

DSM 4.3 Training

Product Team

**Performance
& Reliability**



**IT Admin
Efficiency**



**Business
Applications**



**Multimedia
Show Time**



**Mobile
Anywhere**

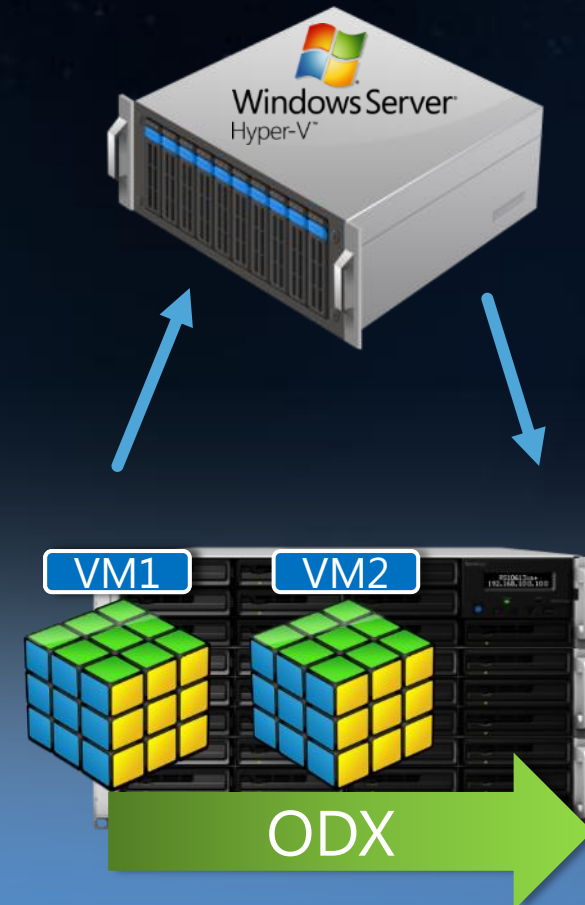




Performance & Reliability

<UPDATED> Offloaded Data Transfer - ODX

- One step further, ODX on Windows Server 2012 is now supported
- Free the CPU loading for data moving
- Save network bandwidth
- Enhance whole system performance



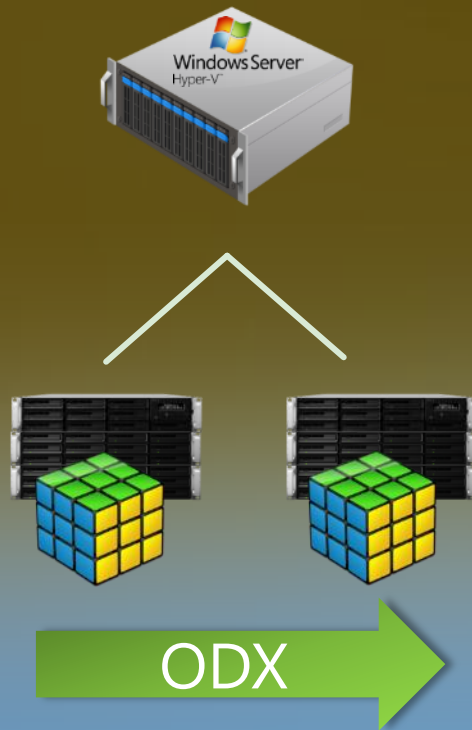
<UPDATED> Offloaded Data Transfer – ODX

High-Performance Data Transfer with Extreme Efficiency

Single Host Single Storage



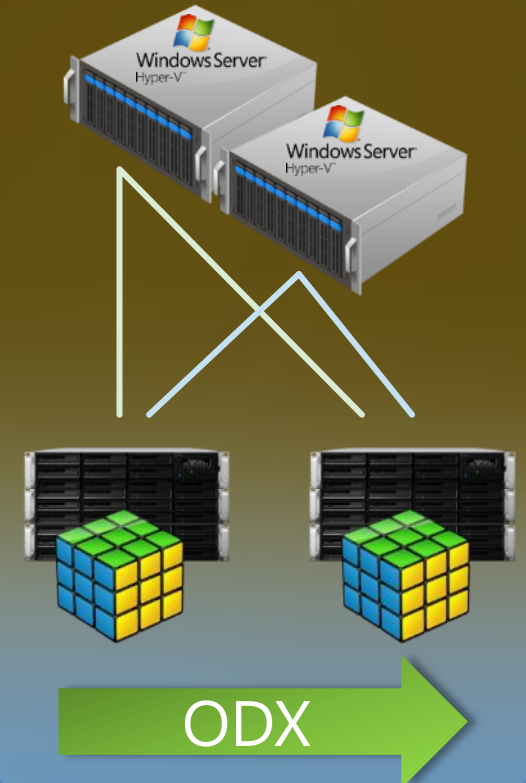
Single Host Multi Storage



Multi Host Single Storage



Multi Host Multi Storage



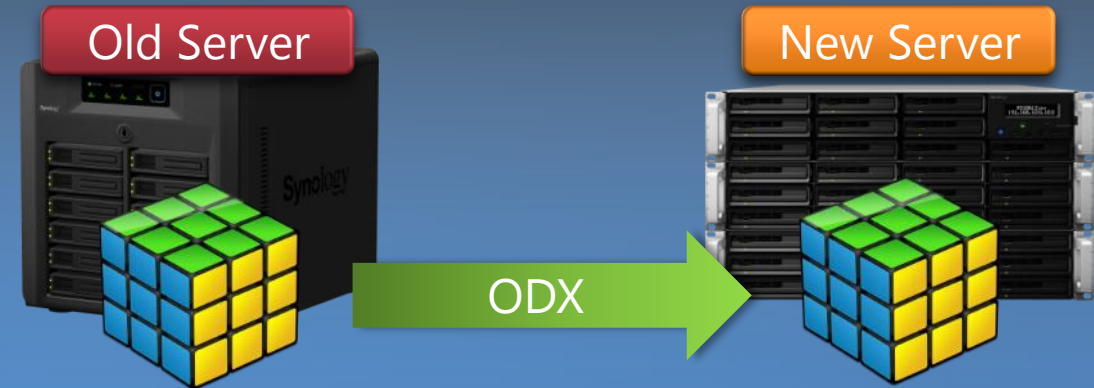
Offloaded Data Transfer – ODX

Quick Massive Data Migration

Massive data migration between different storage tier



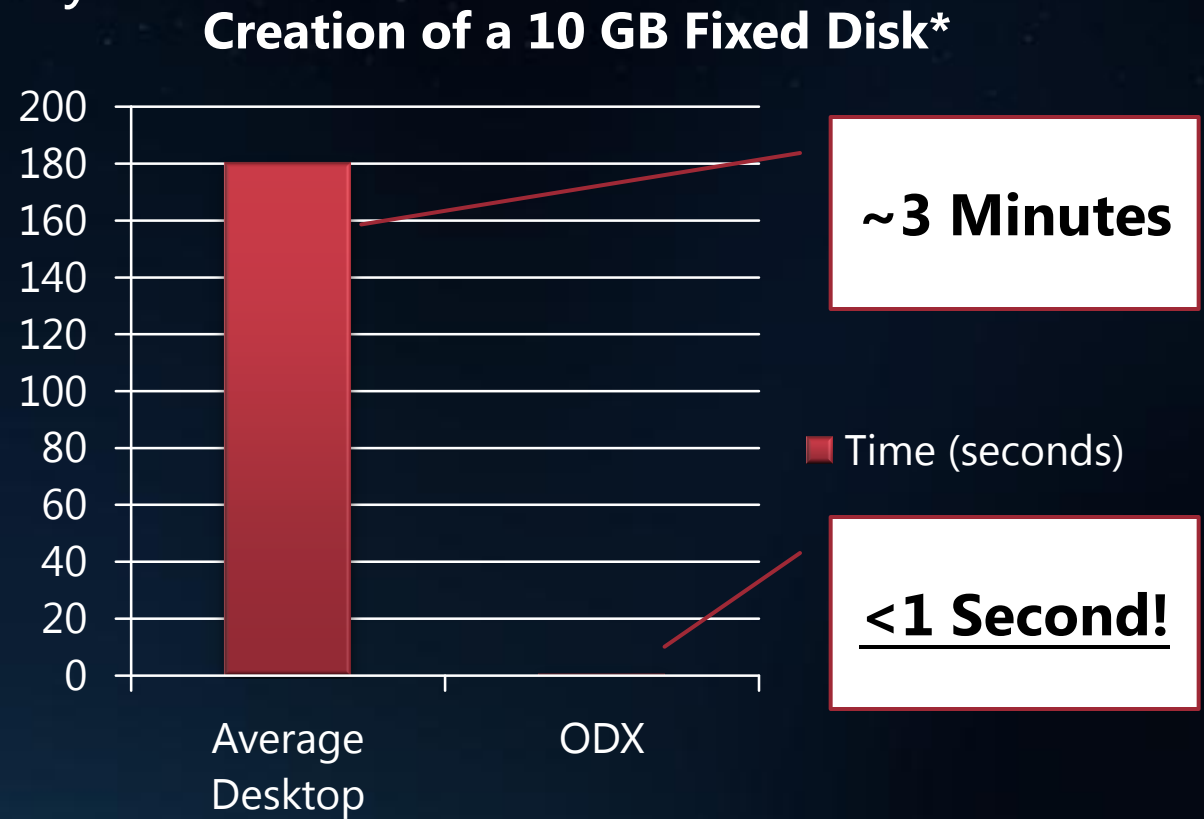
Massive data migration between old and new system



<UPDATED> Offloaded Data Transfer – ODX

Improve Hyper-V Environment Efficiency

- Faster data operation on Hyper-V
 - Fixed VHD/VHDX Creation
 - Dynamic VHD/VHDX Expansion
 - VHD/VHDX Merge
 - Live Storage Migration



*Microsoft Windows Tech Days 2012 (Taipei) official material

<UPDATED> Offloaded Data Transfer – ODX

Extremely Smart

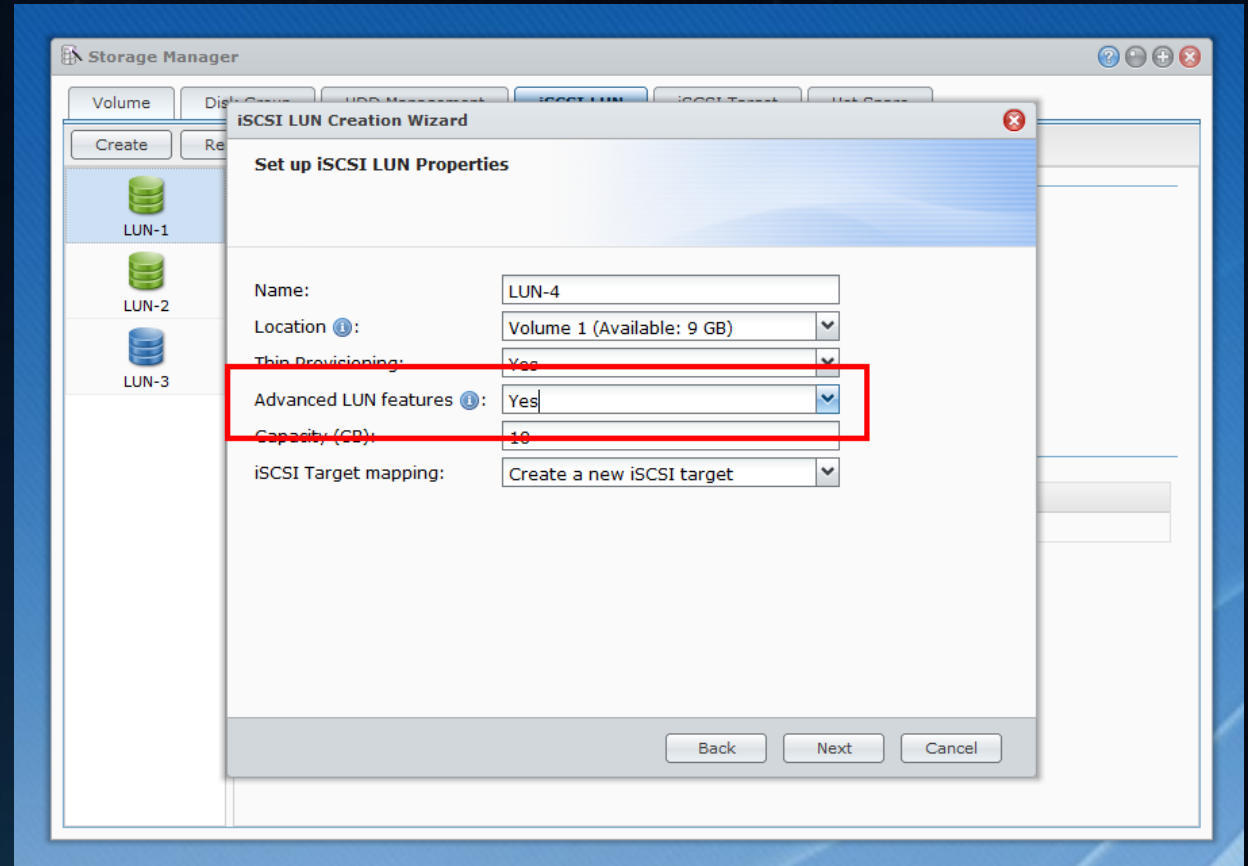
- Leverage Synology Advanced LUN technology to create data copy in a glance
- Save up to 99.9% storage space and speed up process up to 10 times



