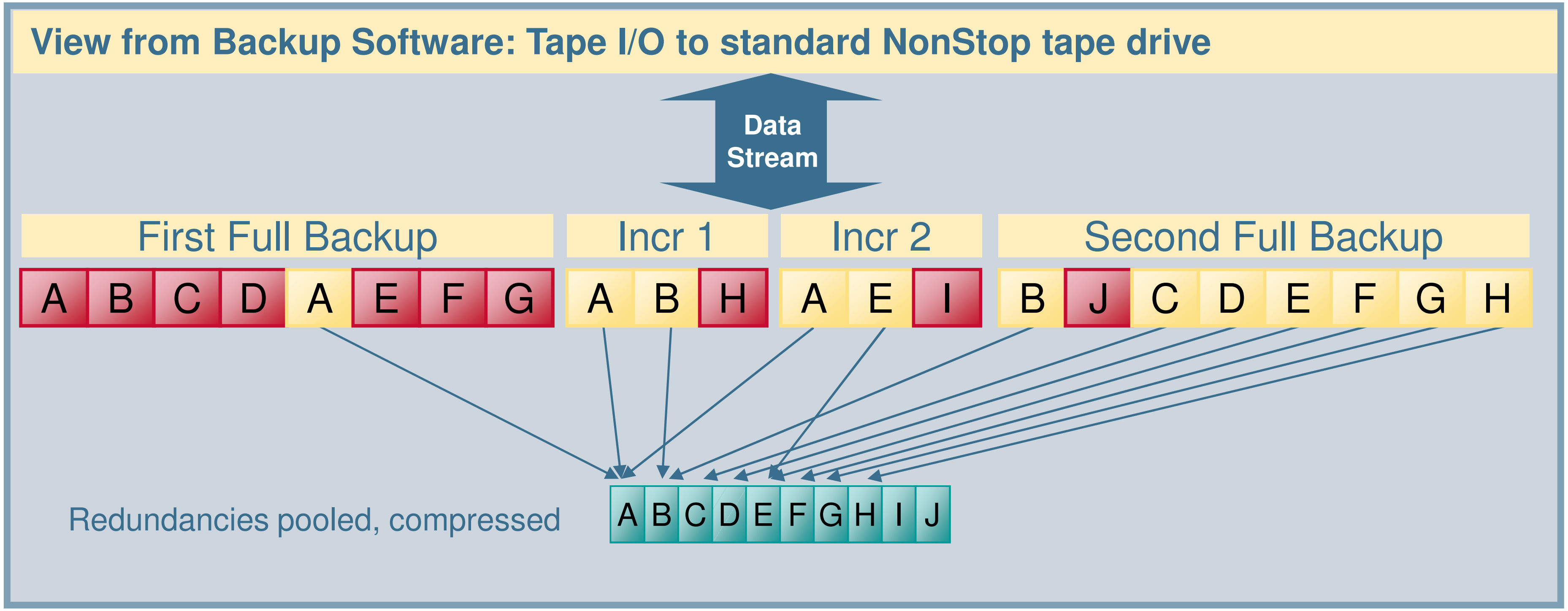
- Only De-dup solution for NonStop
- Happy Worldwide Customers
  - Component in flagship HP projects
  - Widely adopted in managed data centers
  - Popular in Australia

