How a Customer Moved from Legato Networker to HP OpenView Storage Data Protector

Session ID: 3948

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The Challenge

Migrate all the pre-merger Compaq data centers globally to Data Protector from Legato Networker
5,000+ legato clients to migrate

The Approach

- Program Approach
  - WW Program Level
    - North America Program
    - Latin America Program
    - Europe Middle East Asia Program
    - Asia Pacific Program
- Audit current backup environment and processes
- Create Migration Plan/Checklist

Backup Environmental Audit

Backup Environmental Audit

- Inventoried Items
  - System Name
  - Platform
  - O/S version
  - Hosting Site and Managing Site
  - Disk Space Capacity/Used
  - Connected to backup network (yes/no) and at what speed. If not, was there back-plane space to add a second NIC
  - Was the system connected to SAN/NAS
  - What applications were running on the systems

Create Migration Plan/Checklist

Create Migration Plan/Checklist

- What it looked like in Legato
  - Legato Servers & Clients
  - Devices
  - Schedules
  - Groups
  - Media Pools
- What it is going to look like in Data Protector
  - Data Protector Cell Servers & Clients
  - Backup specifications
  - Media Pools and Labels

Migration Plan/Checklist Sample Summary

Phases	Total Servers	Completed	Remaining	% Completed	# Clients	Completed	Remaining	% Completed
Pilot	**1**	1	0	100%	**5**	5	0	100%
Phase 1	**9**	7	2	78%	**101**	96	5	95%
Phase 2	**18**	2	16	11%	**121**	20	101	17%
Phase 3	**10**	3	7	30%	**193**	56	137	29%
SUM	**38**	**13**	**25**	**34%**	**420**	**177**	**243**	**42%**

Definition on phases:

(1) Pilot & Phase 1: Singapore - HPAM, Telepark, COMIII and SunTec.

(2) Phase 2: China, Taiwan, Hong Kong, South Korea and Thailand

(3) Phase 3: New Zealand, Australia, Indonesia, Philippines, Malaysia, India

Migration Plan/Checklist Sample Details Collected

- Client Name
- Legato Server(s)
- Data Protector Backup Software installed
- Requirement
- Completed
- Testing
- Cell Server Migrated to
- Issues/Remarks

