

**HP OV-SAM Storage
Management and Brocade
Fabric Manager
Deliver Single-Console
Management of
Heterogeneous Storage
Networks**

AJ Casamento


Solutioneer

Brocade Communications Systems, Inc.




The problem: cost of storage administration


Storage administration costs are typically 6-10x the purchase price of storage!



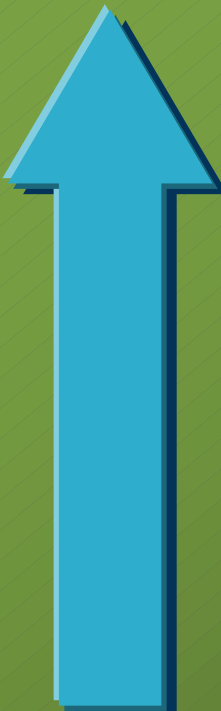
Computing
(\$/MIP)



Storage
(\$/MB)



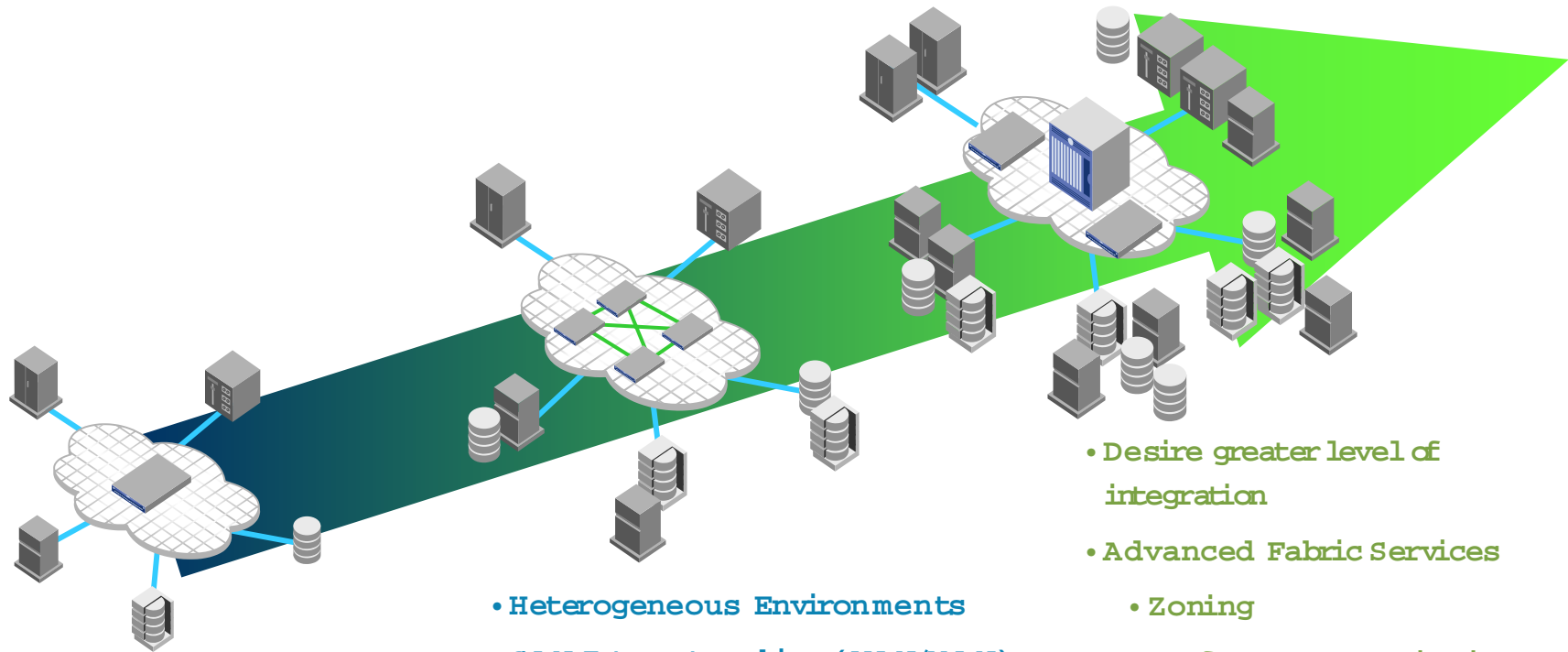
Connectivity
(\$/port)



Storage Administration (\$/TB)

- Disaster Recovery Planning
- Asset Management
- Policy Management
- Deployment & Provisioning
- Capacity Planning
- Data Migration
- Backup
- Quota Management
- Fault Monitoring
- Trend Analysis