Deduplication: Under the Hood

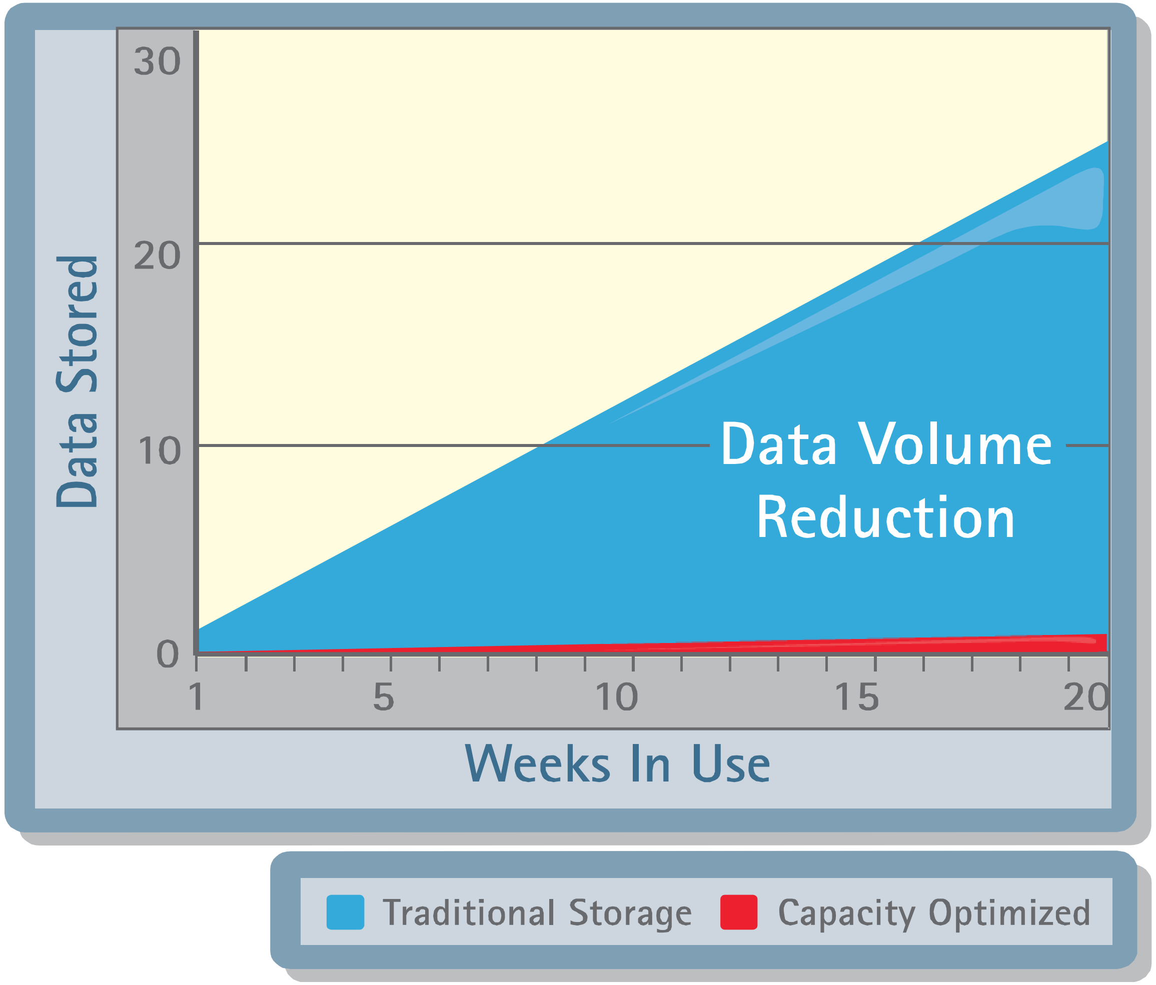

View from Backup Software: Tape I/O to standard NonStop tape drive
Data Stream
First Full Backup
A B C D A E F G
Incr 1
A B H
Incr 2
A E I
Second Full Backup
B J C D E F G H
Redundancies pooled, compressed
A B C D E F G H I J

🟥 = Unique variable segments (4KB-12KB)

🟨 = Redundant data segments

🟦 = Compressed unique segments

Data Reduction Impact Over Time



- Reduction Factor
  - 3-4x
    First full backup
  - 6-7x
    File-level incrementals
  - 50-60x
    Subsequent full backups
  - 30x
    Aggregate weekly fulls, daily incrementals