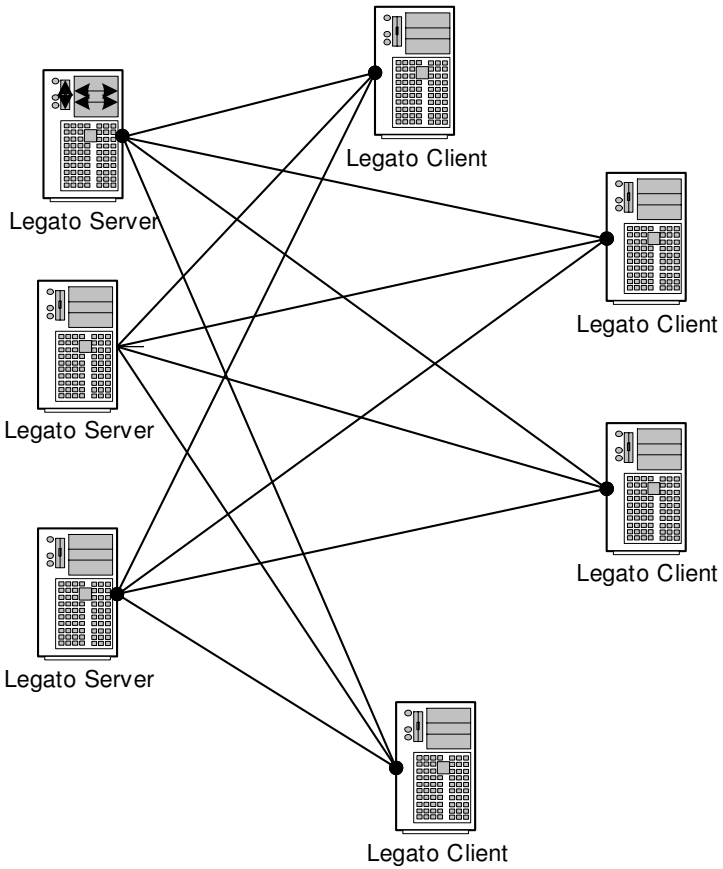
Challenges

Technical Challenges

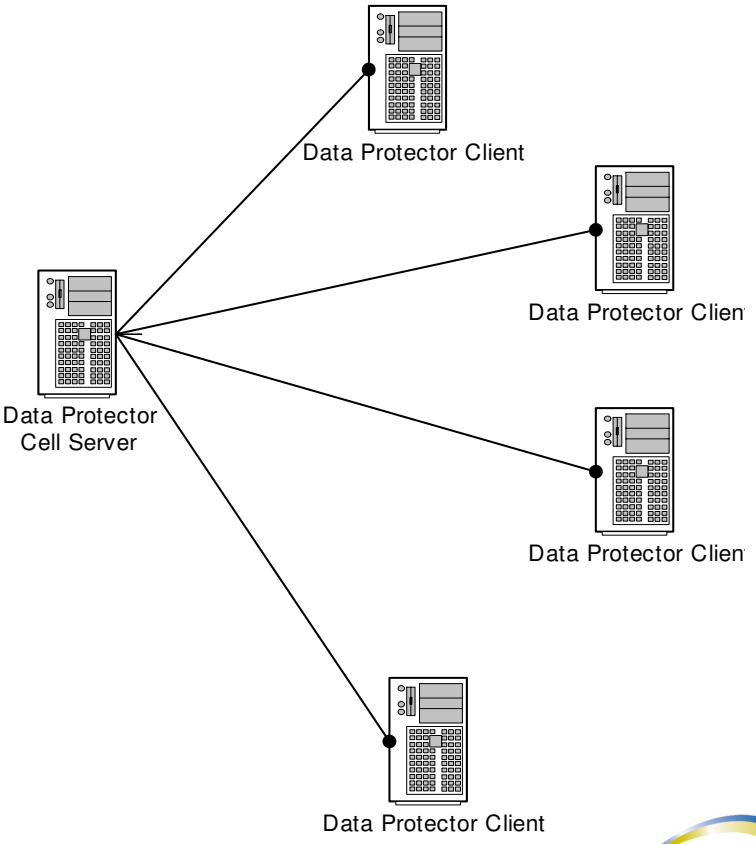
- Architectural Infrastructure differences
- Architectural Logical Differences
- Operational issues
- Supportability issues
  - O/S supportability
  - device supportability