Evolution of the intelligent infrastructure

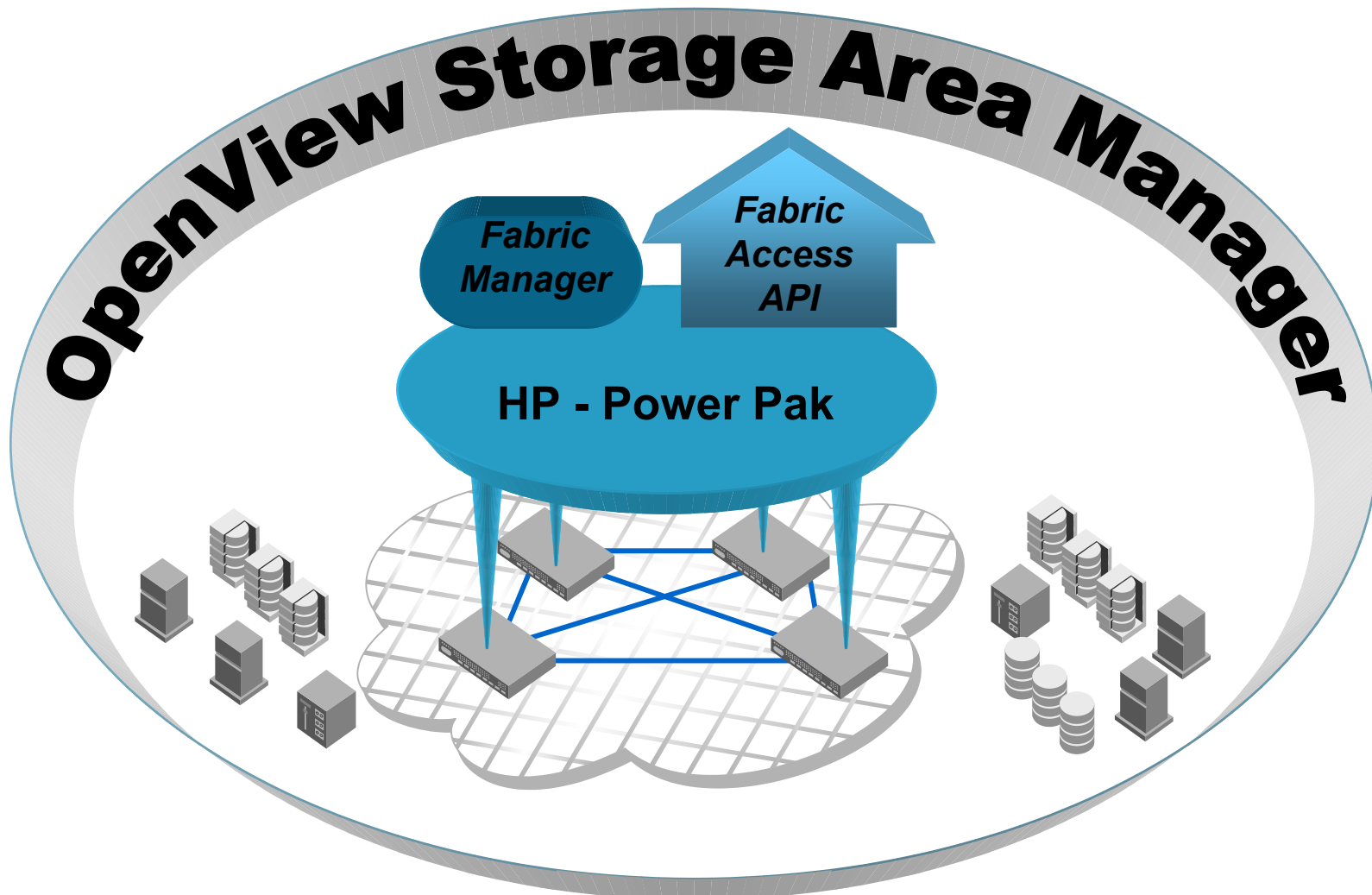


- Basic connectivity, shared storage
 - improve resource utilization
 - more scalable
 - eliminates SPF

- Heterogeneous Environments
- SAN Internetworking (WAN/MAN)
- Optimize storage infrastructure
 - LAN Free, serverless backup
 - Server, storage consolidation
 - Clustering, high availability
- SNMP Management

- Desire greater level of integration
- Advanced Fabric Services
 - Zoning
 - Performance Monitoring
 - Health Monitoring
 - Security
- Accessed through open API