ETINET

Legacy Tape Server

Fibre-Channel BackBox VTC with currently supported, media compatible SCSI tape drives

- On demand import of physical tapes
- No need to migrate vaulted inventory
  - NS access to S-series tape archives

New Product: BackPak®

“BackBox without the Box (our box)”

BackPak®

“Common Standards / Uncommon Advantages”

BackPak®

- NonStop-based Management Software
  - Configuration
  - Operations Interfaces (DSM/TC, Mediacom, zsvr)
  - Migration Managers (pre-fetch, import/export, etc)
- Fibre or SCSI channel I/O
- Industry leading VTL libraries
  - HP StorageWorks VLS 6600
  - IBM ProtecTierTS7650
  - FalconStor
  - Quantum DXi / EMC EDL / Sun STK
- Deduplication / Encryption / Physical Tape vaulting
- Released @ HPTF June 2009

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  - Migration Manager
- Fibre or SCSI channel I/O
- Industry leading VTL libraries
  - HP StorageWorks VLS
  - IBM TS7650 ProtectTier
  - FalconStor
  - Quantum/EMC/Sun
- Deduplication / Encryption / Physical Tape Vaulting
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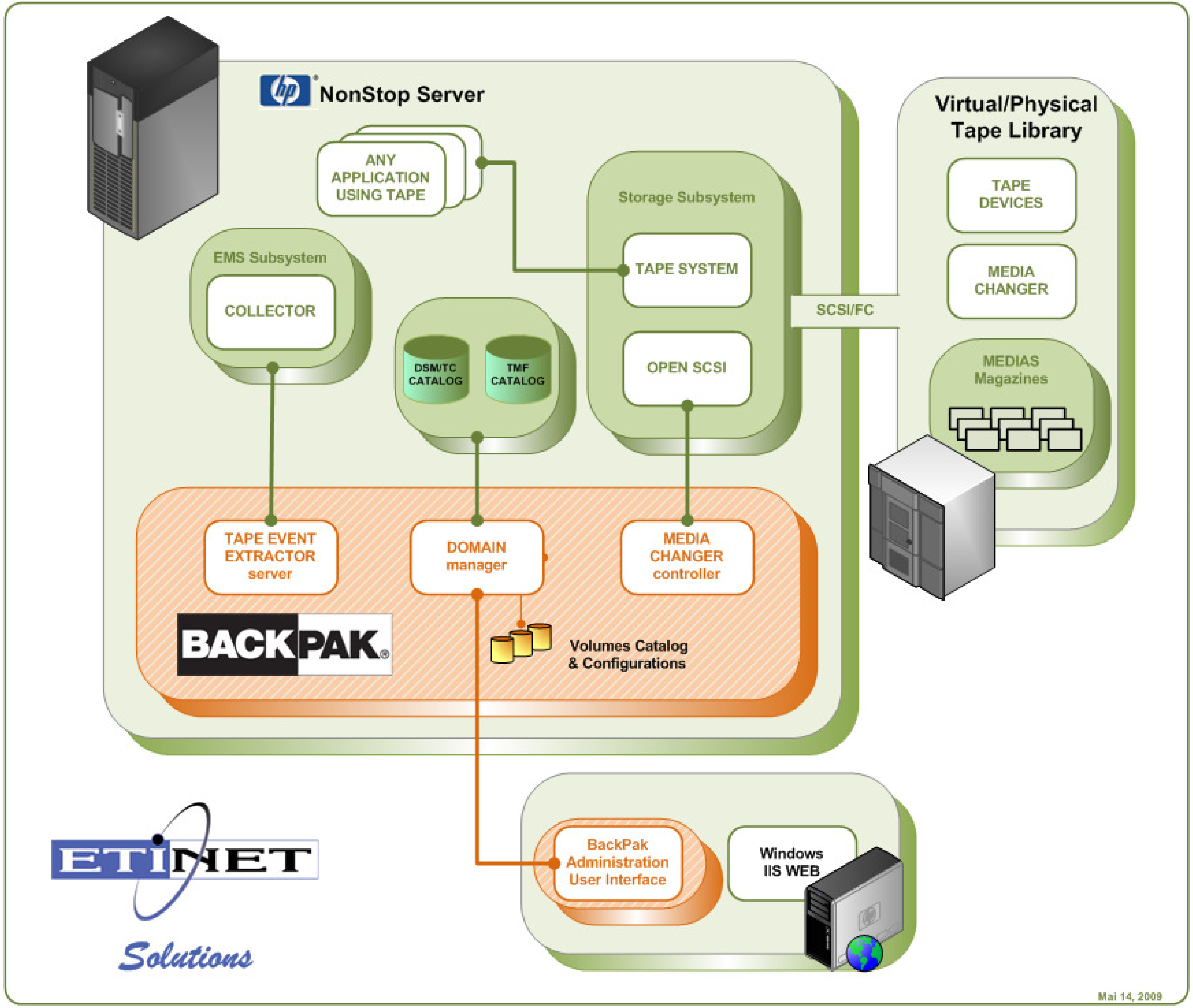
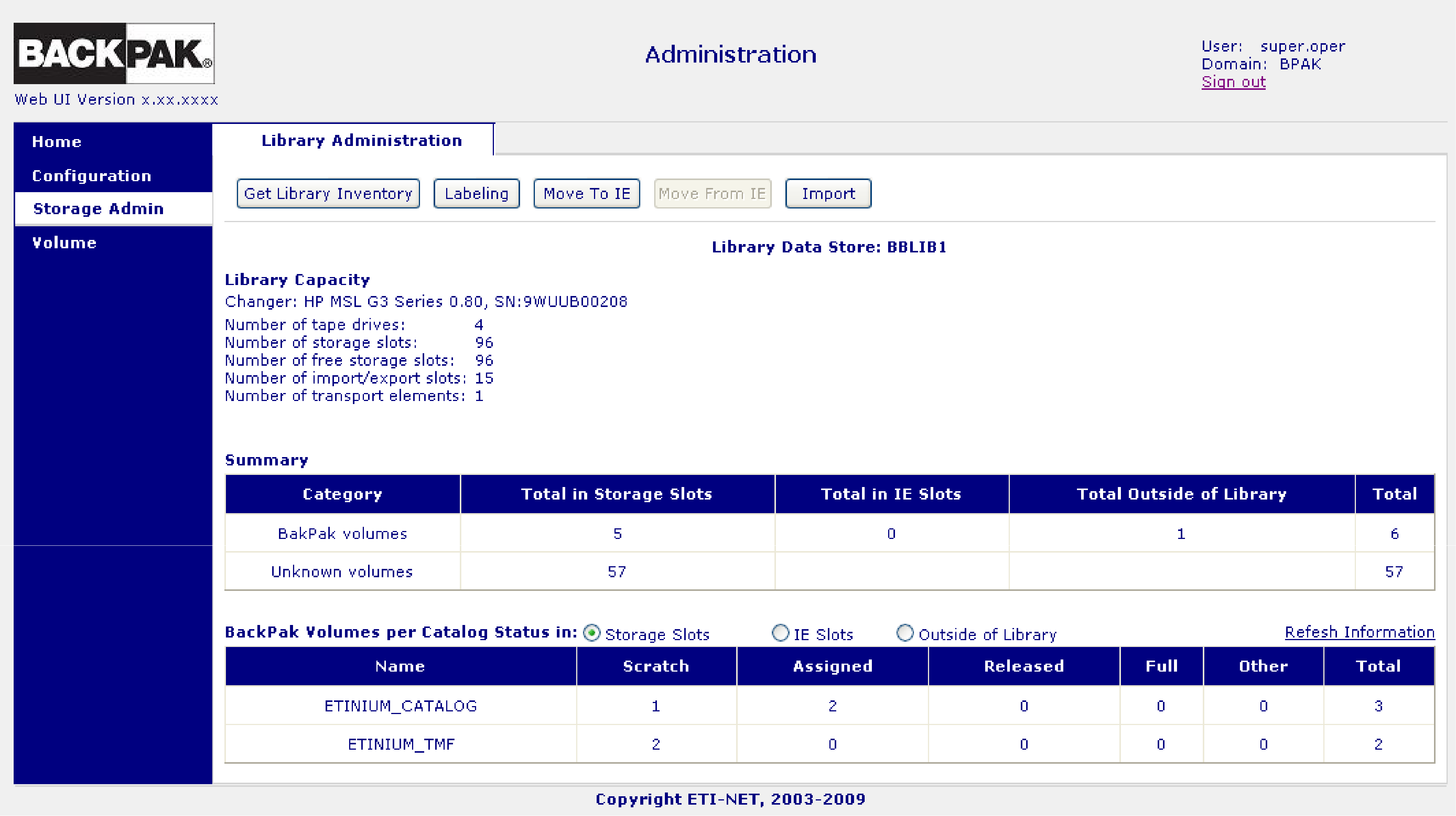