Available on selected models

Offloaded Data Transfer – ODX

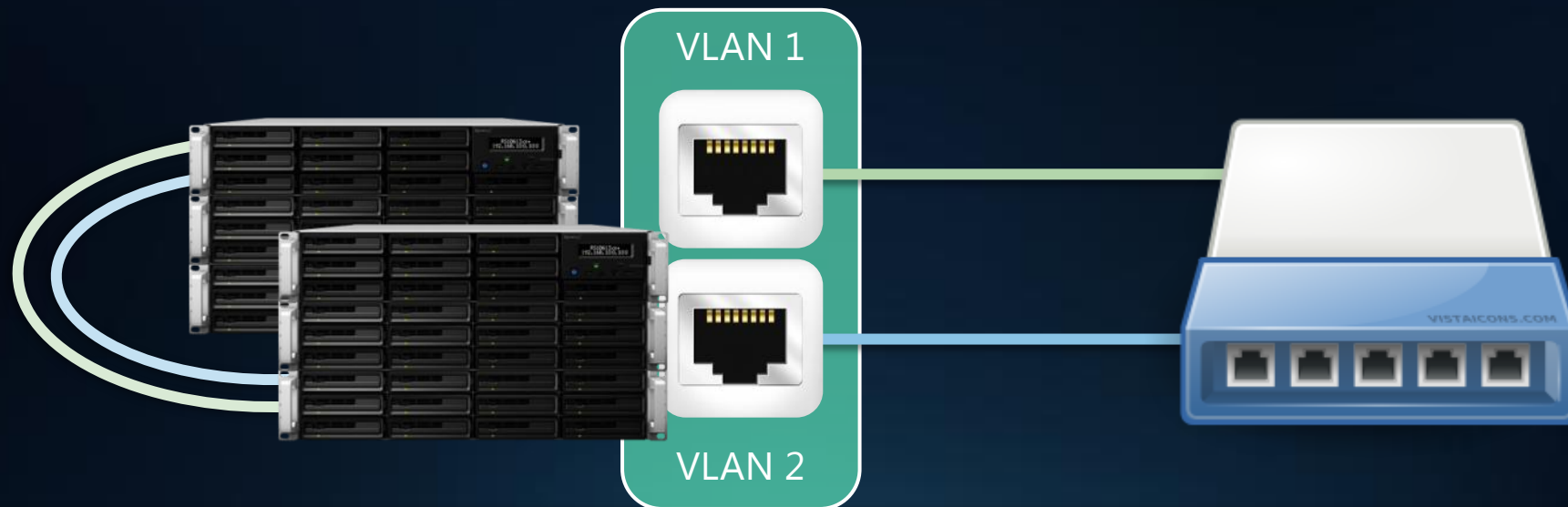
- Enable Advanced LUN Feature to enable ODX support
- Only available on x86 models



Synology High Availability Upgrade

Flexibility

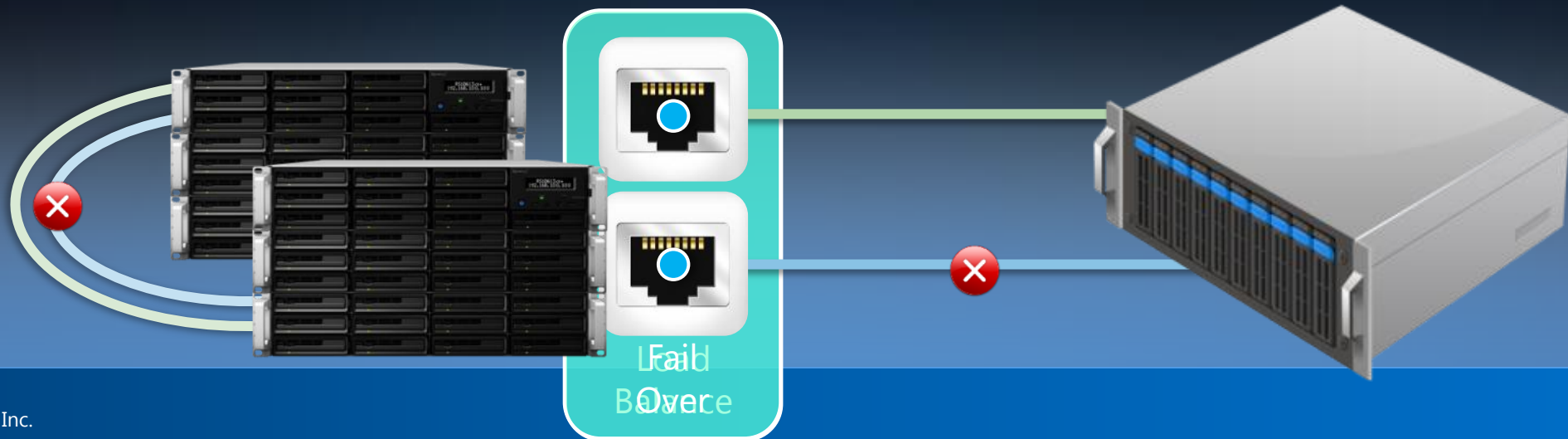
- Expand volume size as you wish
- VLAN support to fit-in the IT environment
- A Management Wizard is introduced to make management easier



Synology High Availability Upgrade

Reliability

- Link Aggregation support
 - Failover capability is on Heartbeat & data connection
 - Load balance on data connection
- HA cluster can trigger failover when one or more LAN lost its connectivity or all disks are pulled out



Synology High Availability Upgrade

- VLAN and LGA have to be pre-set before creating HA cluster
- Failover when network fail is default on, need to use SSH to change this setting
- If LGA is enabled, failover will be triggered when all links in the LGA group is down

Unleash Full SSD Potential

TRIM Technology

- Compare with HDD, SSD is not able to preform re-write actions
- I/O wait happens when writing new data cause lower performance
- With TRIM, deleted data will be clean in the background and improve the performance



Wait



Clean



SSD

Unleash Full SSD Potential

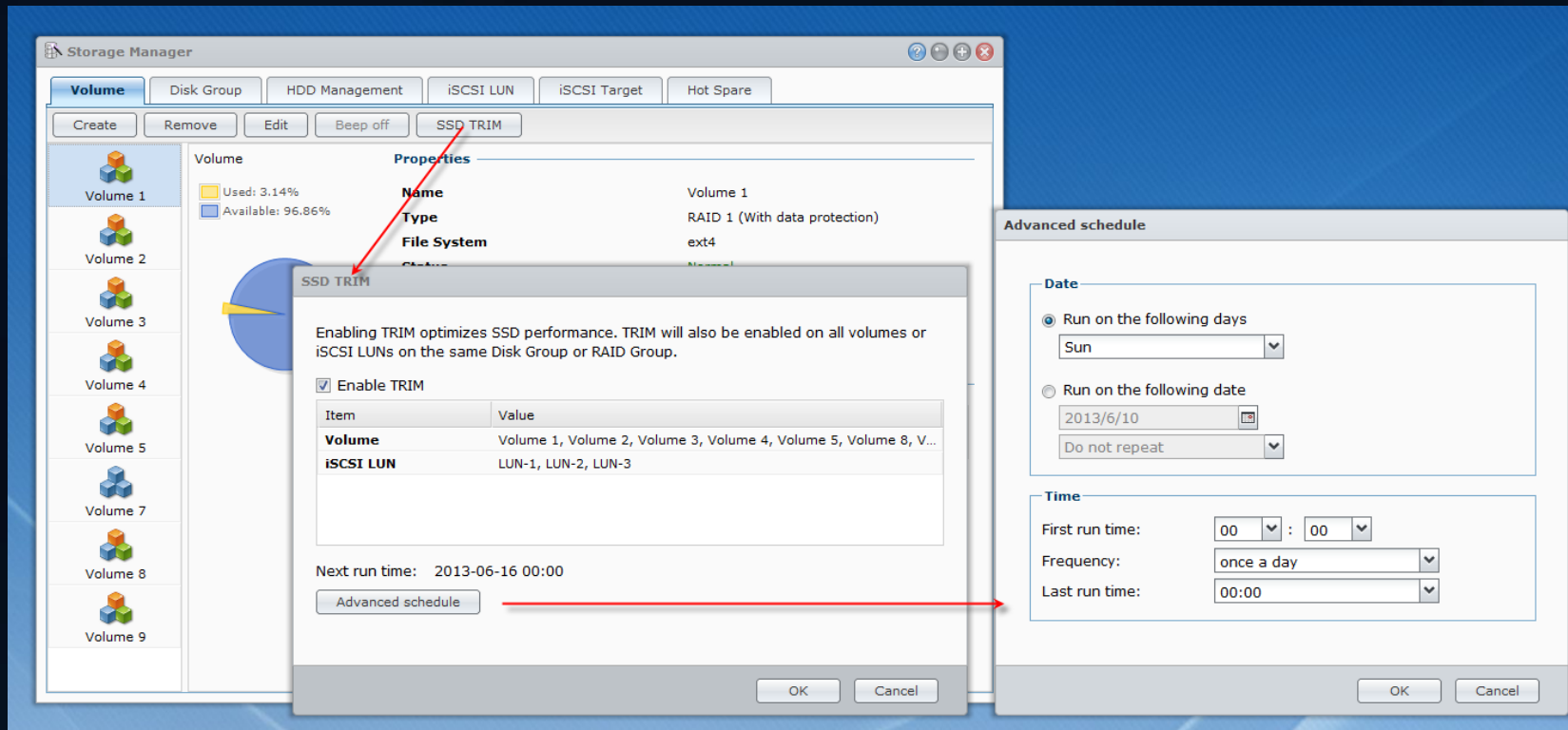
TRIM Integration on DiskStation

- SSD TRIM is now fully integrated on DiskStation
- Allows you to deploy all-SSD enterprise storage
- Maximizes storage I/O performance for responsiveness critical applications
- Extend SSD lifetime by eliminating unnecessary I/O



TRIM

○ Enable TRIM from Storage Manager



SSD on Demand

- Create multiple SSD caches on any tray to boost performance on multiple storage space
- Accelerate performance on multiple services to meet extreme I/O needs