Architectural Infrastructure Differences

Legato Infrastructure Architechure



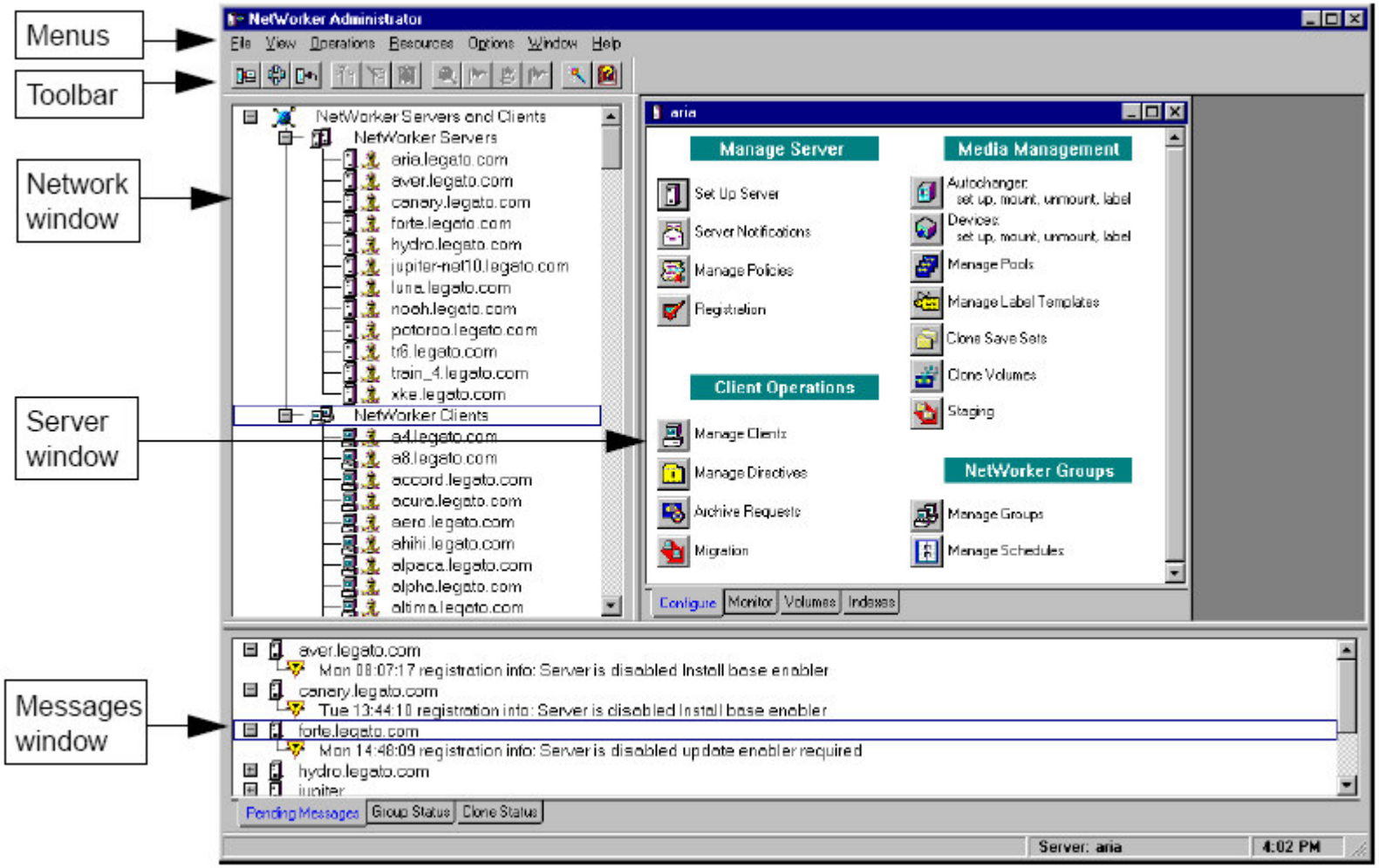
Data Protector Infrastructure Architechure