NonStop Server
ANY APPLICATION USING TAPE
Storage Subsystem
TAPE SYSTEM
OPEN SCSI
EMS Subsystem
COLLECTOR
DSM/TC CATALOG
TMF CATALOG
SCSI/FC
Virtual/Physical Tape Library
TAPE DEVICES
MEDIA CHANGER
MEDIAS Magazines
TAPE EVENT EXTRACTOR server
DOMAIN manager
MEDIA CHANGER controller
BACKPAK
Volumes Catalog & Configurations
BackPak Administration User Interface
Windows IIS WEB
ETINET
Solutions

Mai 14, 2009


BACKPAK
Web UI Version x.xx.xxxx
Administration
User: super.oper
Domain: BPAK
Sign out
Home
Configuration
Storage Admin
Volume
Library Administration
Get Library Inventory
Labeling
Move To IE
Move From IE
Import
Refesh Information

Library Data Store: BBLIB1

Library Capacity

Changer: HP MSL G3 Series 0.80, SN:9WUUB00208

Number of tape drives:	4
Number of storage slots:	96
Number of free storage slots:	96
Number of import/export slots:	15
Number of transport elements:	1

Summary

Category	Total in Storage Slots	Total in IE Slots	Total Outside of Library	Total
BakPak volumes	5	0	1	6
Unknown volumes	57			57

BackPak Volumes per Catalog Status in: ● Storage Slots ○ IE Slots ○ Outside of Library

Name	Scratch	Assigned	Released	Full	Other	Total
ETINIUM_CATALOG	1	2	0	0	0	3
ETINIUM_TMF	2	0	0	0	0	2