*Support all XS and XS+ series models

File System Recovery in a Glance

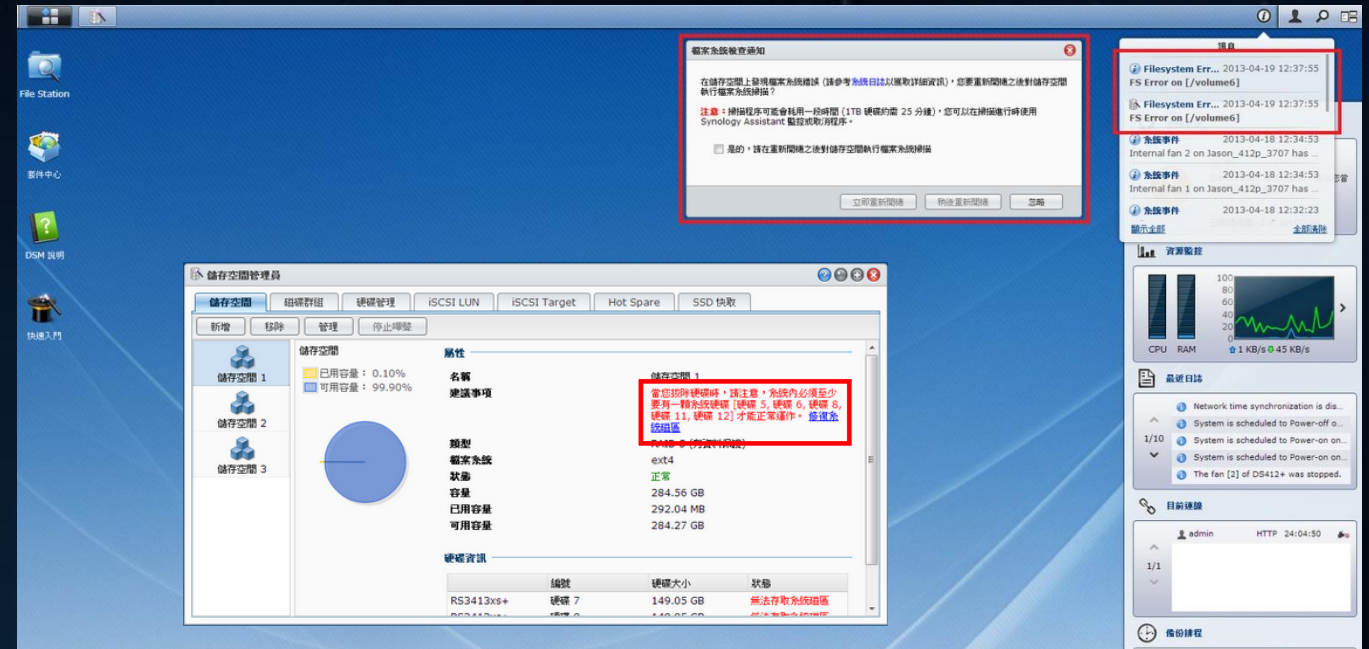
FSCK Support

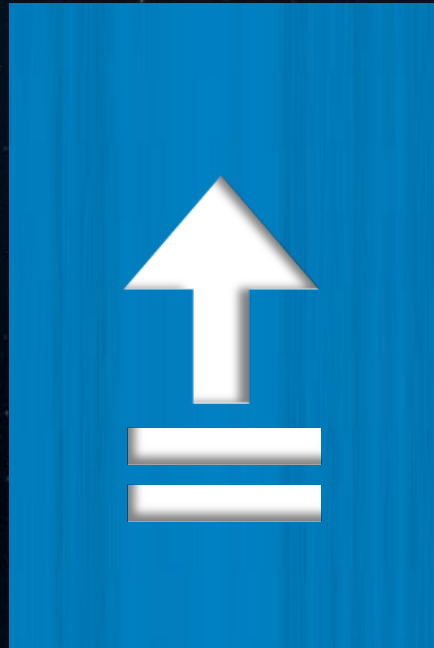
- Non-graceful shutdown may cause file system and physical data structure in an inconsistent state
- FSCK will be triggered to fix this issue
- Providing self curing capability



Trigger FSK

- Observe FSK requests from
 - Notificaiton
 - Popup window
 - Suggestion from Storage Manager





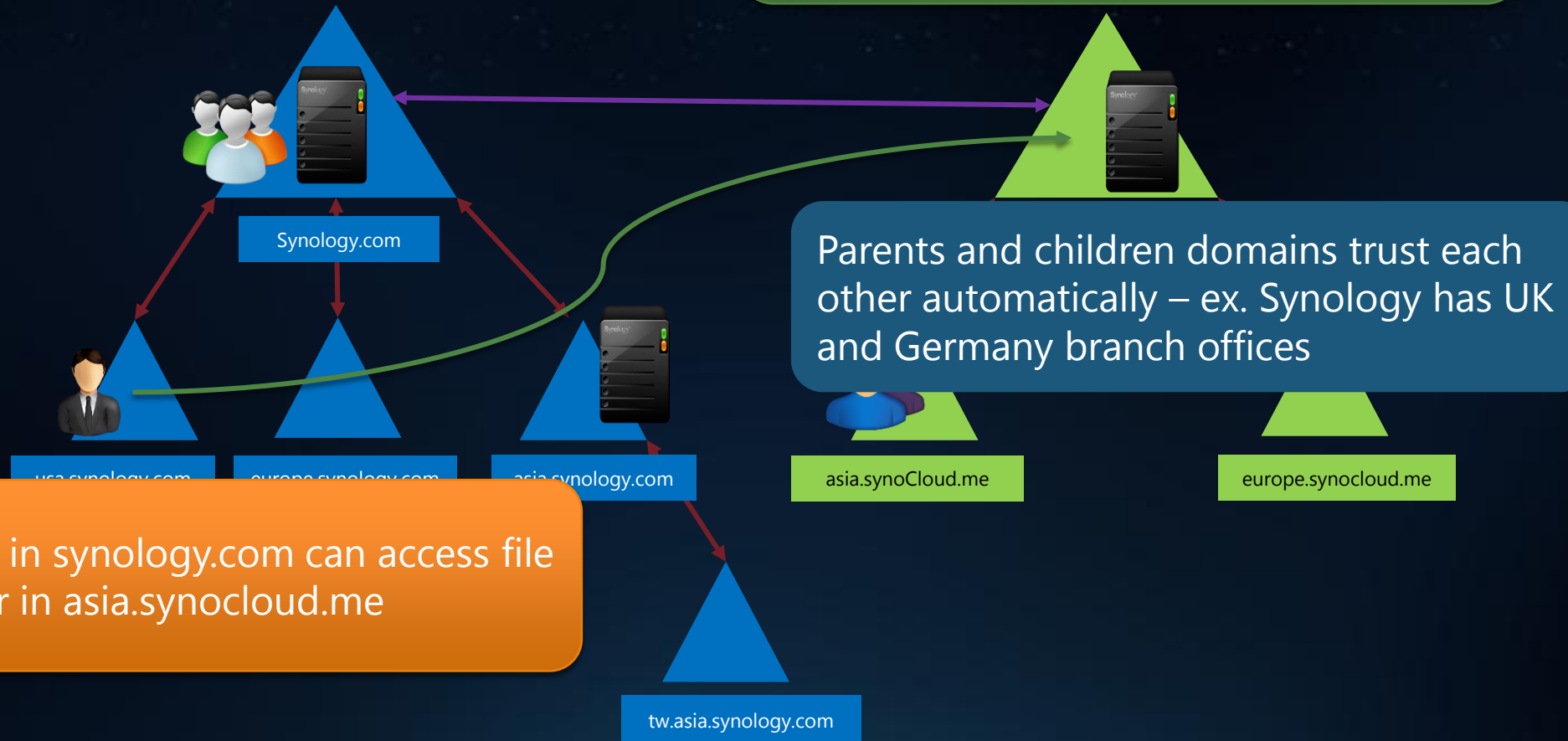
IT Admin
Efficiency

Trust Domain

- How does Active Directory and DiskStation work?
 - When a DiskStation joins Active Directory, it joins one *domain*.
 - In an organization, there will be many domains to separate the scope of responsibility of the domain admins.
 - These domains will have trust relationships
 - Users in a domain need to access file server in another domain

Trust Relationships

A domain can trust another in another forest – ex. Synology can start a new partnership called SynoCloud



Users in synology.com can access file server in asia.synocloud.me

Parents and children domains trust each other automatically – ex. Synology has UK and Germany branch offices

DSM Update Rule

- Businesses needs maximum uptime
 - Apply software updates only when it is necessary
- Lets admin to choose to install
 - Critical & security updates only, or
 - All updates including features, enhancements, critical & security updates



Directory Server

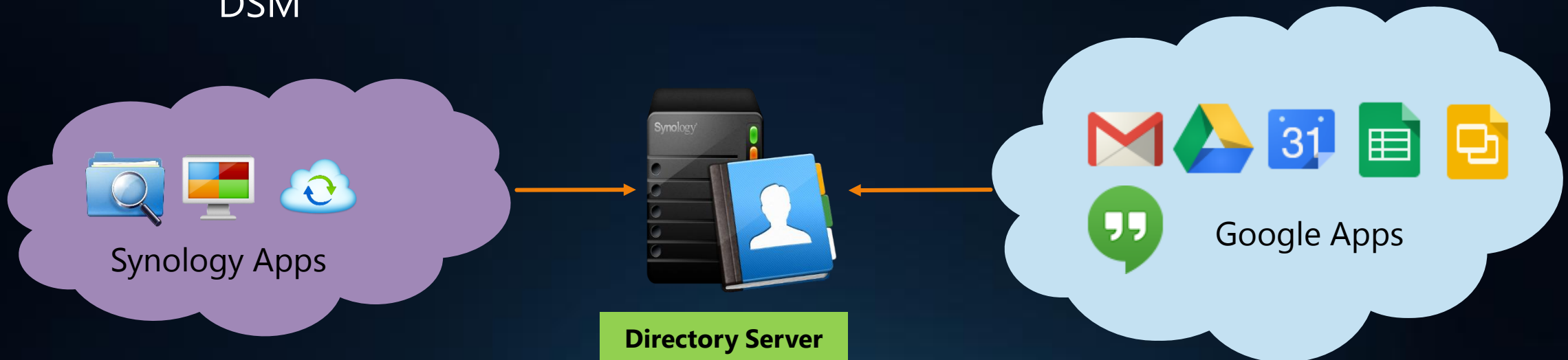
Sign in to Google Apps with LDAP account

- Google Mail, Drive, Hangouts, etc. have their business version called Google Apps
- IT admin used to maintain 2 account systems
 - Google - E-mail, docs, online conference
 - Synology LDAP - Cloud Station, VPN, wireless network (RADIUS)

Directory Server

Sign in to Google Apps with LDAP account

- By supporting Google Single Sign-On
 - IT admins can manage one account system; Accounts can be synced automatically by using Google Apps Directory Sync
 - Users can use their LDAP account to sign in to Google Apps and Synology DSM



Directory Service

More complete directory service support

- DiskStation now can join these domains:
 - Active Directory, with trust domain support (New!)
 - IBM Domino LDAP Support (New!)
 - Apple Open Directory
 - OpenLDAP



NFS v4

- Increased Security with Kerberos authentication
 - Authenticate, Integrity and Privacy
 - Local User & Kerberos Principal Name Mapping
- Better Internationalization (UTF-8) Support
- More options for compatibility of smart devices

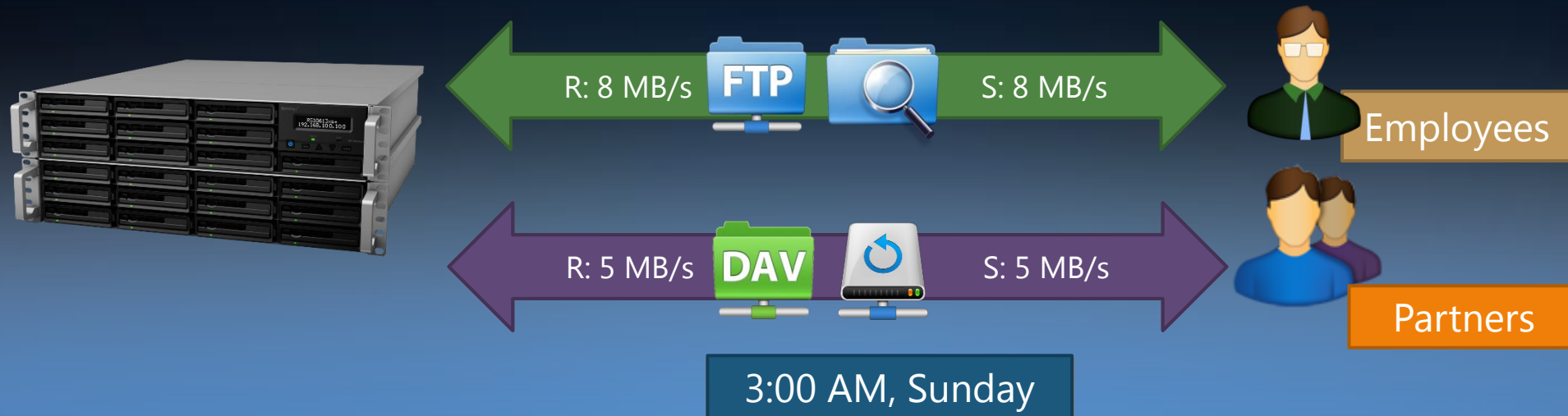
Recycle Bin Auto Clean

- Automate IT routine operations
 - Clean Recycle Bin on a scheduled basis
- Define your retention policy of recycled files
 - Period - Clean the files older than 30 days
 - Size - Limit the recycle bin size within 50 GB
 - Type - Don't delete.docx files automatically