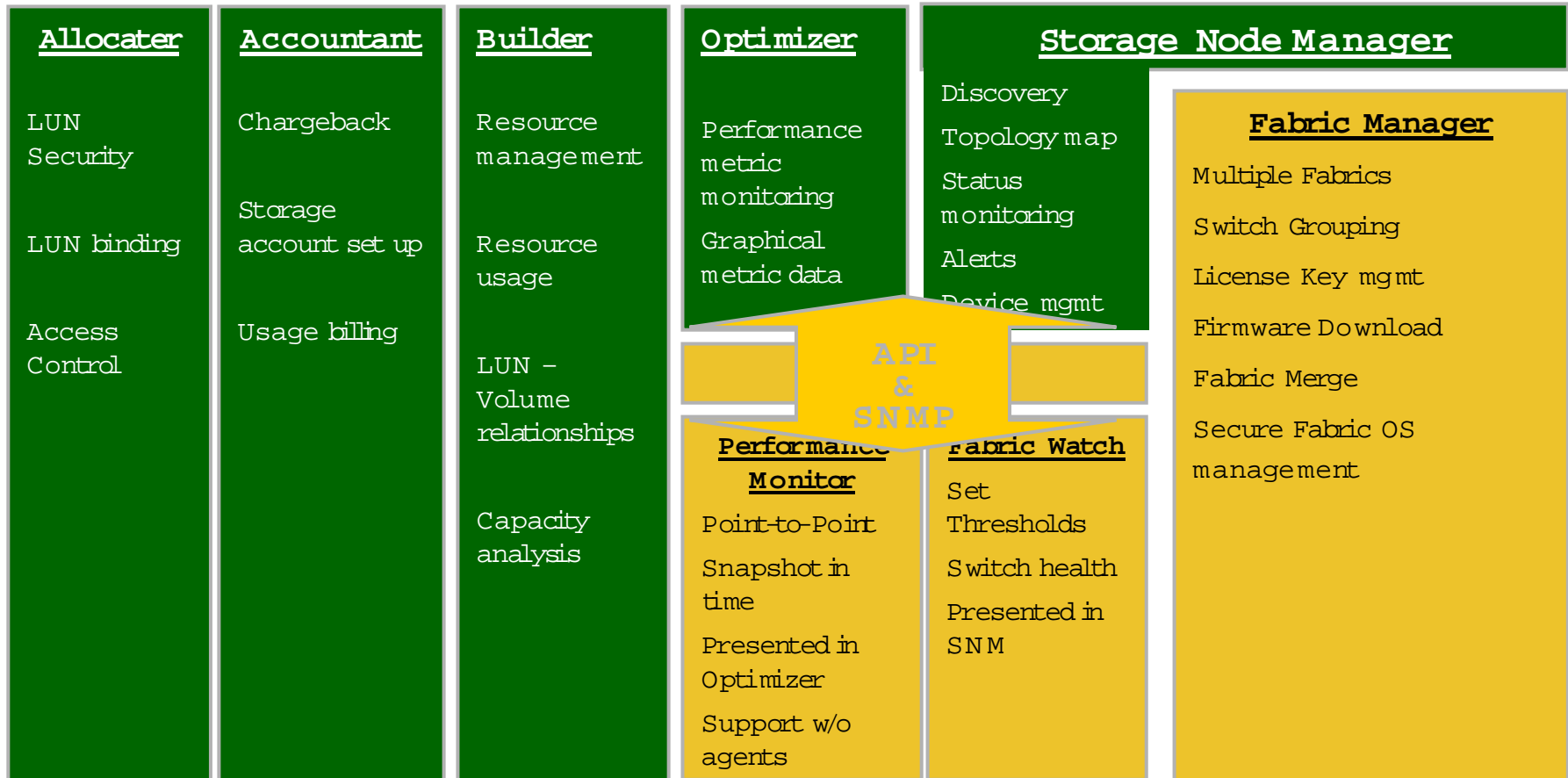
HP & Brocade – *the complete SAN solution!* highly available; highly secure