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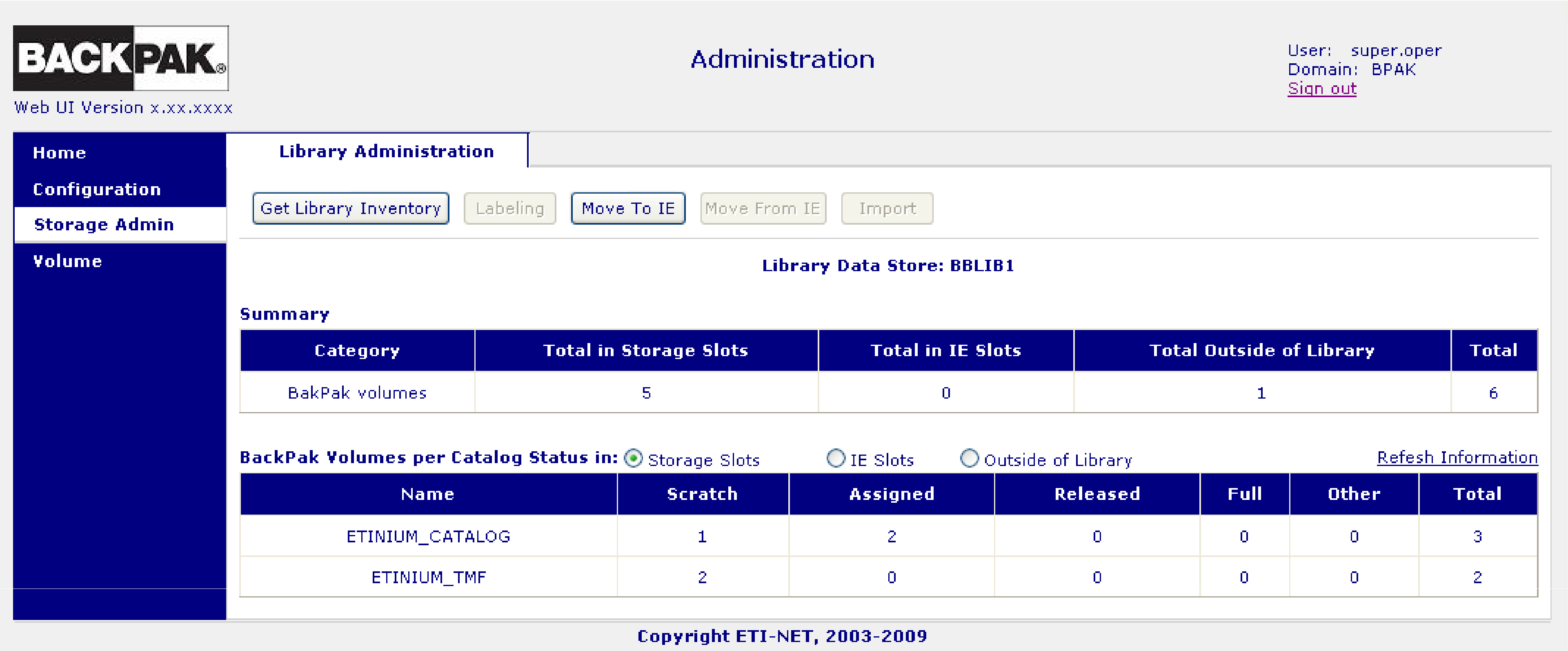
BACKPAK
Web UI Version x.xx.xxxx
Home
Configuration
Storage Admin
Volume
Library Administration
Get Library Inventory
Labeling
Move To IE
Move From IE
Import
Refesh Information