Speed Limit Scheduler

- More flexible and finer grained control of bandwidth usage policy
 - Switch on/off speed limit for file services on a schedule
 - Change the speed limit for users and groups on a schedule



Self-service Password Recovery

- Allow users to reset password by himself
- Send e-mail to the user's mailbox so that he can reset password
- Reduce IT helpdesk's workload and increase efficiency

Advance Options for SMB

- Centralized folder namespace for user through which to access and store files (SSH required)
- Symbolic Link & MSDFS module (SMB only)
 - Go to [\\synostorage\ProductDoc\003.Documents\Products & Features Update\2013\DSM 4.3](#) will be the same as [\\synostorage\ProductDoc\DSM 4.3 Slides](#)
 - Go to [\\synostorage\PM\Darren](#) will be the same as [\\snoopy\public\Darren](#)

Disk Usage Report

- Save more disk space easily
 - The report shows the duplicate files in NAS
 - Allow users to delete duplicated file easily when reading the report



Business Applications

The Most Powerful Cloud Station

- Selective sync
 - Sync selected sub folders
 - Filter out file types, size or specific files for syncing
- Better efficiency
 - Save historical file version by only the changed blocks
 - Performance enhancement up to 30%



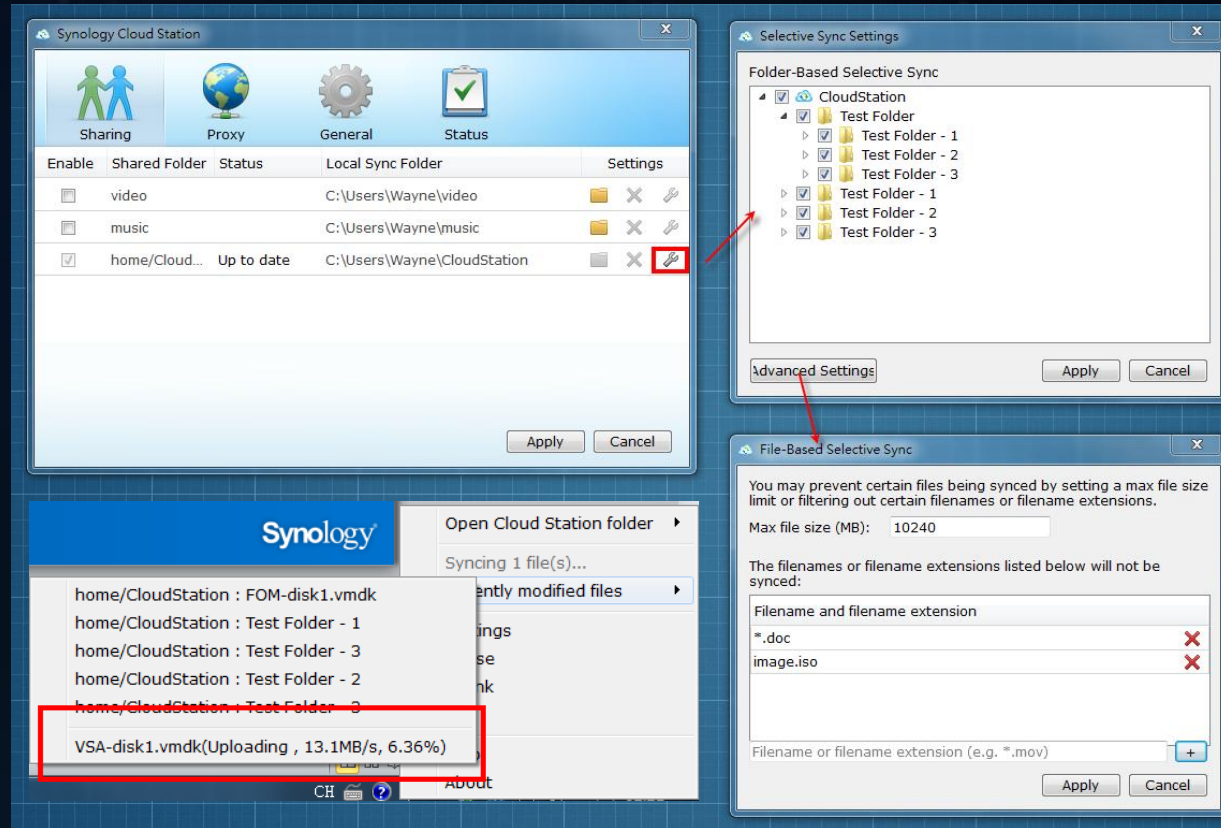
The Most Powerful Cloud Station

- Fit-in your complicated IT environment
 - Linux* client for multiple platform capability
 - Trust Domain accounts
 - Batch editor to enable/disable large number of accounts once
- More sophisticated syncing monitoring
 - Client: show file transferring speed
 - Server: show client connection and syncing status

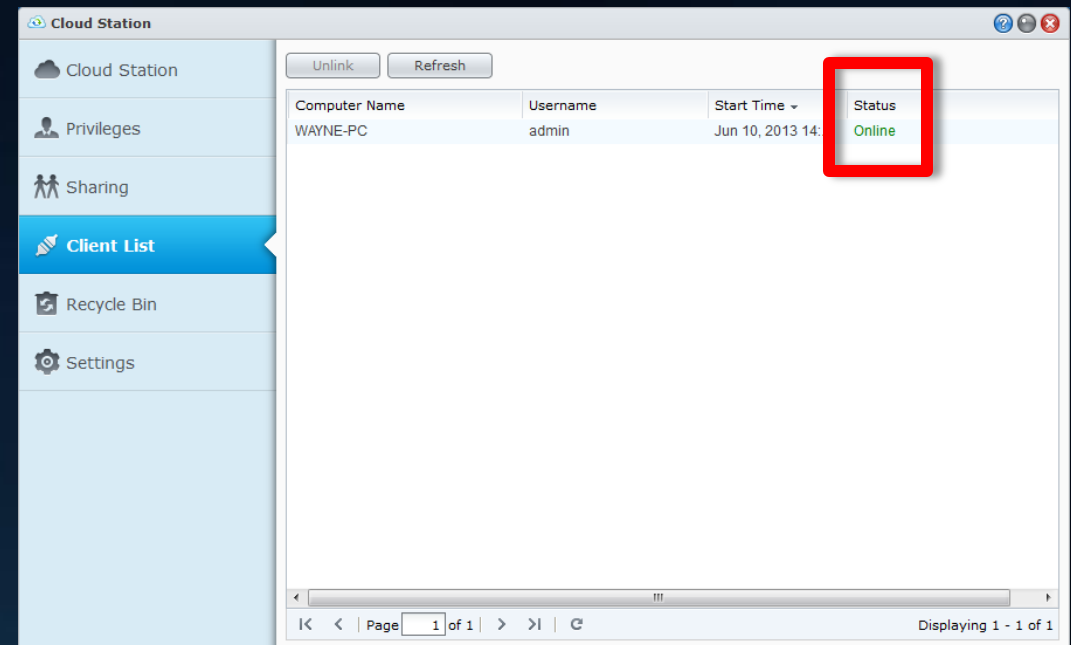
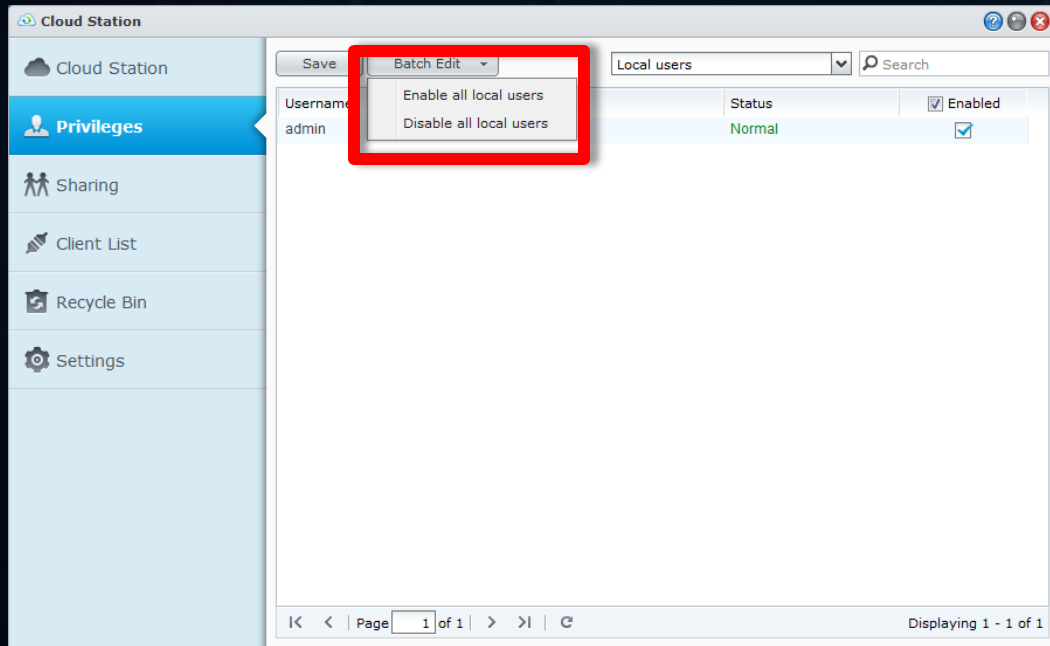


*Verified on Ubuntu and Fedora

Selective Sync and Syncing Status



Batch Editor and Client Status



<UPDATED> Mail Server Meets Security

- Advanced anti-virus protection by ClamAV
- Customize black and white mail list
 - Filter mail with specific entity or domain in the sender/receiver attribute
 - Block mail client access by IP filter
- Enhanced spam filter engine
- Auto BCC helps you to keep a mail copy for governance purpose