Management Services, Health Monitoring, Performance Monitoring

HP OpenView SAM – Brocade integration

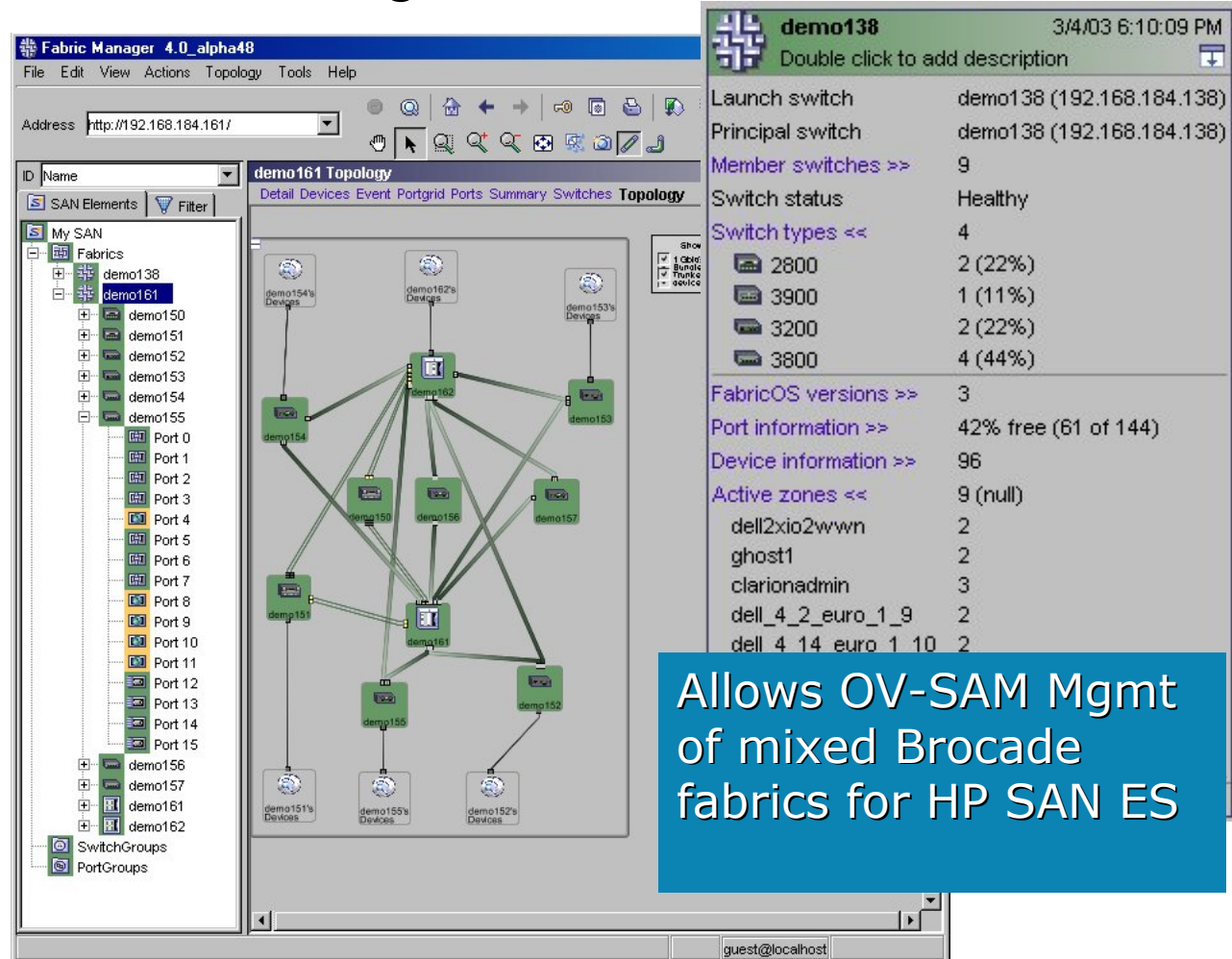
Storage Area Manager



FM Benefits – Monitoring

Lowers the cost of Monitoring B-Series Fabrics

- Large Fabrics and Multiple Fabrics
- At-A-Glance Views
- Topology visualization
- ISL Monitoring
- Fabrics and Groups
- Events



The screenshot displays the Fabric Manager interface. On the left, a tree view shows a hierarchy of fabrics (demo138, demo150-162) and their associated ports. The main window shows a topology diagram for 'demo161 Topology' with various switches and devices connected. On the right, a detailed view for 'demo138' is shown, including a table of switch types and active zones.

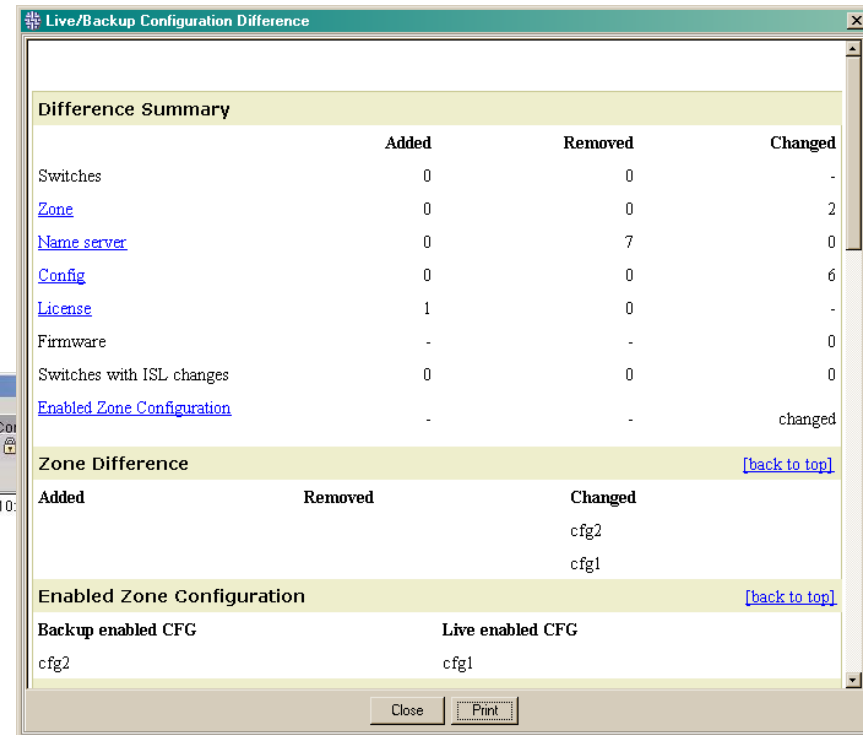
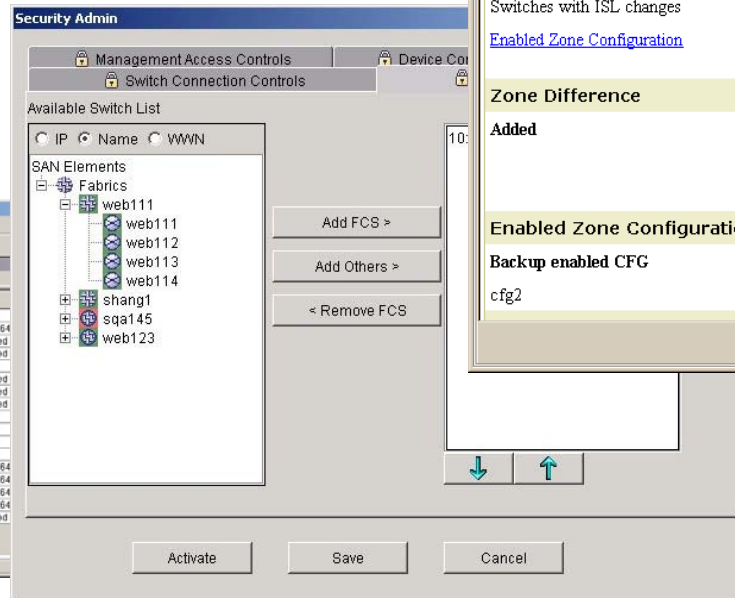
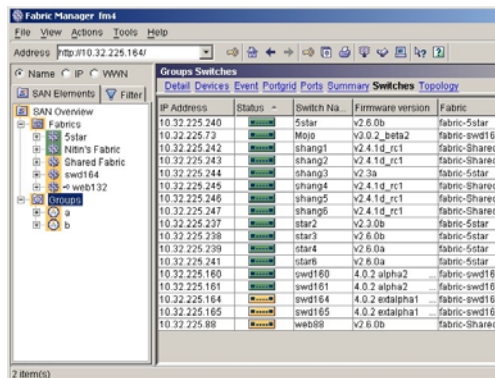
demo138	
Launch switch	demo138 (192.168.184.138)
Principal switch	demo138 (192.168.184.138)
Member switches >>	9
Switch status	Healthy
Switch types <<	4
2800	2 (22%)
3900	1 (11%)
3200	2 (22%)
3800	4 (44%)
FabricOS versions >>	3
Port information >>	42% free (61 of 144)
Device information >>	96
Active zones <<	9 (null)
dell2xio2wwn	2
ghost1	2
clarionadmin	3
dell_4_2_euro_1_9	2
dell 4 14 euro 1 10 2	2