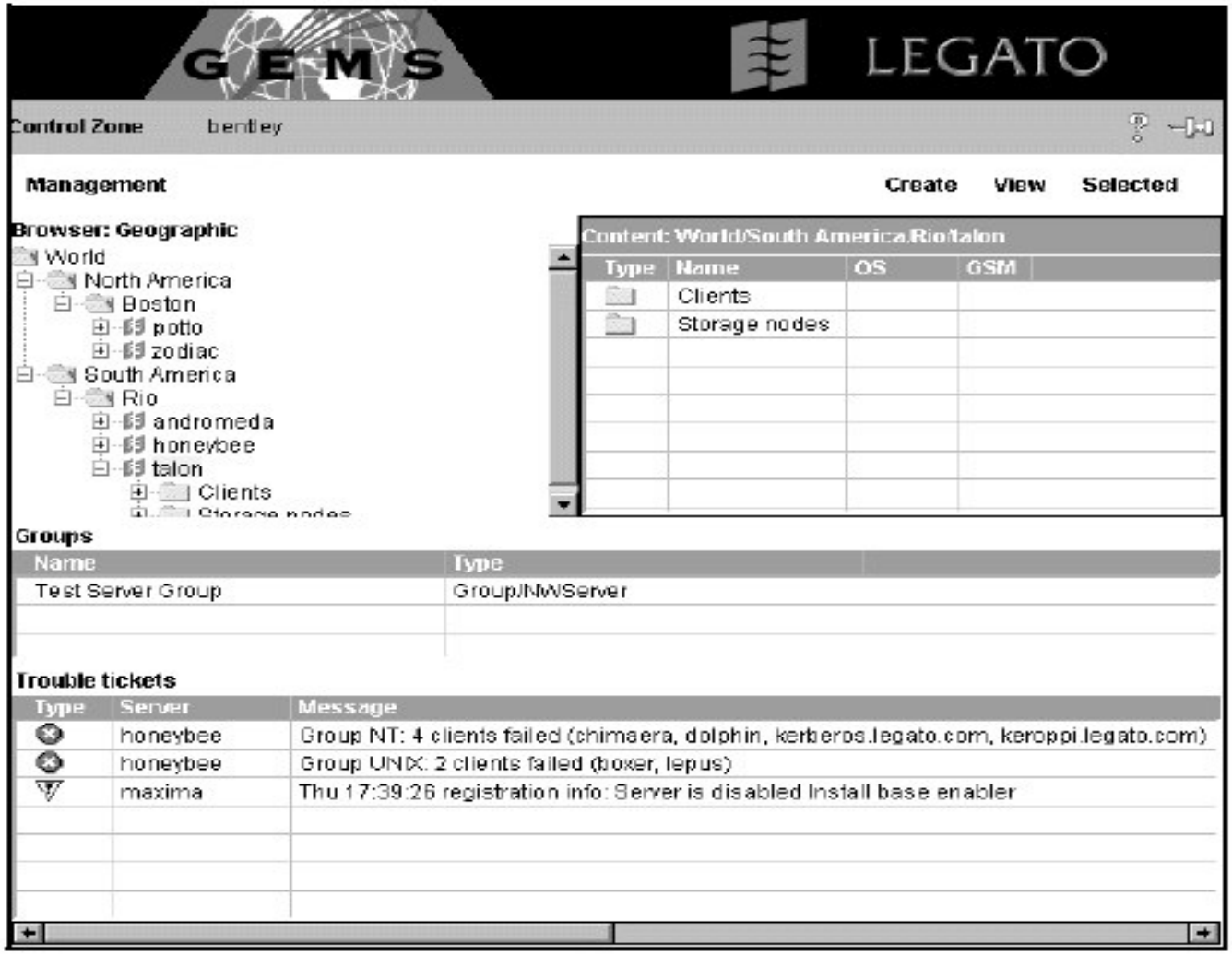
Infrastructural Logical Differences

Legato	Data Protector
Backup Specification broken up into different segments. For example, source, destination, schedule, & groups all in separate locations	Backup Specification in, one easy to find, configurable location.
Backup Devices not exclusively owned by backup session.	Backup Devices owned exclusively by backup session.
All environmental attributes not available with the GEMS gui Mostly used for monitoring and reporting	Data Protector MoM Gui has full visibility and functionality to all environmental attributes and configurable values.
License structure client based. We were running the enterprise unlimited lic.	License structure based on device, A.P.I.'s, and TB of stored data in BC backups.

