

Local Storage, Network Storage, and Backups

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Outline

- Local Storage
- Network Storage
- What's Coming Next?
- Backups (You have them, right?)

Local Storage Model #1

- Internal boot and storage. i.e. Mac Pro Server.
 - Big
 - Expensive
 - Powerful
 - Limited Storage (limited to 4 internal drives and RAID card)

Local Storage #2

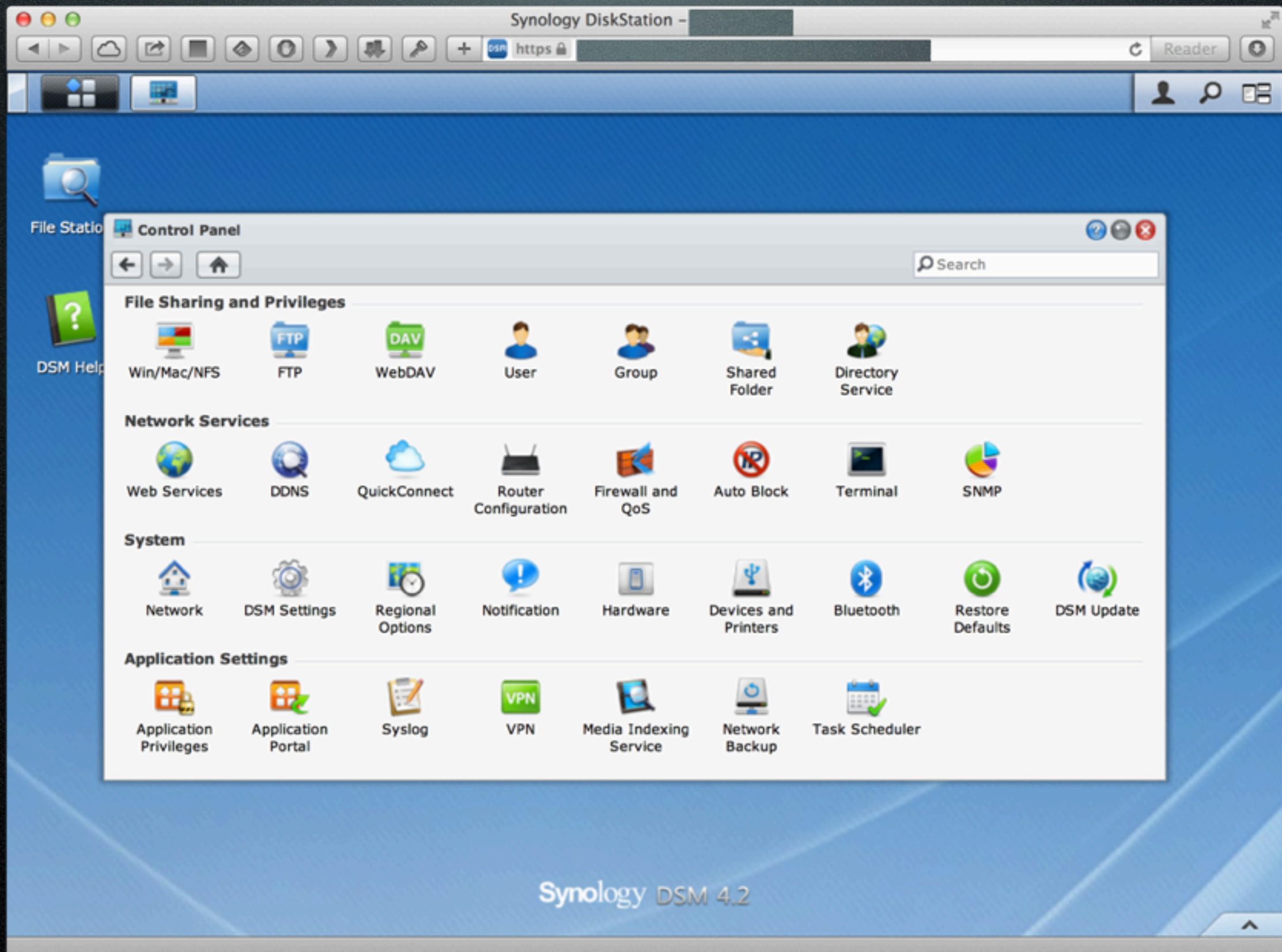
- Internal boot and external storage. i.e. Mac Mini + external RAID.
 - Fast Storage with Thunderbolt
 - Potentially Underpowered
 - External Connections
 - Difficult to replace hard drives
 - Limited Internal Storage (2 internal drives)
 - Potentially slow network connection

Network Storage

- Network Storage appliance NAS/SAN
 - NAS - Network Attached Storage
 - SAN - Storage Attached Network
- Some products are both.
- Network limitations - single network port, link aggregation.
- Might not be appropriate solution.