Allows OV-SAM Mgmt of mixed Brocade fabrics for HP SAN ES

FM Benefits - Administration

Lowers the cost to Administer B-Series Fabrics

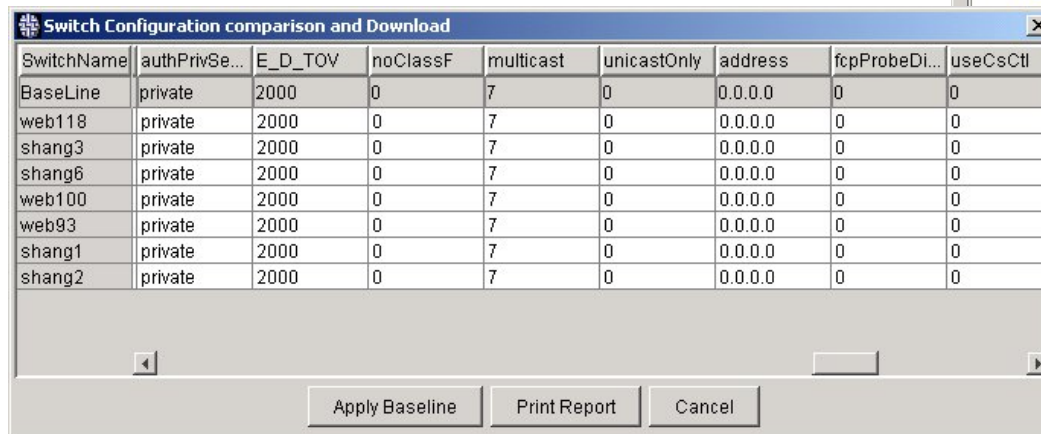
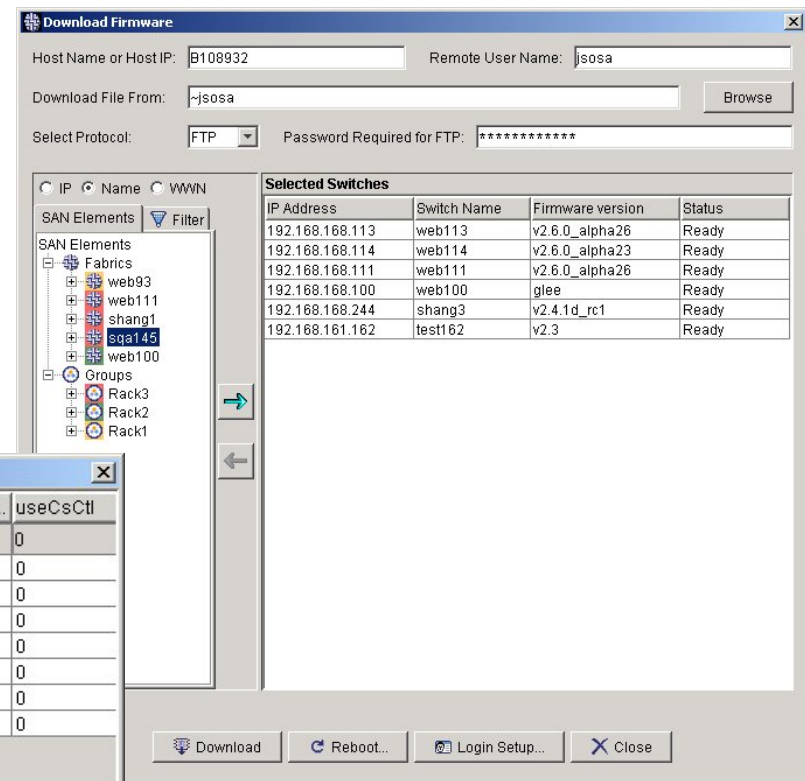
- Change Management
- User-Defined Switch Groups
- Secure Fabric OS Management
- Fabric and Zone Merge
- Login
- Set Time