Administration

User: super.oper
Domain: BPAK
Sign out

Library Data Store: BBLIB1

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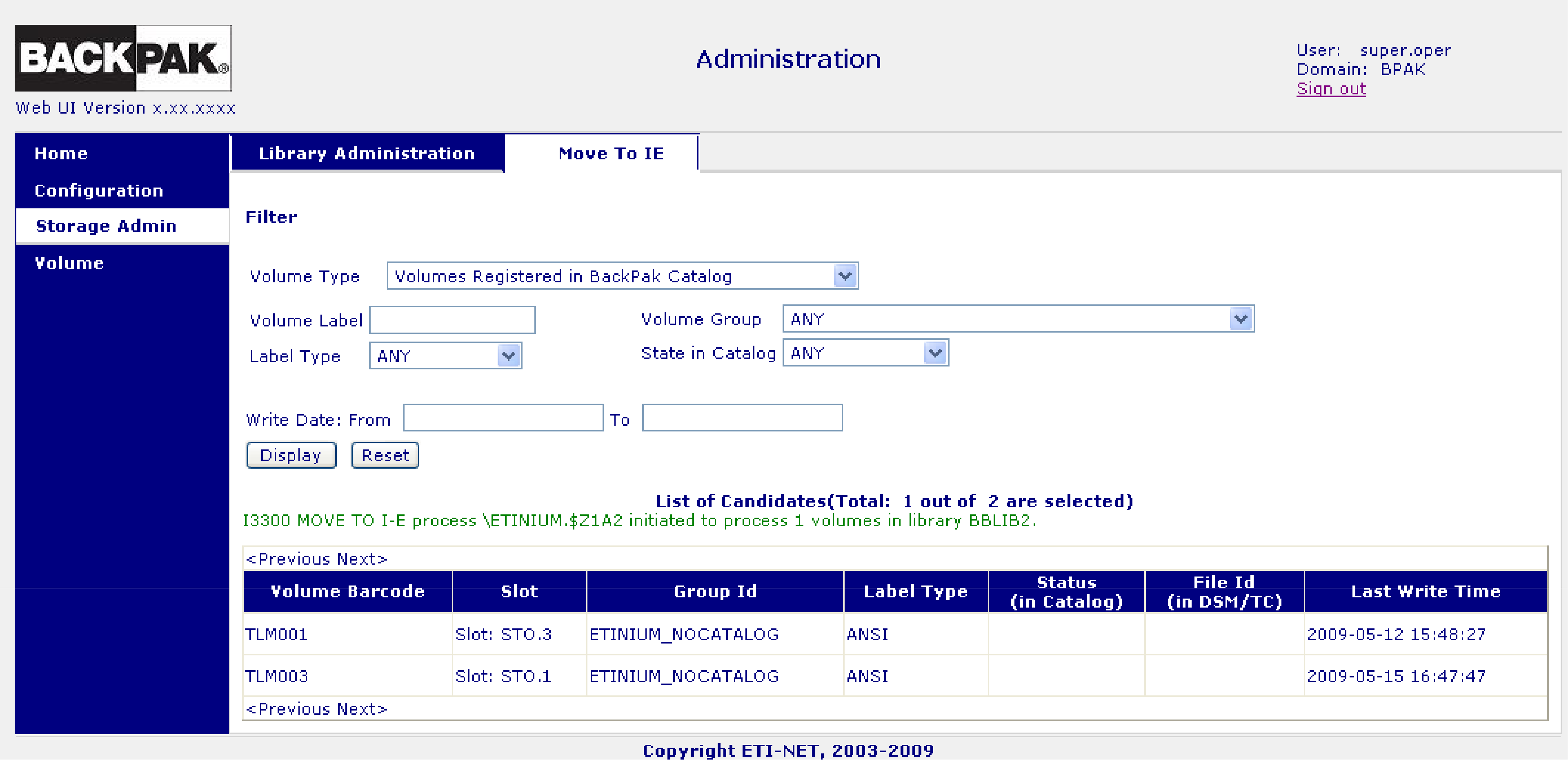
BACKPAK
Web UI Version x.xx.xxxx
Administration
User: super.oper
Domain: BPAK
Sign out
Home
Configuration
Storage Admin
Volume
Library Administration
Move To IE
Filter
Display
Reset
<Previous Next>
Copyright ETI-NET, 2003-2009

Volume Type: Volumes Registered in BackPak Catalog

Volume Label:

Volume Group: ANY

Label Type: ANY

State in Catalog: ANY

Write Date: From To

List of Candidates(Total: 1 out of 2 are selected)

I3300 MOVE TO I-E process \ETINIUM.$Z1A2 initiated to process 1 volumes in library BBLIB2.

Volume Barcode	Slot	Group Id	Label Type	Status (in Catalog)	File Id (in DSM/TC)	Last Write Time
TLM001	Slot: STO.3	ETINIUM_NOCATALOG	ANSI			2009-05-12 15:48:27
TLM003	Slot: STO.1	ETINIUM_NOCATALOG	ANSI			2009-05-15 16:47:47

Hot Infrastructure Topics

- VMware
- Clouds
- iSCSI

Questions?

www.etinet.com

Thank You