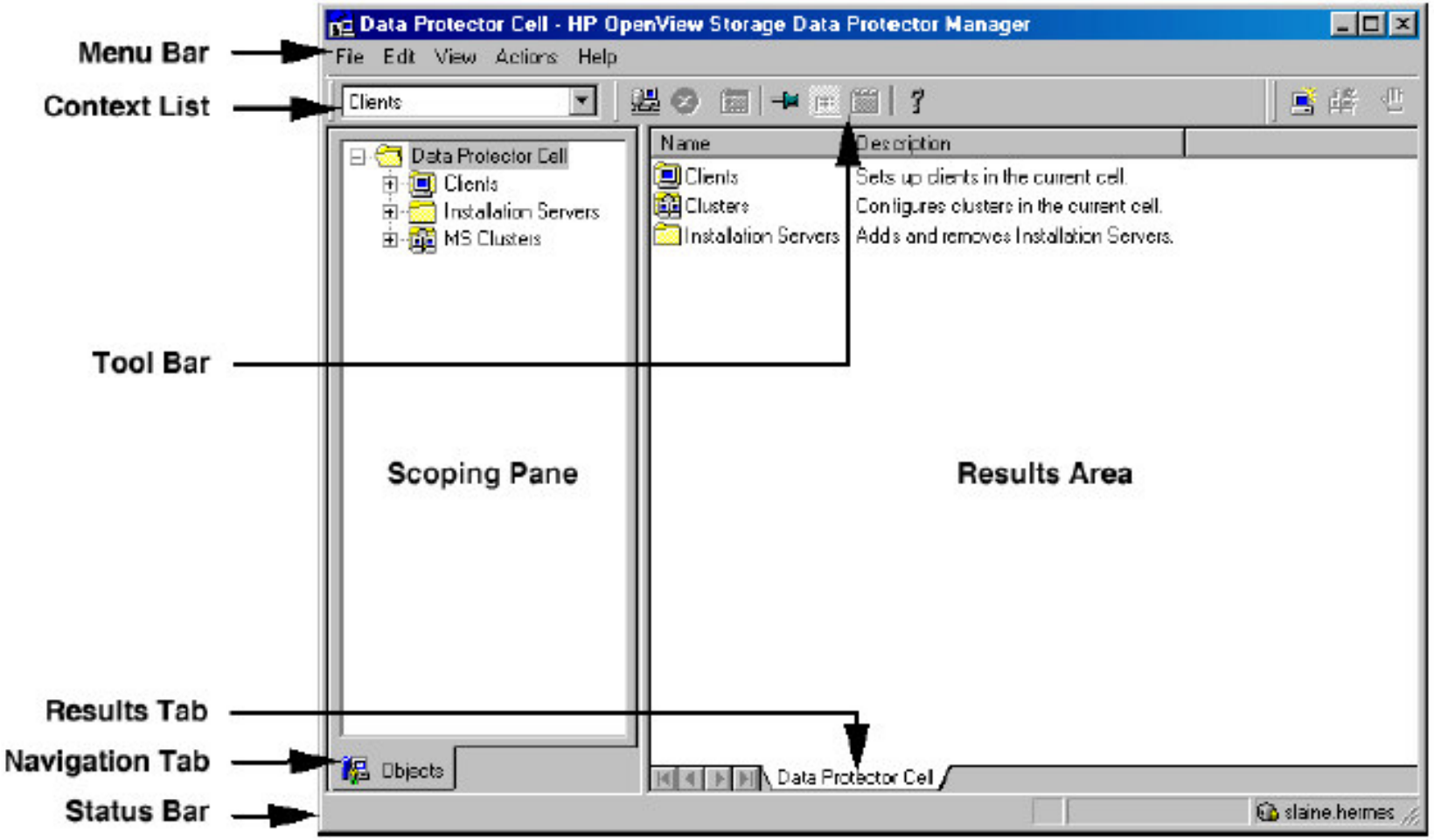
Legato GUI


Menus
Toolbar
Network window
Server window
Messages window
NetWorker Administrator
File View Operations Resources Options Window Help
NetWorker Servers and Clients
NetWorker Servers
aria.legato.com
aver.legato.com
canary.legato.com
forte.legato.com
hydro.legato.com
jupiter-net10.legato.com
luna.legato.com
nooh.legato.com
petoroo.legato.com
tr6.legato.com
train_4.legato.com
xke.legato.com
NetWorker Clients
a4.legato.com
a8.legato.com
accord.legato.com
acura.legato.com
aero.legato.com
ahihi.legato.com
alpaca.legato.com
alpha.legato.com
altima.legato.com
aria
Manage Server
Set Up Server
Server Notifications
Manage Policies
Registration
Client Operations
Manage Clients
Manage Directives
Archive Requests
Migration
Media Management
Autochanger: set up, mount, unmount, label
Devices: set up, mount, unmount, label
Manage Pools
Manage Label Templates
Clone Save Sets
Clone Volumes
Staging
NetWorker Groups
Manage Groups
Manage Schedules
Configure Monitor Volumes Indexes
aver.legato.com
Mon 08:07:17 registration info: Server is disabled Install base enabler
canary.legato.com
Tue 13:44:10 registration info: Server is disabled Install base enabler
forte.legato.com
Mon 14:48:09 registration info: Server is disabled update enabler required
hydro.legato.com
jupiter
Pending Messages Group Status Clone Status
Server: aria
4:02 PM