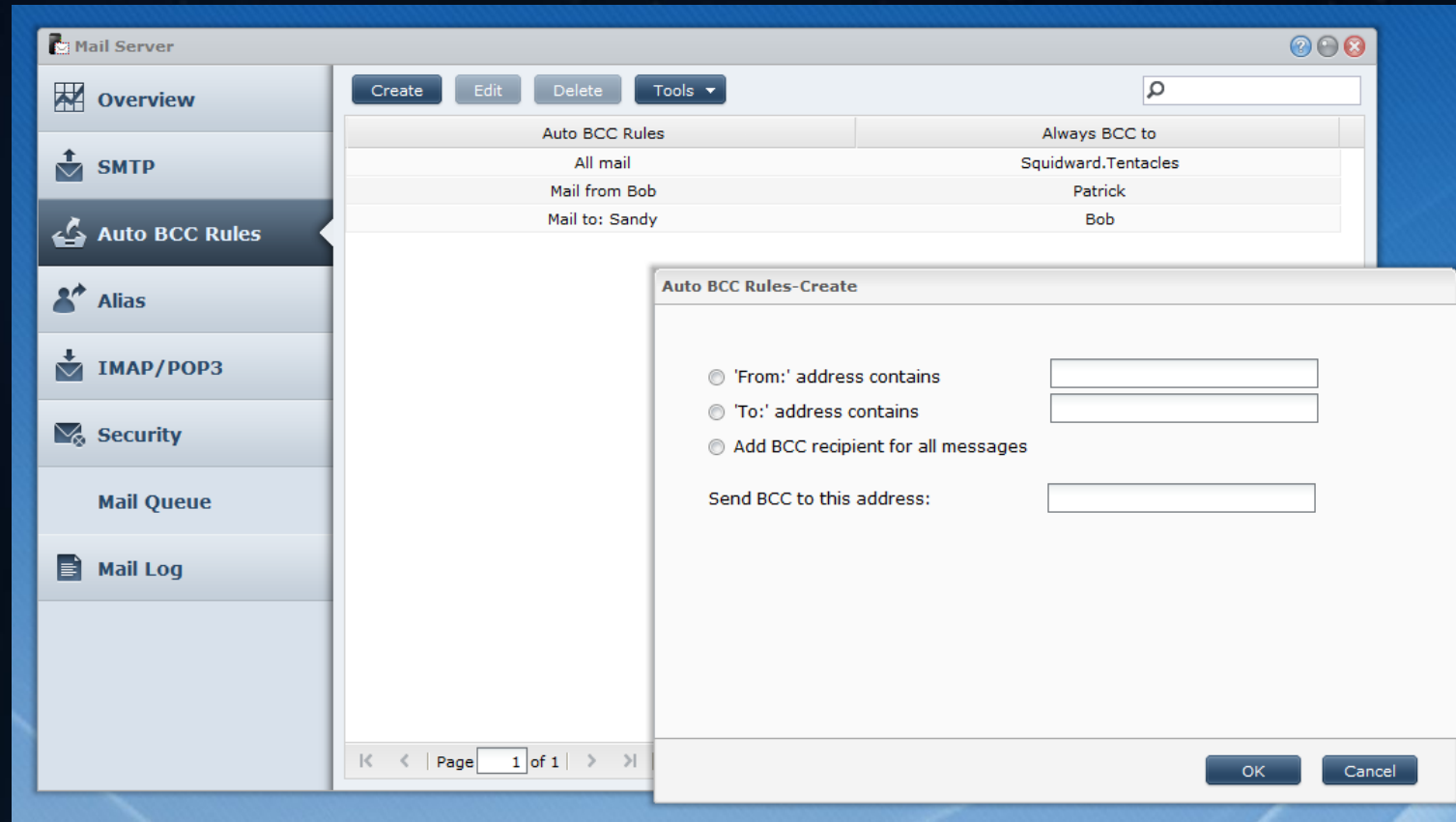


<UPDATED> Mail Server Meets Productivity

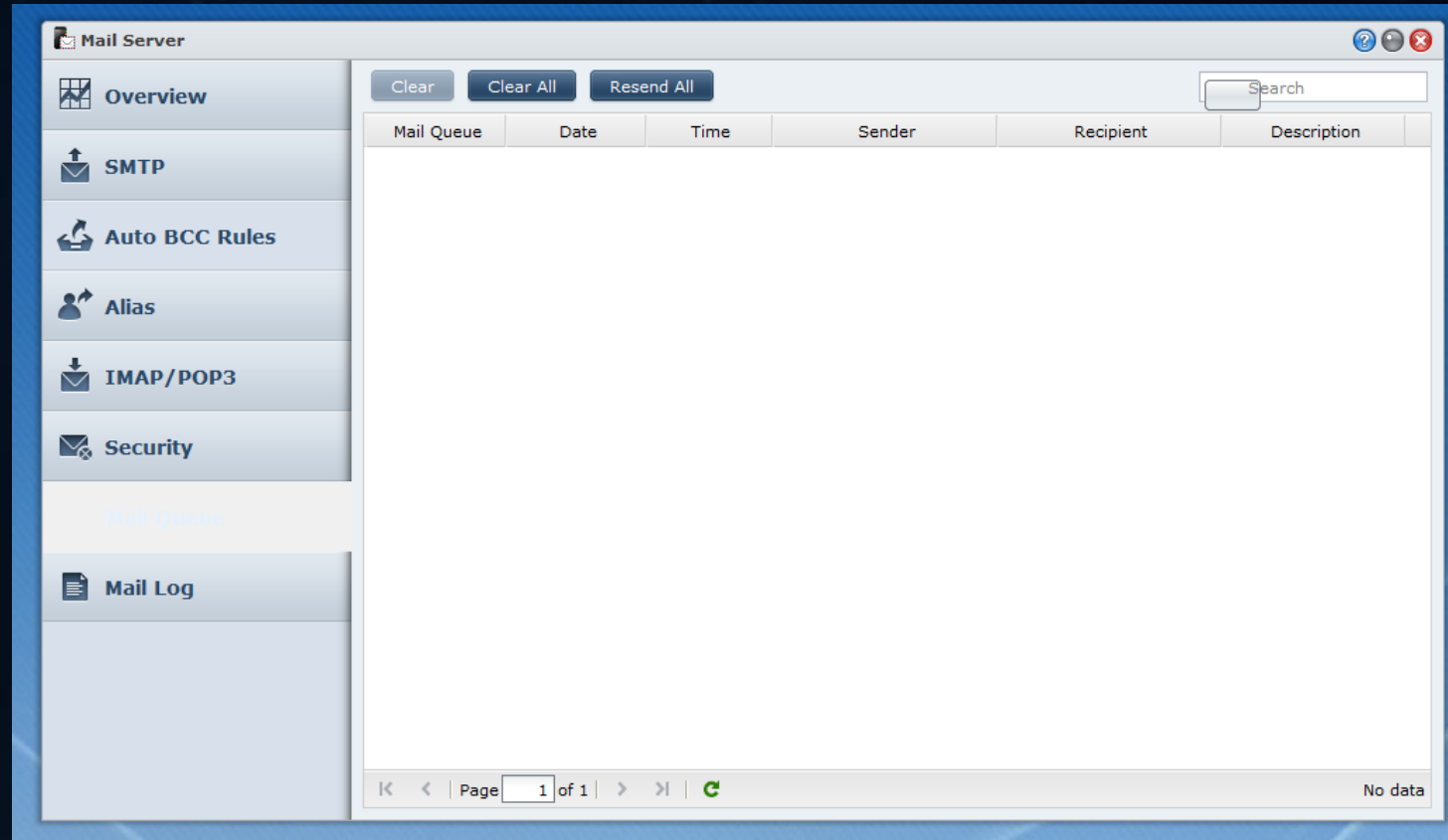
- SMTP and SMTPS port can now be customized
- Mail queue explorer is introduced to show all the queued mail
- Search specific mails in mail queue