FM Benefits - Provisioning

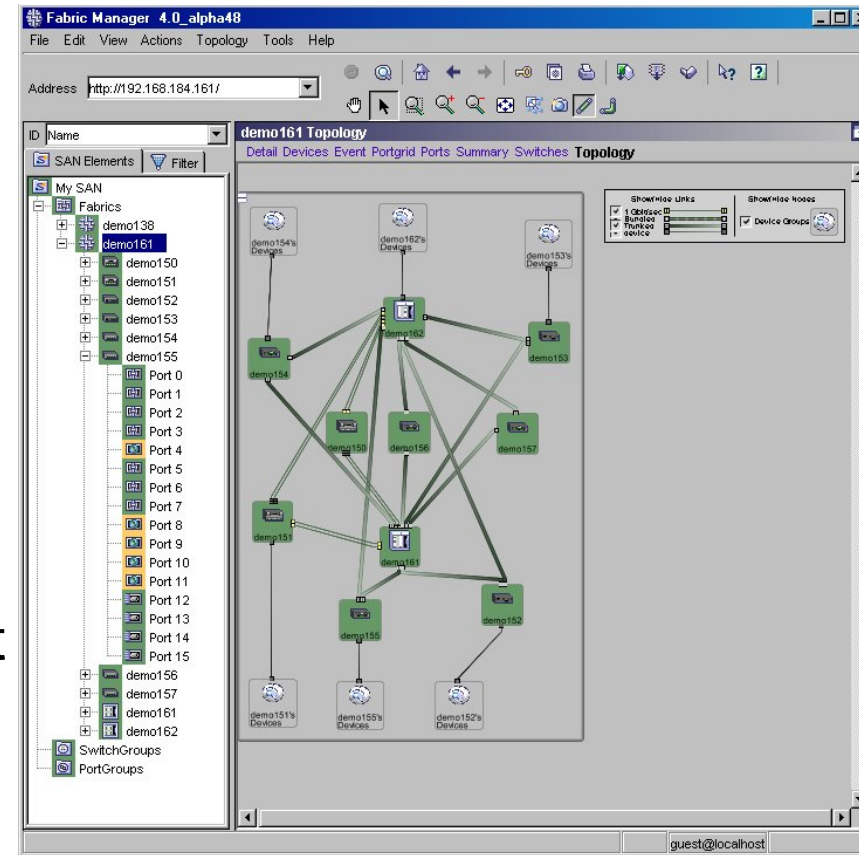
Lowers the cost to Provision B-Series Fabrics

- Firmware Management
- Configuration Profile Management
- Sequenced Switch Reboot Control
- License Management
- SAN/Zone Merge



Fabric - Focused Topology

- Visualize Link Details
 - Trunking
 - 1g/2g links
 - Bundled (logical)/Physical
- Performance Monitoring of Links
- Automatic Core-Edge Layout
- Visualize Switch Status
- Right-Click to Launch Management operations from the Map
- Device Nodes expand to display devices connected to a switch



SAN Information 'At-A-Glance'

- View consolidated SAN, Fabric, Group, or Switch Information
- Expand/Collapse to view varying detail
- Expand individual items to drill down
- More information at the administrator's fingertips
- Ports/Zones/Switches rolled up

The screenshot displays the Fabric Manager 4.0_alpha48 interface. On the left, a tree view shows a SAN structure with a 'Fabrics' folder expanded to show 'demo138' and 'demo161'. 'demo138' is further expanded to show ports from Port 0 to Port 15, and 'demo161' is expanded to show ports from Port 16 to Port 31. The main pane shows the 'Fabrics Detail' for 'demo138'. The details include:

- Launch switch: demo138 (192.168.184.138)
- Principal switch: demo138 (192.168.184.138)
- Member switches >>: 9
- Switch status: Healthy
- Switch types <<: 4
 - 2800: 2 (22%)
 - 3900: 1 (11%)
 - 3200: 2 (22%)
 - 3800: 4 (44%)
- FabricOS versions >>: 3
- Port information >>: 42% free (61 of 144)
- Device information >>: 96
- Active zones <<: 9 (null)

The bottom right pane shows a detailed view of the switch 'demo138' with the following information:

- Launch switch: demo138 (192.168.184.138)
- Principal switch: demo138 (192.168.184.138)
- Member switches >>: 9
- Switch status: Healthy
- Switch types <<: 4
 - 2800: 2 (22%)
 - 3900: 1 (11%)
 - 3200: 2 (22%)
 - 3800: 4 (44%)
- FabricOS versions >>: 3
- Port information >>: 42% free (61 of 144)
- Device information >>: 96
- Active zones <<: 9 (null)

The bottom right pane also shows a list of active zones:

- dell2xio2wwn: 2
- ghost1: 2
- clarionadmin: 3
- dell_4_2_euro_1_9: 2
- dell_4_14_euro_1_10: 2
- dell_4_12_euro_1_8: 2
- dell_4_13_euro_1_9: 2
- dell_4_3_euro_1_10: 2
- dell_4_11_euro_1_7: 2

Fabric Snapshot/Compare

- Track Fabric Configuration Changes
 - ISLs
 - Devices
 - Switches
 - Switch Configuration
 - Zones
 - Licenses
- Report Generated to highlight differences
- Drill down to view change details

The screenshot displays two overlapping windows from the HP Fabric Snapshot/Compare tool. The top window shows a 'Config difference Summary' table with columns for Name, Added, Removed, and Changed. The bottom window shows a more detailed 'Difference Summary' table with columns for Added, Removed, and Changed, and includes sections for 'Zone Difference' and 'Enabled Zone Configuration'.