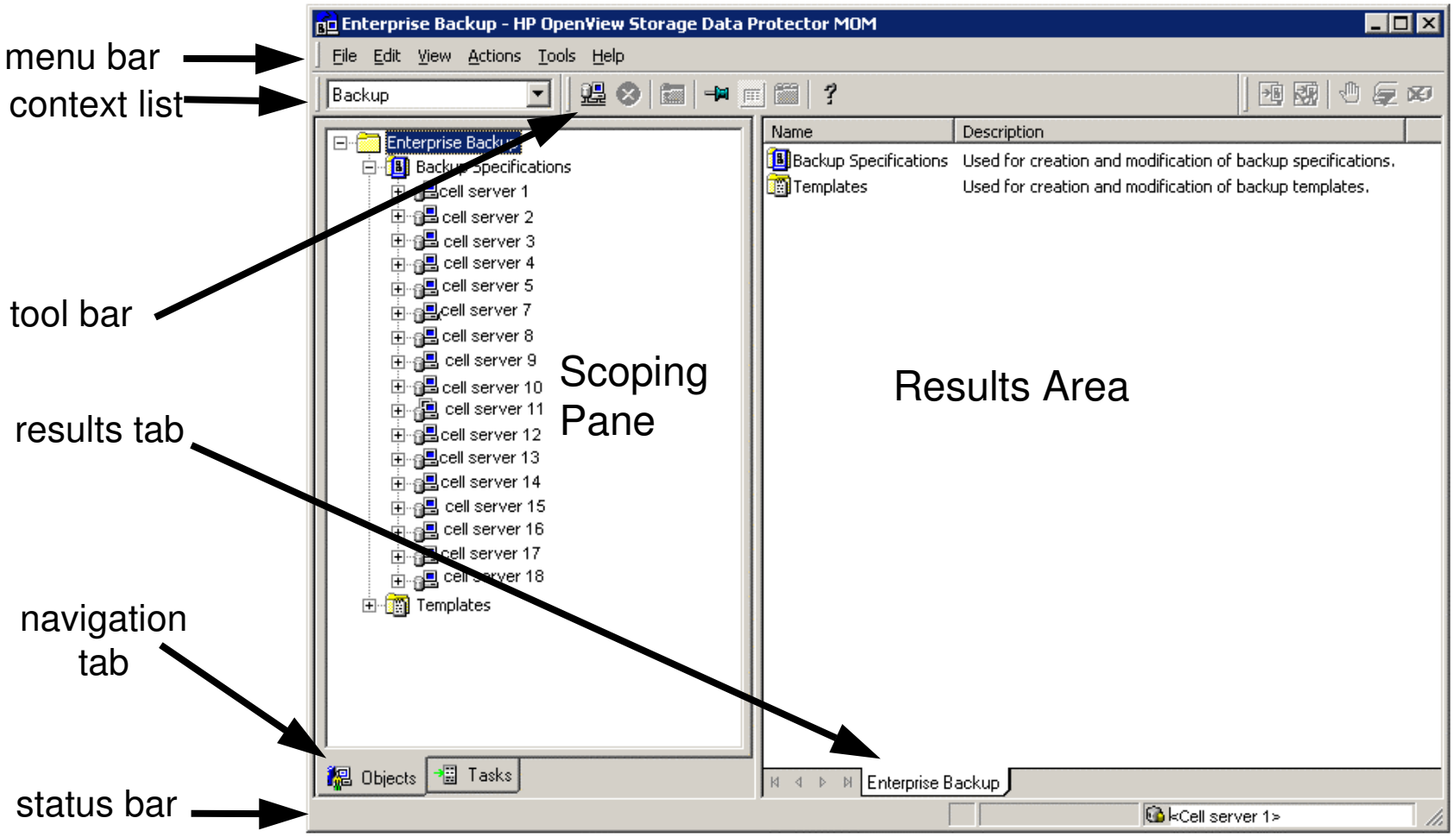
Legato GEMS GUI



HP Open View Storage Data Protector GUI



HP Open View Storage Data Protector MoM GUI



Operational Issues

- Customer Communication Process via Account Delivery Managers
- What to do with old Legato media
  - Run report listing all Legato media with extended retention periods
  - Leave Legato instance loaded for recovery purposes
  - Import tapes into one Legato Data Base to centralize the operation
  - Restore Legato tape to server and re-backup using Data Protector

Operational Issues (cont.)