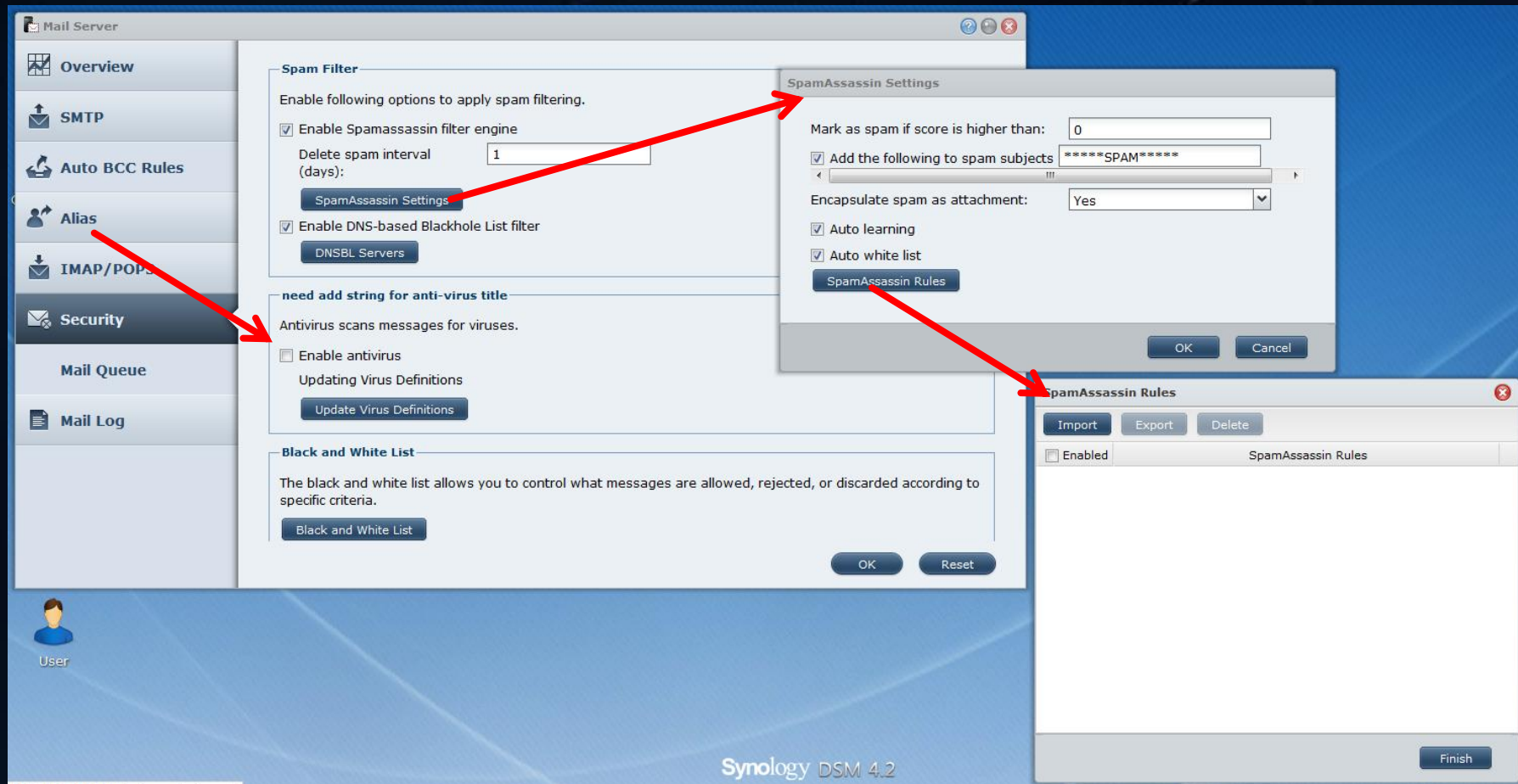
Auto BCC Rules



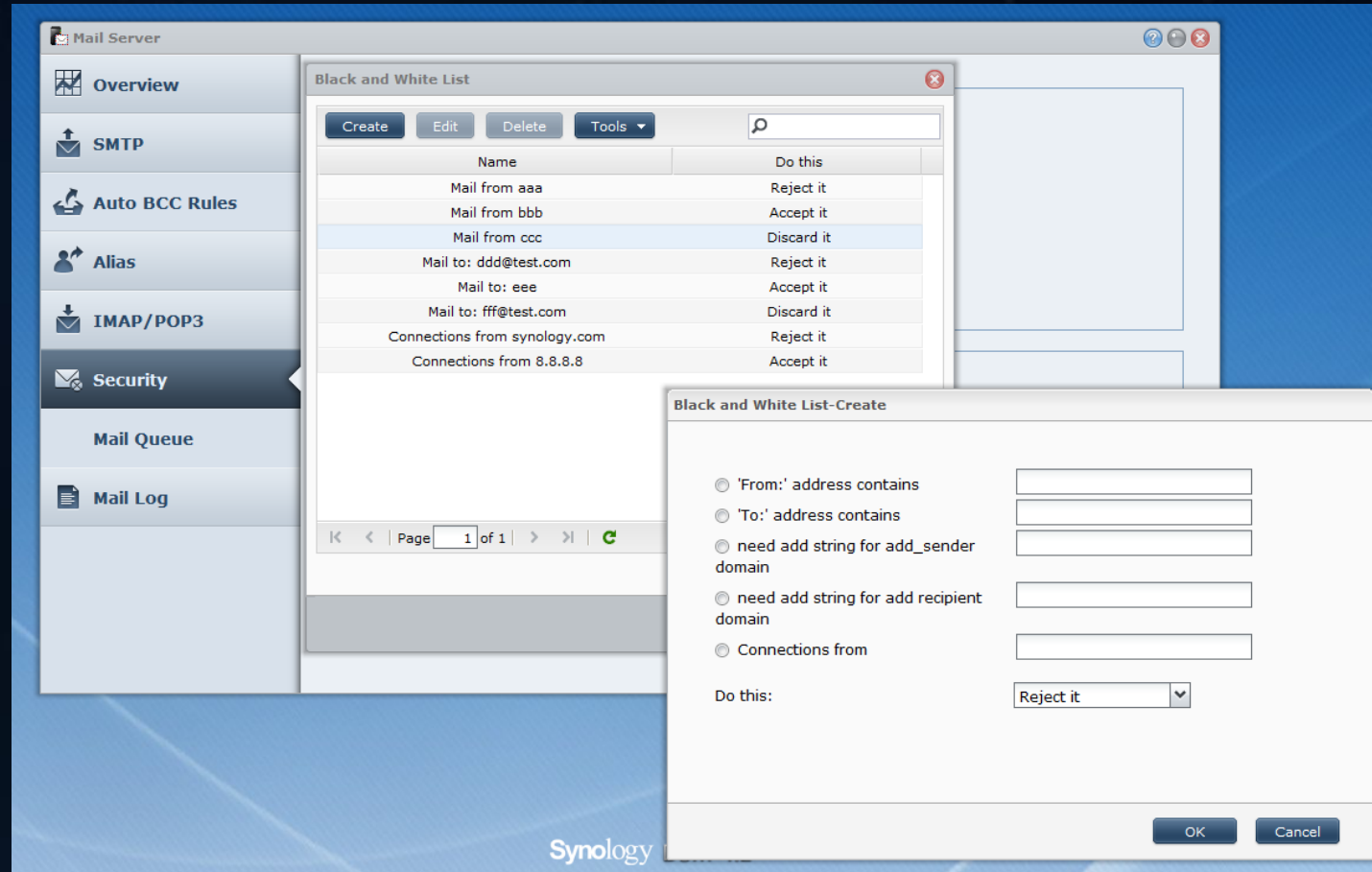
Mail Queue



Spam and Anti-Virus



Black and White Mail List



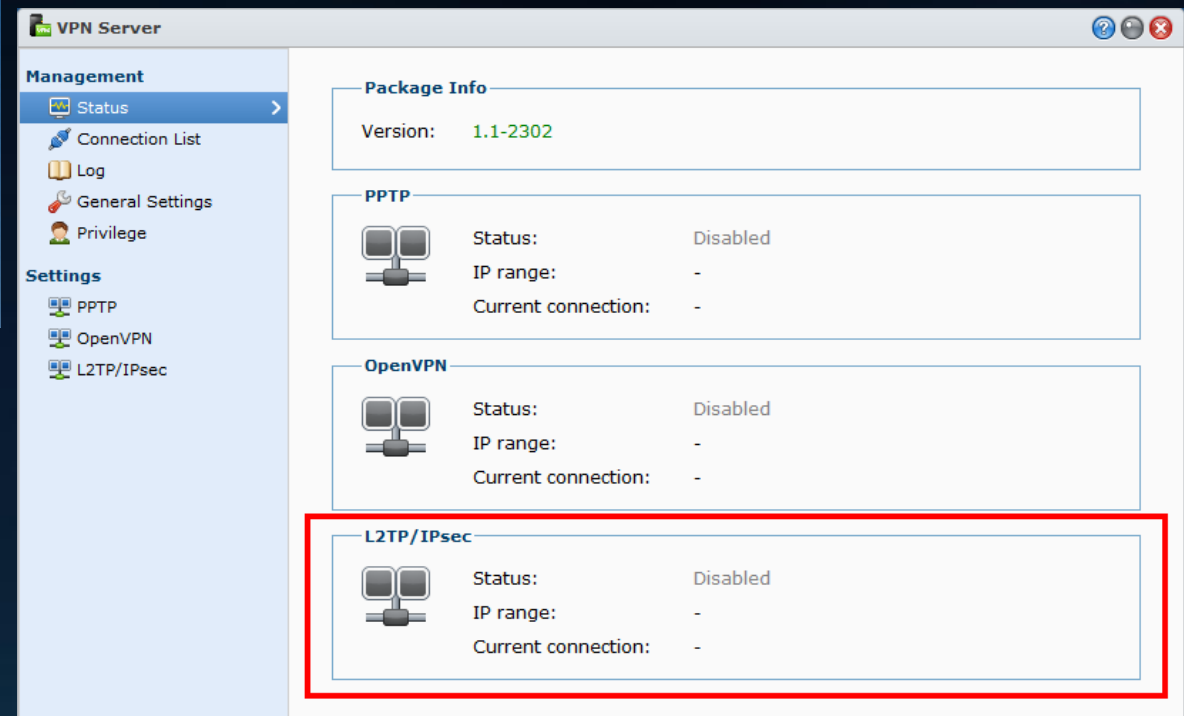
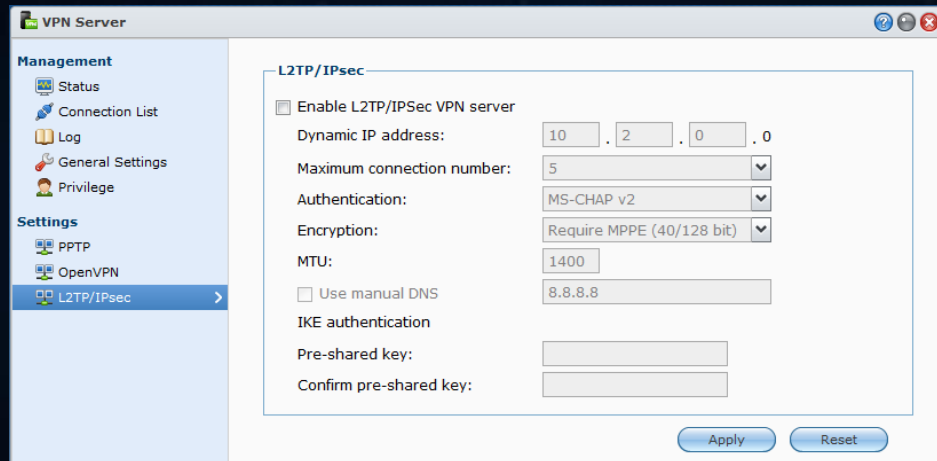
Robust VPN Connection

- L2TP over IPsec is introduced high secured VPN connection with
 - Data confidentiality, authentication* and integrity*
 - On most OS (iOS/Windows etc.), L2TP is equal to L2TP over IPsec
- Unlimited reconnection capability



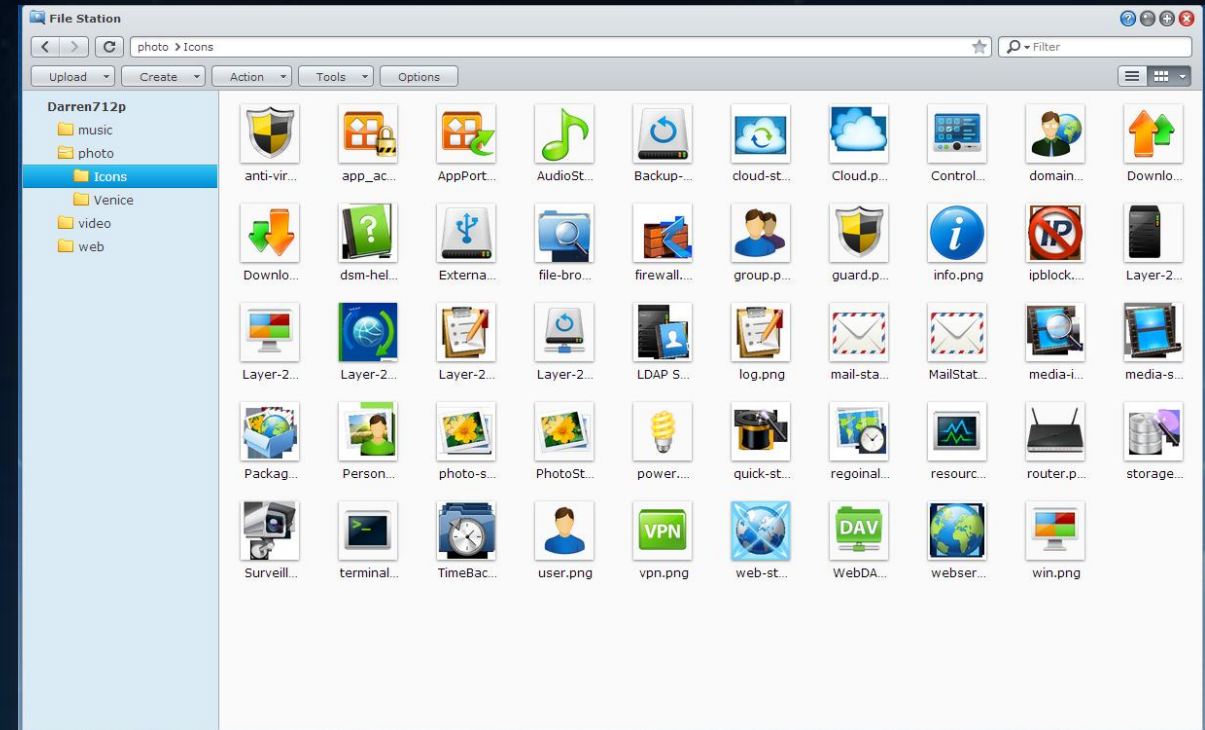
*Not supported by PPTP

VPN L2TP over IPSec Support



File Station

- Folder Sharing Link
 - Easily share a folder without creating DSM accounts
- Thumbnail View
 - Find pictures and icons easily - Change the size of thumbnail to small/medium/large



Packages for 1-Click Install

For Developers

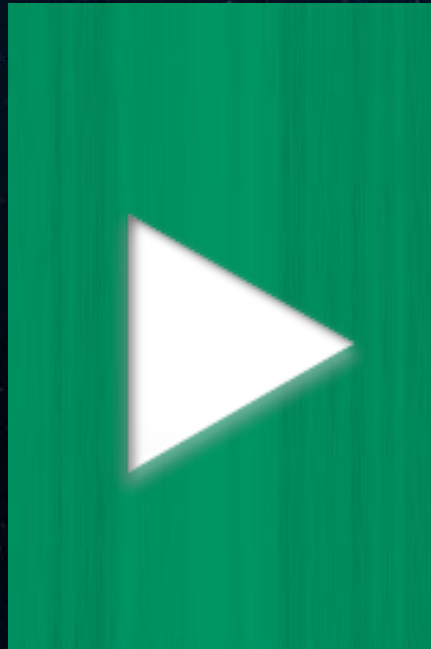
- Git
- SVN
- Python 3
- PHP Pear

For Business

- OpenERP 7.0
- DokuWiki
- Podcast Generator
- WordPress 3.5

Developer Toolkit

- We provide pre-compiled GPL libraries so that developers can
 - Build packages for Synology NAS more easily
 - Focus on their own source code
 - Spend less time to build packages for different platforms



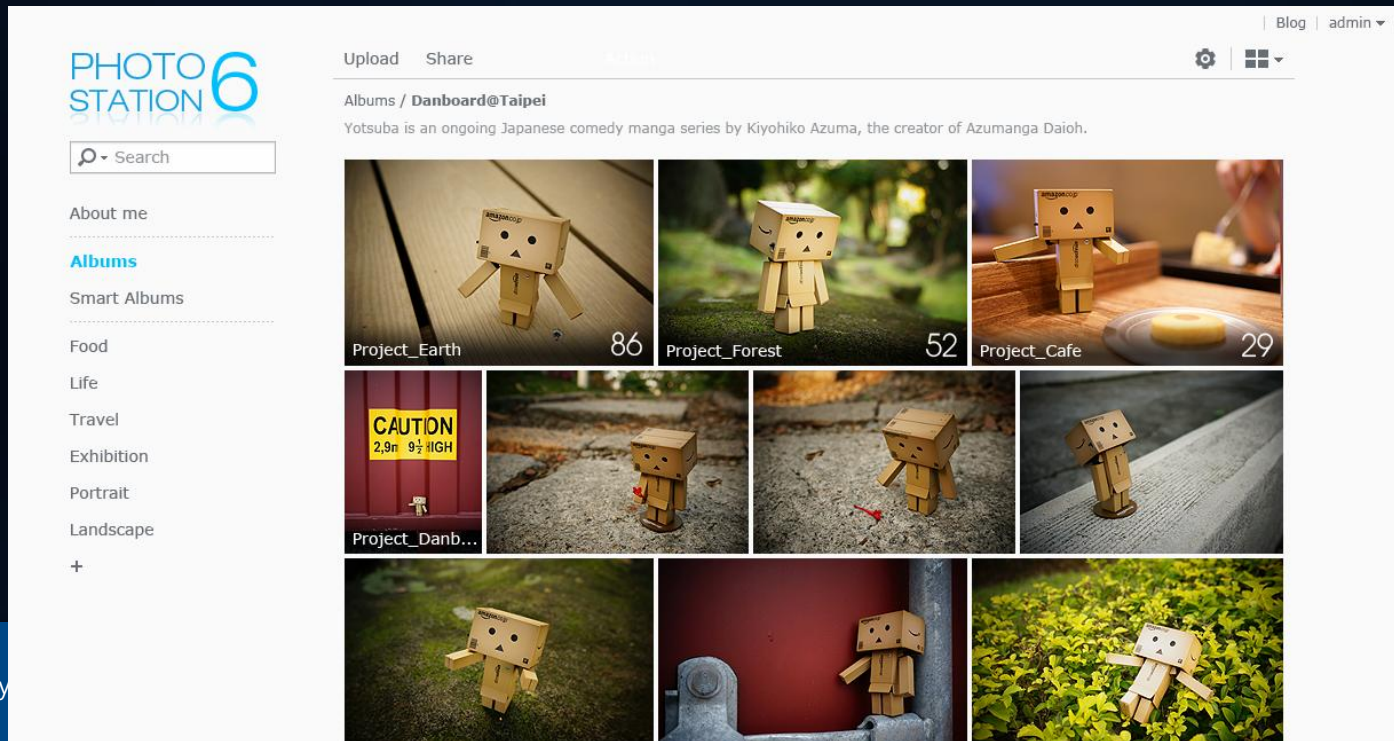
Multimedia Show Time



Photo Station 6

Your Photo Station is unique

- Let your photos shine out with new elegant design
- Photo Wall - Enjoy your photos as it is and leave no blank on screen
- Timeline new design!