Config difference Summary

Name	Added	Removed	Changed
switch-web83	0	0	2
switch-web52	0	0	2
switch-web86new	0	0	2

Changed Config

Name	Backup Fabric	Live Fabric
...

Difference Summary

	Added	Removed	Changed
Switches	0	0	-
Zone	0	0	2
Name server	0	7	0
Config	0	0	6
License	1	0	-
Firmware	-	-	0
Switches with ISL changes	0	0	0
Enabled Zone Configuration	-	-	changed

Zone Difference [\[back to top\]](#)

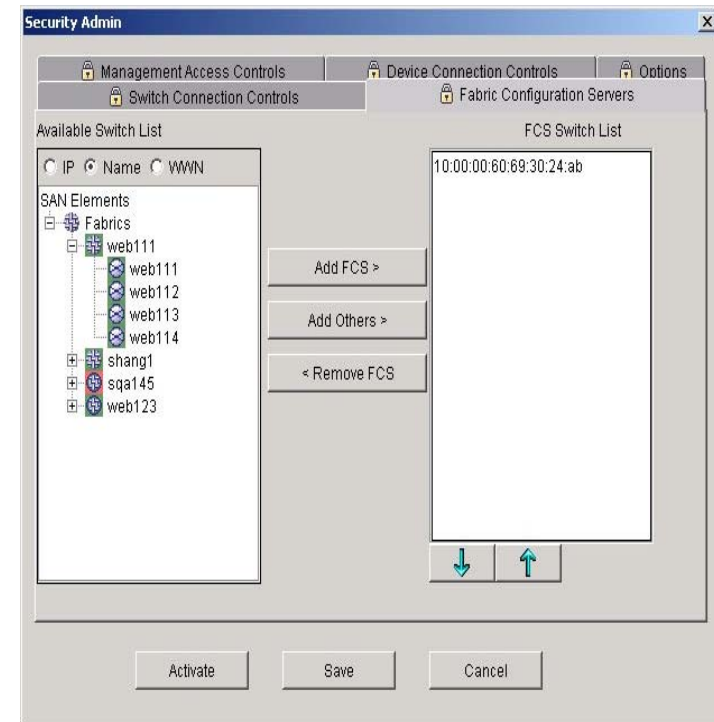
Added	Removed	Changed
		cfg2
		cfg1

Enabled Zone Configuration [\[back to top\]](#)