- Event Detection and Notification
  - Legato was being monitored by patrol
    - Communication of transition off of Legato to the Legato support team
  - Data Protector is monitored by OVO
    - Communication of transition to Data Protector to the Data Protector support team
    - Arrange for install of OVO for the cell servers

Supportability Issues

- We had to make sure that all O/S's in production were supportable.
  - Windows based systems were not a problem
  - Tru64
    - Tru64 5.xx systems running as legato servers would become device servers in data protector as cell server isn't supported on Tru64
    - Tru64 4.0x systems could now only be client systems and would not be able to run to direct attached devices
    - Tru64 <4.0x could not be supported. As for now, we haven't encountered this.
  - Open VMS
    - Open VMS 7.3-1 would be supported and we didn't have issues here.
    - Open VMS <7.3-1 would not be supported. However, we didn't run into this problem.

Supportability Issues (cont.)

- We had to make sure the tape devices and libraries were supportable.
  - Library configuration problems with TL891, TL895 libraries.

  -Resolved by making tuning parameters changes on the libraries.
  - Tape drive TZ89 was not listed on the Data Protector support matrix.

  -Resolved by working with the data protector support certification team to get it listed and supported.
- Legacy problems that were existing in legato environment.
  - Backup network cards set to auto-negotiate, we needed to set to 100 full duplex
  - Reporting deficiencies
  - Aging hardware
  - Underutilized hardware

Funding Challenges

- Hardware Funding
  - Funding of Swing Environment
  - Hardware upgrades for aging equipment
  - Media
- Resource Funding
- Travel
- Training

Resource Challenges

- Getting support from the regional delivery managers

- Resolved by clean room decision

- Getting support from the regional delivery teams

- Resolved by involving them in the solution

- Getting enough people to do the job

- Resolved by building global team and involving all levels of support.