Moments that speak with photos

- Smoother navigation between thumbnails and light box (the big picture), with less time waiting for loading
- Display photo info on the right side for easy editing



Illustrate stories in your way

- Creating professional-grade online portfolios for your photos

Food



Travel

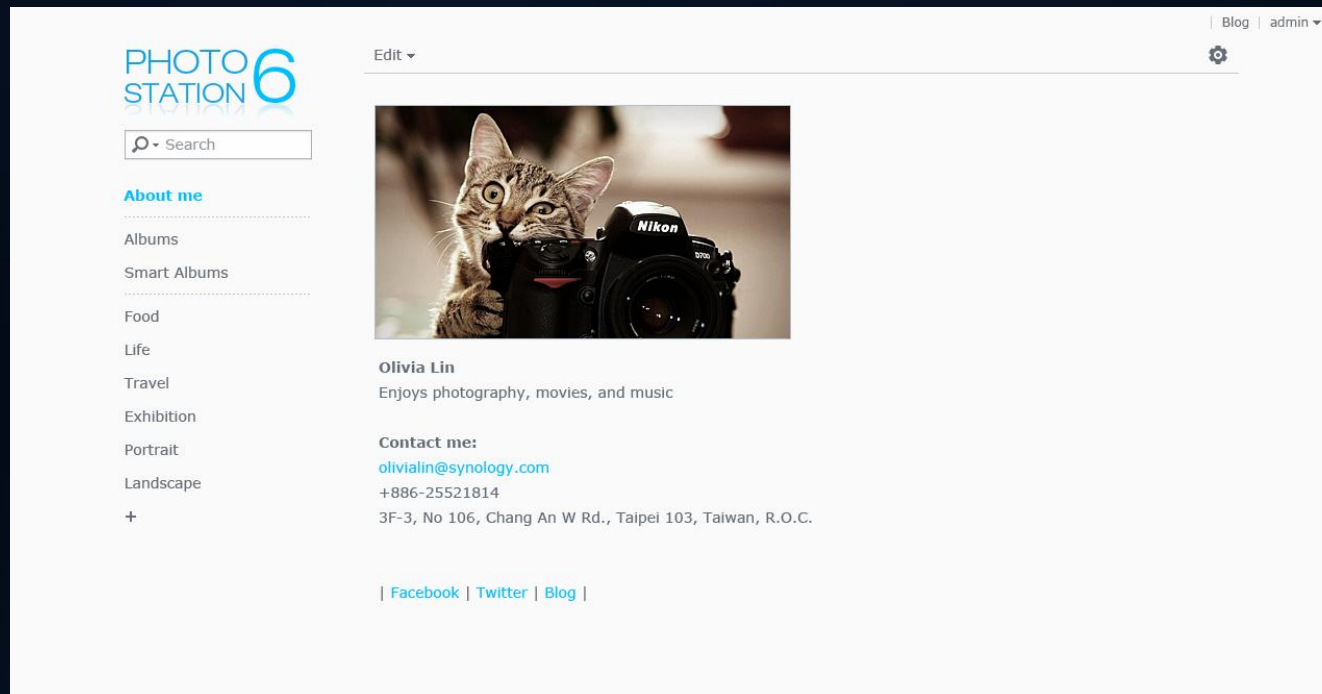


Wedding



It's about YOU

- A unique space to expand your presence online
- Provide contact info to get more friends or customers



Enhanced management features

- New Role in Photo Station - Album Manager
 - Upload, Tag and edit the photos
 - Create albums, edit album info such as title and description
 - Admin won't need to assign admin privileges to others
- Group privilege management
 - Assign sharing permissions of photos to groups more efficiently
- AD/LDAP accounts support
 - Trust domain

Edit your photo with Aviary on the fly

- One of the most popular photo editors
- Rich photo-editing functions





Video Station

Define your custom libraries

- Create libraries depends on your needs
- Assign privileges on the custom libraries



TV Streaming above the Cloud

- Streaming TV from One of the most popular standards: DVB-S
- Watch more TV channels from satellite signal



Better Digital TV experience

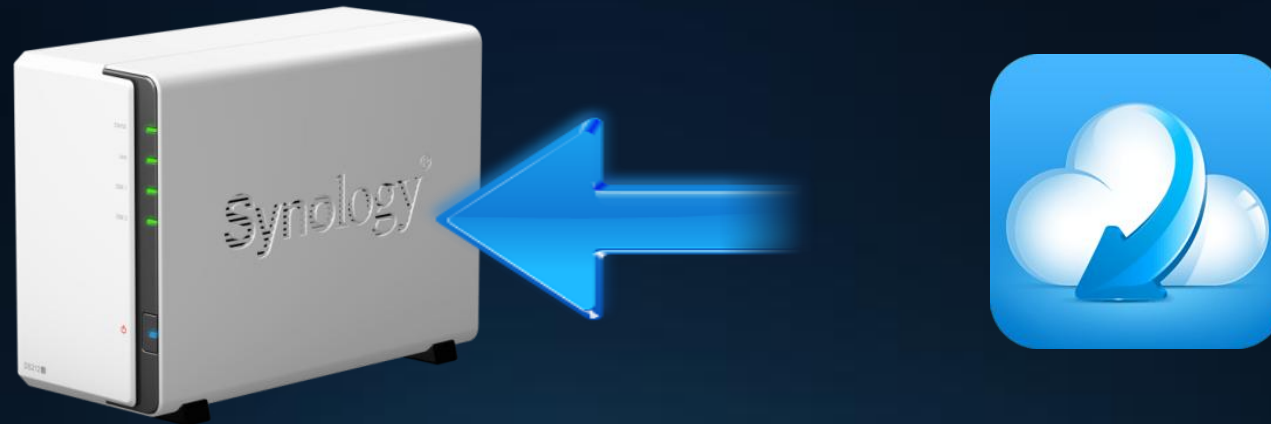
- Recording TV shows without EPG
- Switch TV channels directly in Video Player
- Assign DTV control permission without giving administrative privileges



Download Station

Enhanced supports of Xunlei

- Xunlei.Lixian (迅雷離線)
 - One of the most famous download approaches in China
- Xunlei.Kuai (迅雷快傳)
 - Downloads the shared link from Xunlei.Kuai



Supports of FLVCD (碩鼠)

- FLVCD is a powerful downloader for files from numerous video streaming providers in China
- Now we support the capability of FLVCD in Download Station





Audio Station

Gapless playback

- No pause in playback between the end of one audio file and the beginning of the next one.
 - For Listeners who listen to classical music (esp. opera), progressive rock, concept albums, and live recordings, etc ...
- Smooth and non-stop music for better experiences
 - Support USB mode

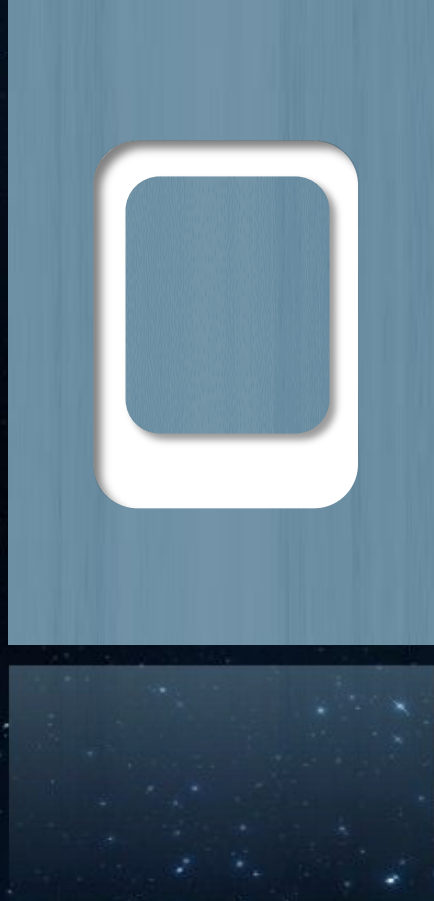
Mobile Broadband Support

- 3G/4G USB Dongle Support
 - Plug it into your NAS and connect to mobile network
 - Plug it into DS213air, share Internet with your tablets and laptops



A Better Router

- Time-based Parental Control
 - Restrict your kids' Internet usage according to specific devices and times
- UPnP Internet Gateway
 - Configure DS213air or other drives with USB Wi-Fi adapter plugged in as a router
- PPPoE Relay
 - Allow computers which are connected to your DS213air or Wi-Fi hotspot by DiskStation to connect to the Internet via PPPoE



Mobile
Anywhere

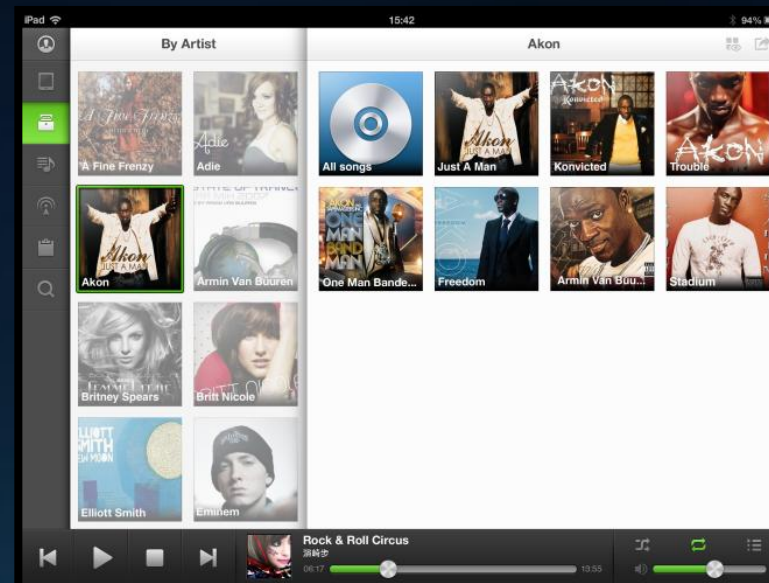
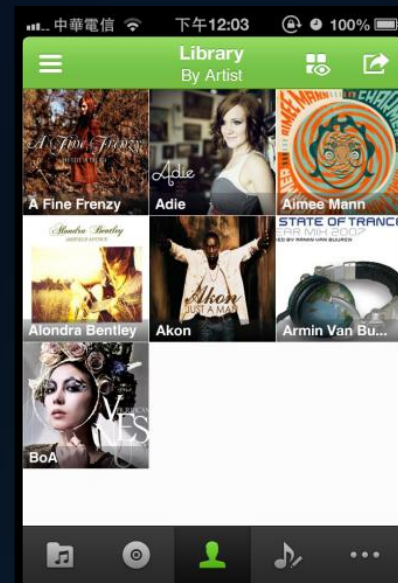
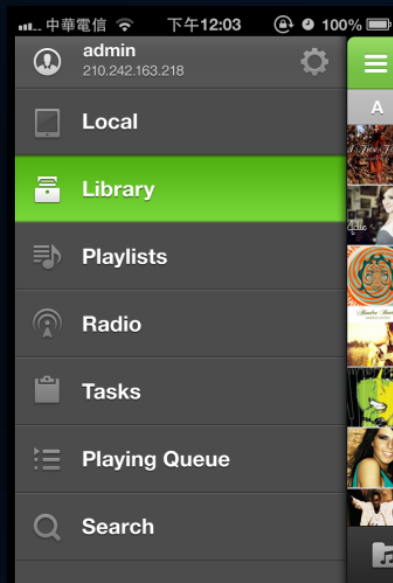