NAS

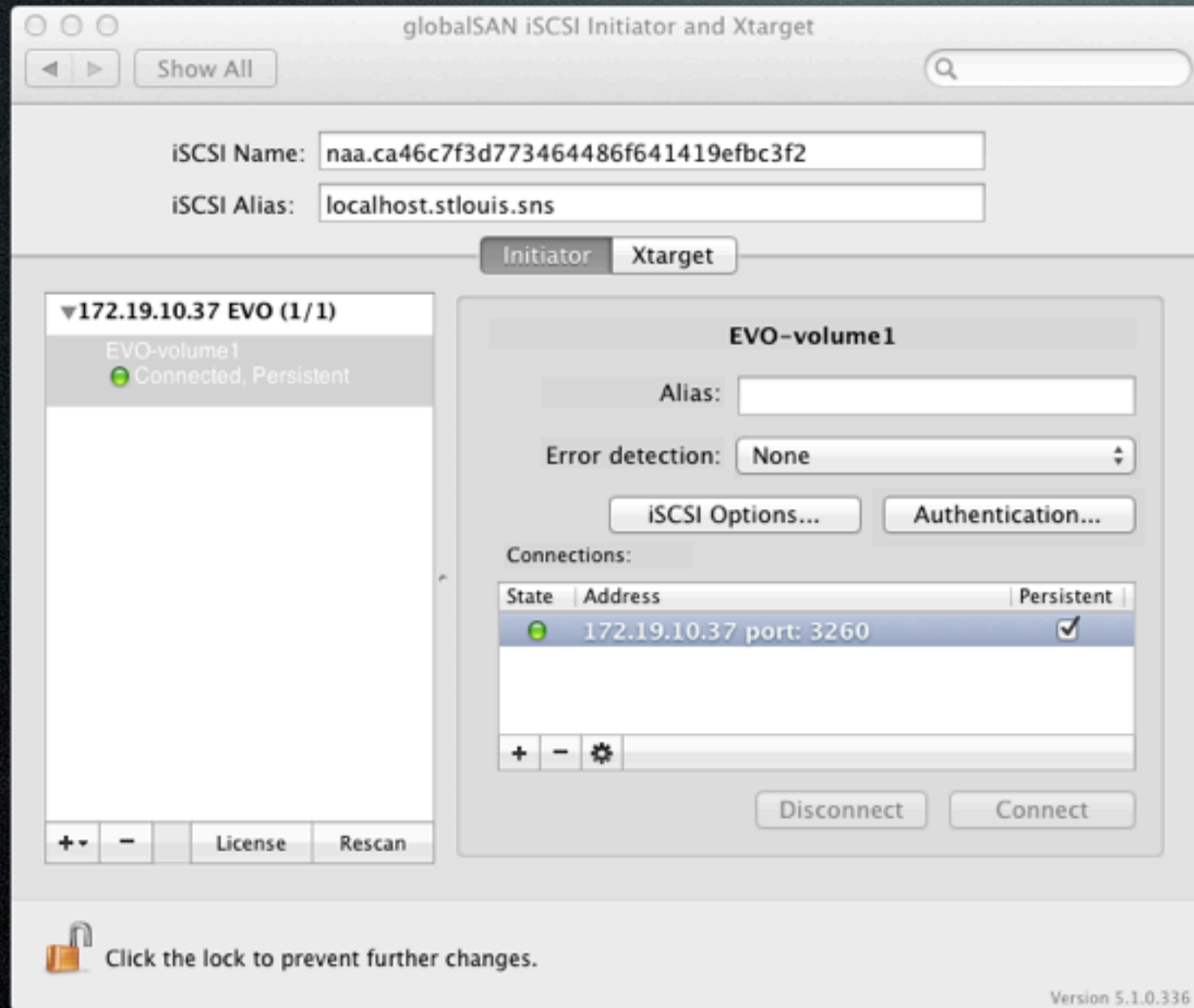
- File based network storage - it is a server.
- Can be bound to AD/OD
- Web based administration
- Not just storage anymore
- Tons of ways to connect (webdav, mobile apps)



SAN

- Block level based network storage - it is storage FOR a server.
- One large SAN can be shared to multiple servers for storage.
- Web based administration

iSCSI



- Allows you to connect a network volume as if it was local.

What's Coming Next?

- Faster storage:
 - Mac Mini Server HD - 100MBps
 - SATA SSD drive - 550MBps
 - Macbook Air SSD drive - 800MBps
 - Mac Pro SSD Drive - 1.2GBps
- Faster Networking:
 - 1Gbe - 125MBps Duplexed 250MBps
 - 10Gbe - 1.25GBps Duplexed 2.5GBps

Backups

- Constructing a safe and sane backup plan that allows your customers to recover from likely threats to their data
 - accidental deletion
 - intentional deletion (mal intent)
 - hardware failure
 - software corruption
 - natural disaster, fire, flood

Backups (cont'd)

- Using unproven third party File Servers, or NAS devices as network Time Machine destinations
- Using Carbonite/Crashplan and other Cloud offerings
- Using CrashPlan ProE/Druva Enterprise offerings.

Backups (cont'd)

- Clone utilities
 - Carbon Copy Cloner
 - SuperDuper
 - Disk Utility
- Using other backup utilities
- The importance of "off-site" storage in a disaster recovery scenario.

The real test

- Regardless of which tools / approaches you suggest to your client, implore them to run (or have you run) fire-drill type restore tests, for both their protection and yours.