- Management of change issues

- Resolved by constant status communications

The Results

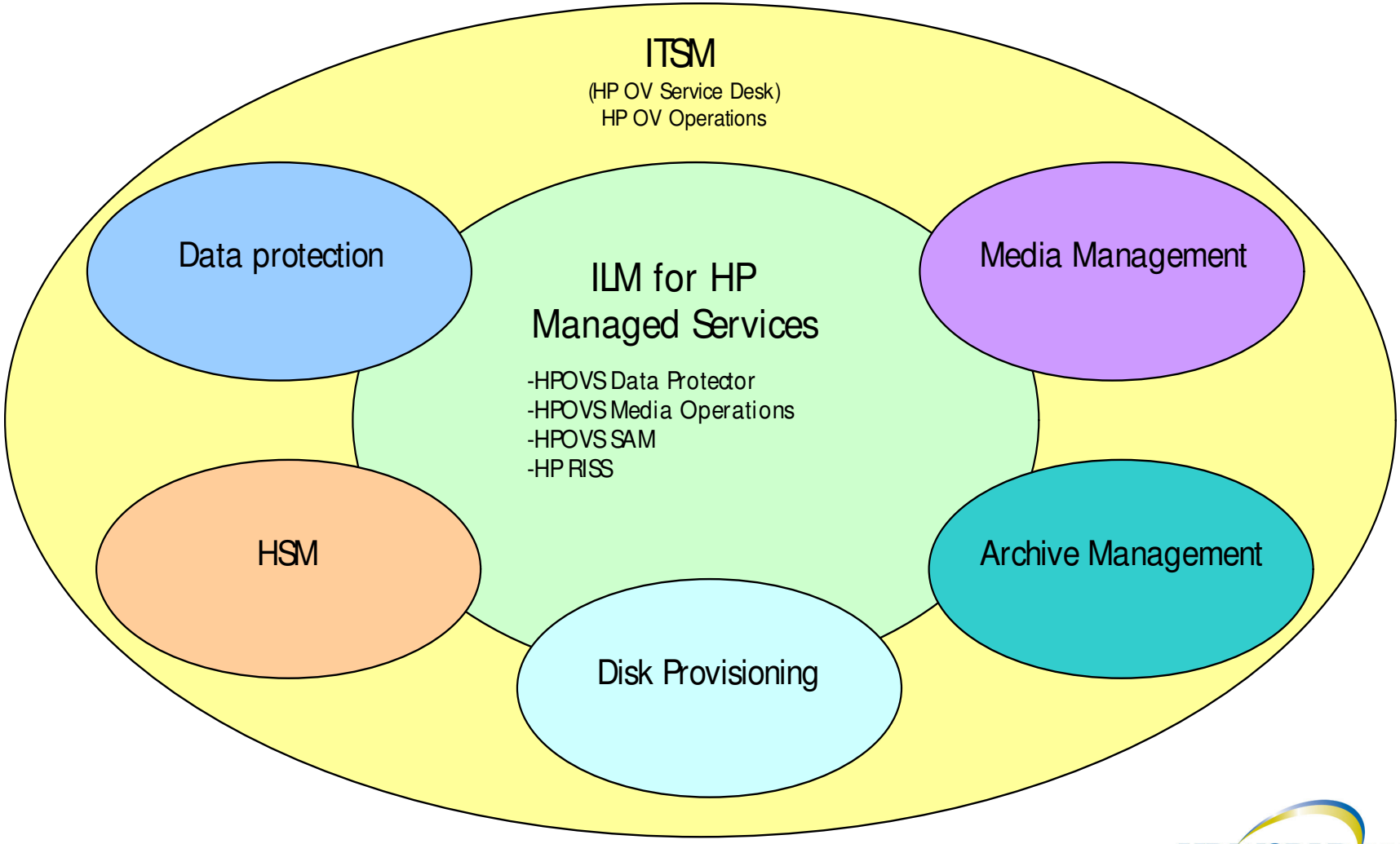
Results

- Migrations are completing successfully
- We are cleaning up old inherited problems with the legato infrastructure
- We are correcting hardware configurations that have also allowed us to see performance gains
- We are standardizing on one tool for enterprise backup
- We are standardizing backup processes globally
- We are building a strong WW support team that will be able to deliver backup services globally and consistently

Results (cont.)

- We are able to retire obsolete hardware as well as drive down our cost of delivery.
  - Migrating to Newer tape technologies allowing us to put more data on less tapes.
  - Getting rid of old tape drives allows us to free up valuable data center space and power.
  - Less tape drives to manage means less FTE to manage the environment or existing FTE can manage growth which is about 100% year over year based on industry standards.
- Merging company cultures and truly becoming one HP
- A solution that fits our ILM strategy

How does it fit into HP Services ILM Strategy?



End State Comparison

What's Better	What's Worse
We are deployed on one standard tool across HP for backups	Data Protector Architecture doesn't allow for clients to be on more than one cell. This was possible with Legato. This has created some challenges in the migration process.
Restore speeds much faster due to the fact that Data Protector only allows for one backup session to own a backup device at a time.	Tape drive allocation now has to be monitored more manually due to the fact that Data Protector only allows one session to own a device exclusively.
Security is better. Access to clients limited to cell it is owned by.	The ability to run backups from any Data Protector server not available.
Fewer duplicate backups due to Data Protector architecture.	There is a little more confusion while in transition to new tool. Better chance of something getting dropped. However, after transition, the support process is clearer.
Backup performance is much better due to restructuring of the environment	Familiarity with Data Protector is not as good with backup engineers previously using Legato. Need to provide training until up to speed.
Less Cost due to using Data Protector. We only have to work with one product division and not two for backup software support	
Configuration Management	

Q & A

Thank You!

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