Backup enabled CFG	Live enabled CFG
cfg2	cfg1

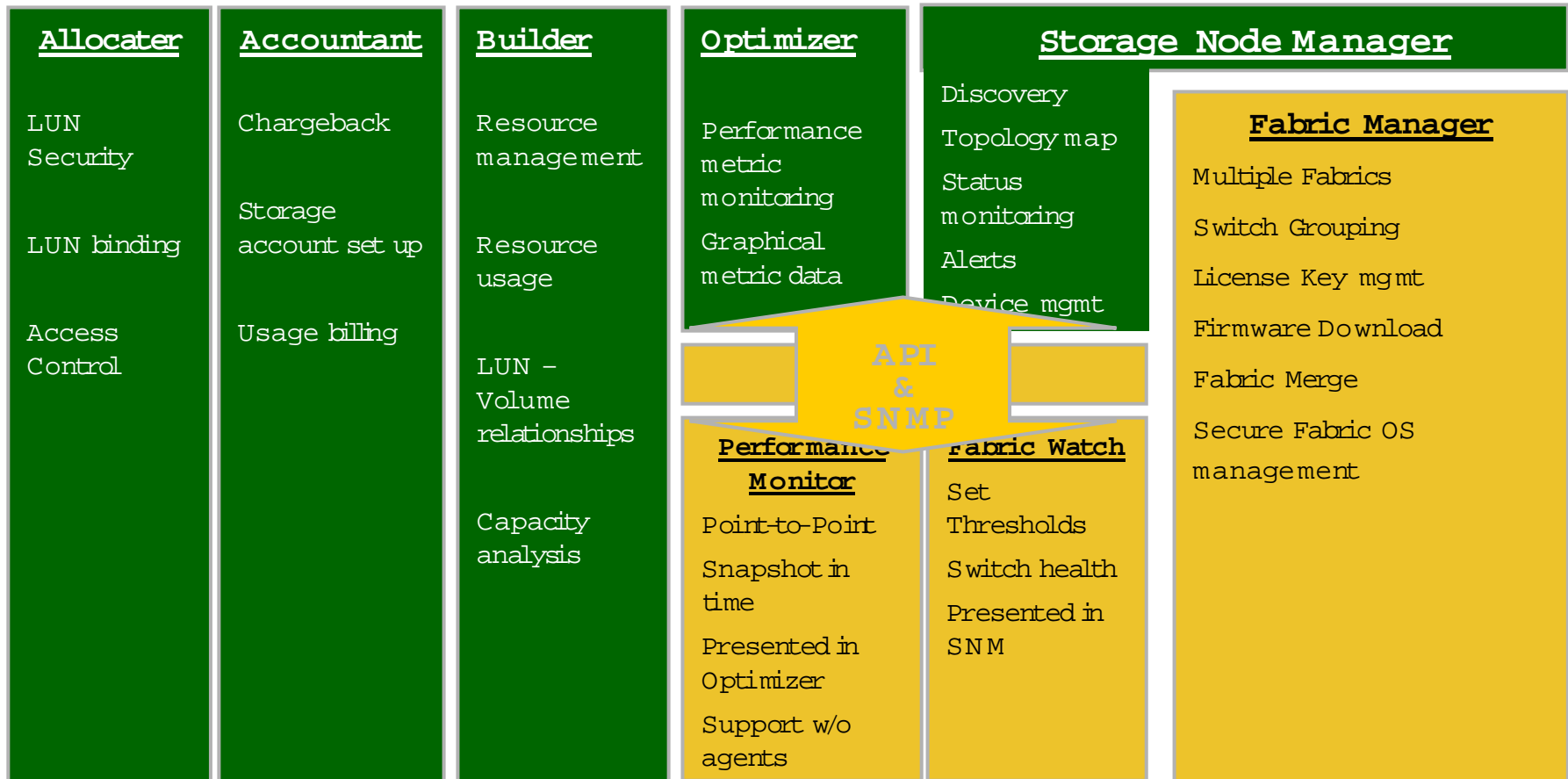
Security Management

- Administer a Secure FabricOS™ Environment
- Implement and Manage security policies that:
 - Control Switch Memberships in Fabrics
 - What edge devices can connect to the fabric and where
 - Management protocol access (what protocols can be used from what management stations)
- Fabric Manager Users log in using Windows host native user name and password
- User Profiles stored centrally
- Switch Passwords stored centrally



HP OpenView SAM – Brocade integration

Storage Area Manager

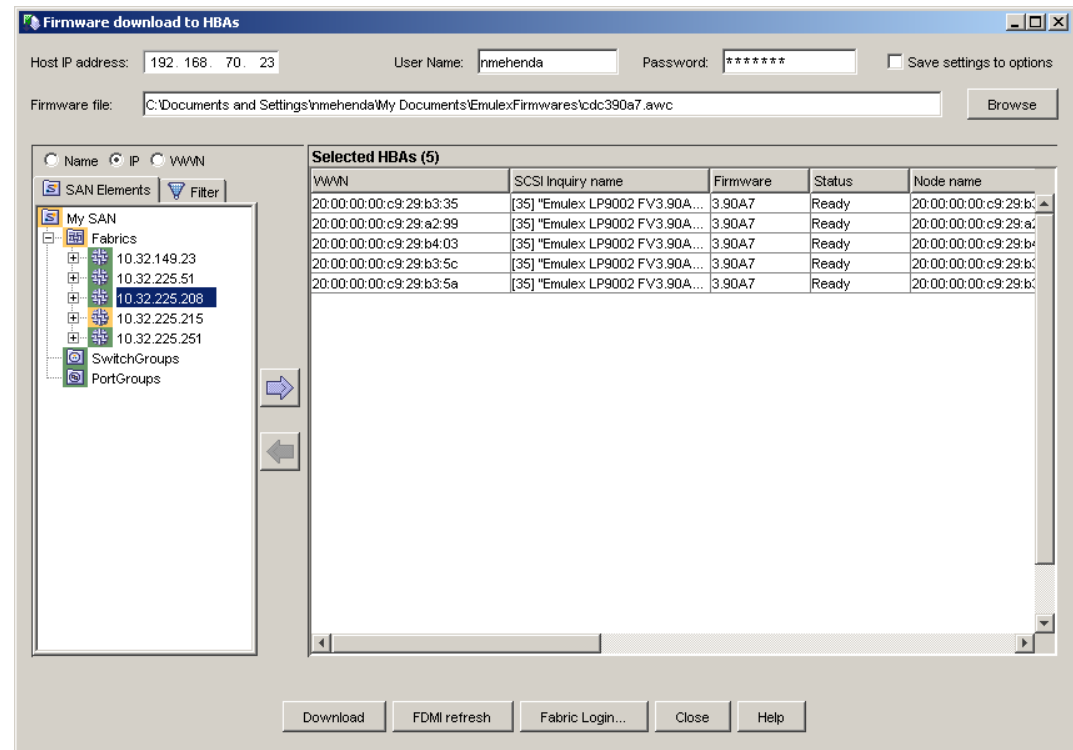


HBA Management coming

- ‘Agent-less’ HBA Discovery and Asset Management
 - Retrieves HBA Asset Data from fabric
 - No Host-Based agents necessary

- Upgrade HBA firmware through the fabric

- Supported by Emulex HBAs





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