DS audio



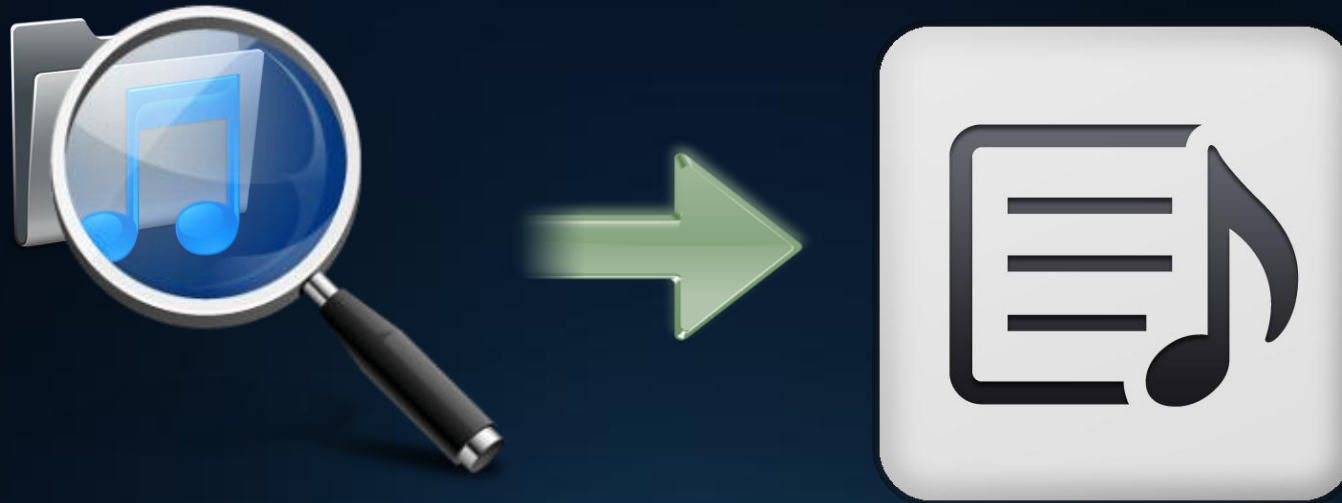
New sleek design

- Brand new style on iOS:
 - Sliding menus, smooth navigation and modern design
- Covers make browsing pleasant and convenient



Full control over your playlists

- Create the perfect playlists, for the perfect parties
 - Create, edit, delete... DS audio now gives full control over your playlists
- Create playlists, directly from your search results





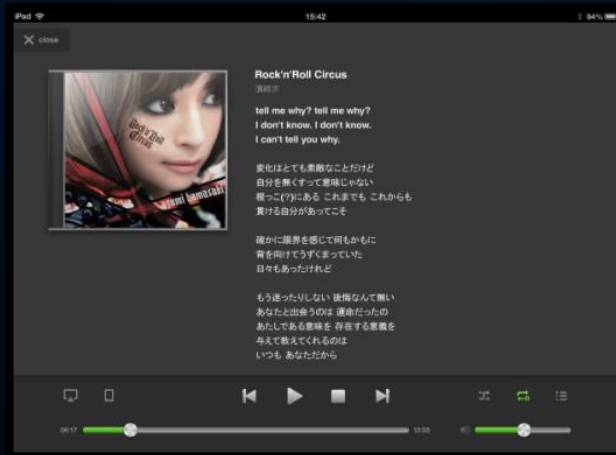
Smart and handy

- “By composers” now supported for the convenience of classical music connoisseurs
- Smart: DS audio now stops when you unplug speakers



A few extras

iOS



Full screen player to enjoy your iPad's large screen



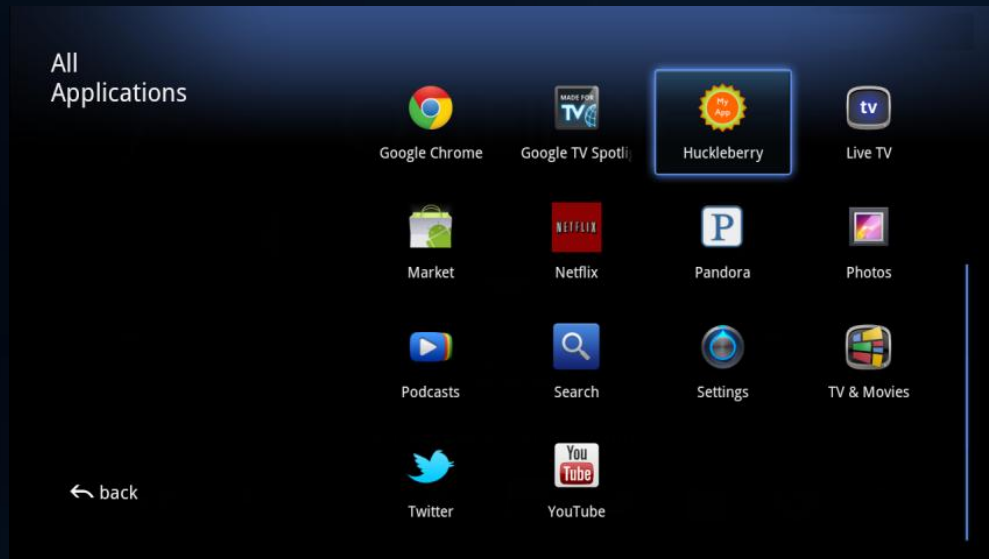
Take your music with you on your Android device for offline listening



DS photo+

DS photo+ for Google TV

- The Google TV is a Smart TV, similar to the Apple/Roku TV
- It's based on Android = no learning curve for Android users
- Netflix, HBO, YouTube, Skype.. and may more apps on demand



DS photo+ for Google TV

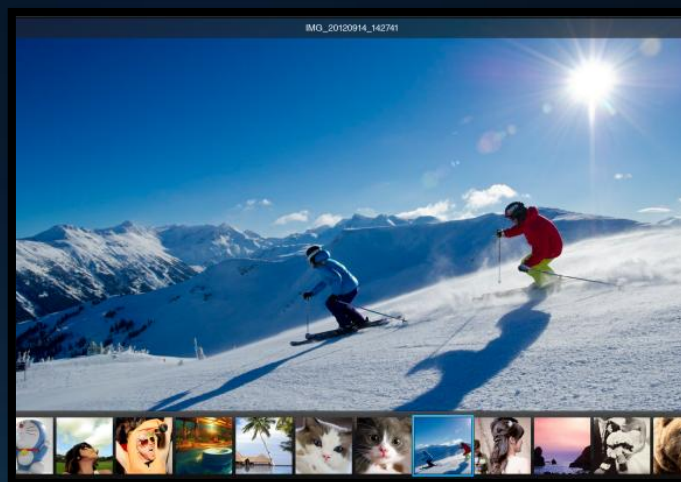
- An easy way to share your photos and videos, at home
- Holiday memories are always more exciting on large HD screens
- The keyboard makes input / control extremely convenient





Browsing made easy

- **Browse by Tags, collections:** a smart way to find photos, whoever you're looking for, wherever the photo was taken
 - You edit in Photo Station; DS photo+ displays all tags, collections...
- **Filters:** a quick and convenient way to search directly in the current view



A last treat!

iOS



Sliding menus:
give your photos the space they
deserve

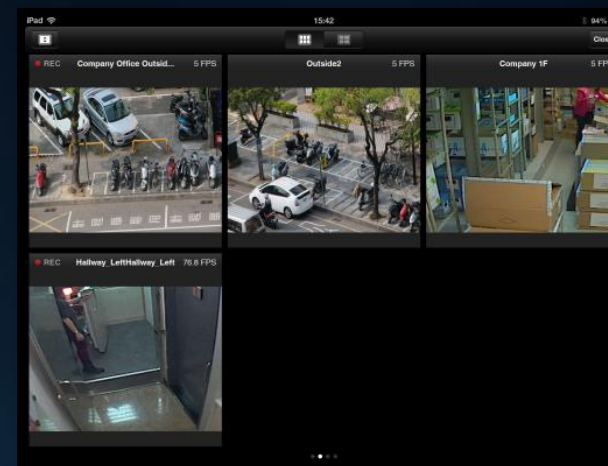
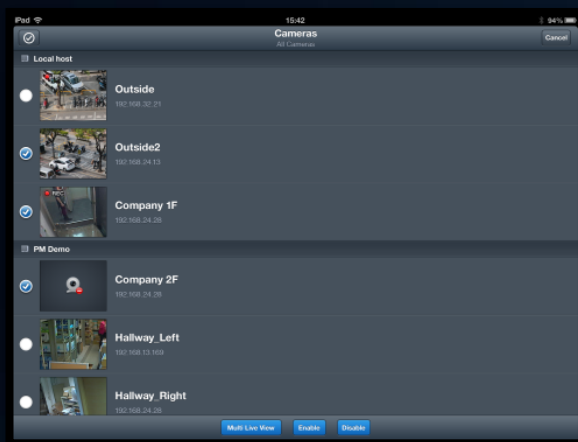


DS cam



Fully customizable views and filters

- Your multi-live views are now easy to customise: pick and choose from the camera list directly, or filter out a specific group of cameras
- Searching for recordings by event type is more intuitive:
 - “Get all **alarm-triggered** events **last Monday** in the **Warehouse**”





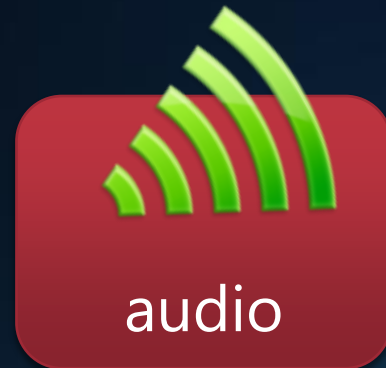
Monitor live, respond immediately

- Identify your cameras at a glance with key camera info
- Enable IP cams only when you need to optimise network utilisation
- Check live feeds and start recording anything suspicious



Enhanced quality

- Digital zoom, with any camera (even non PTZ)
- Audio in your live streams now allow you to match conversations with words
- Even smoother streaming for cams with H.264 output



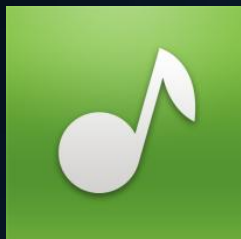


DS file



DS file on Windows Phones

- 5th app: Synology users now enjoy all major home features to use their DiskStation with their Windows Phone
- No need to rely on 3rd party solutions
- Available for both Windows Phone 7 & 8





DS file on Windows Phones

- Windows Phone users can now organise and manage files on their DiskStation remotely
- Upload files directly from your Windows Phone's Gallery / Camera





Exclusive for Windows Phone

- Finds any document in a matter of seconds with the advanced search
- Add folders to your “Favourites” to always have them on hand
- Sharing is even safer, just:
 - protect it with password
 - set an expiration date





Exclusive for Windows Phone

- Batch files into an archive folder
- Extract archived files from DS file to access files





DS file: platform comparison

- Windows Phones 8 equipped with an SD card can access its contents from DS file (not only Phone Gallery + Camera)

	iOS	Android	WP
Browse, copy, move, delete, view, listen, play...	v	v	v
Favorites	Coming	Coming	v
Archive / Extract	Coming	Coming	v
Advanced search	Coming	Coming	v
Upload	v	v	Gallery/Camera
Download	v	v	SD card (WP8)

DS video, for ROKU TV



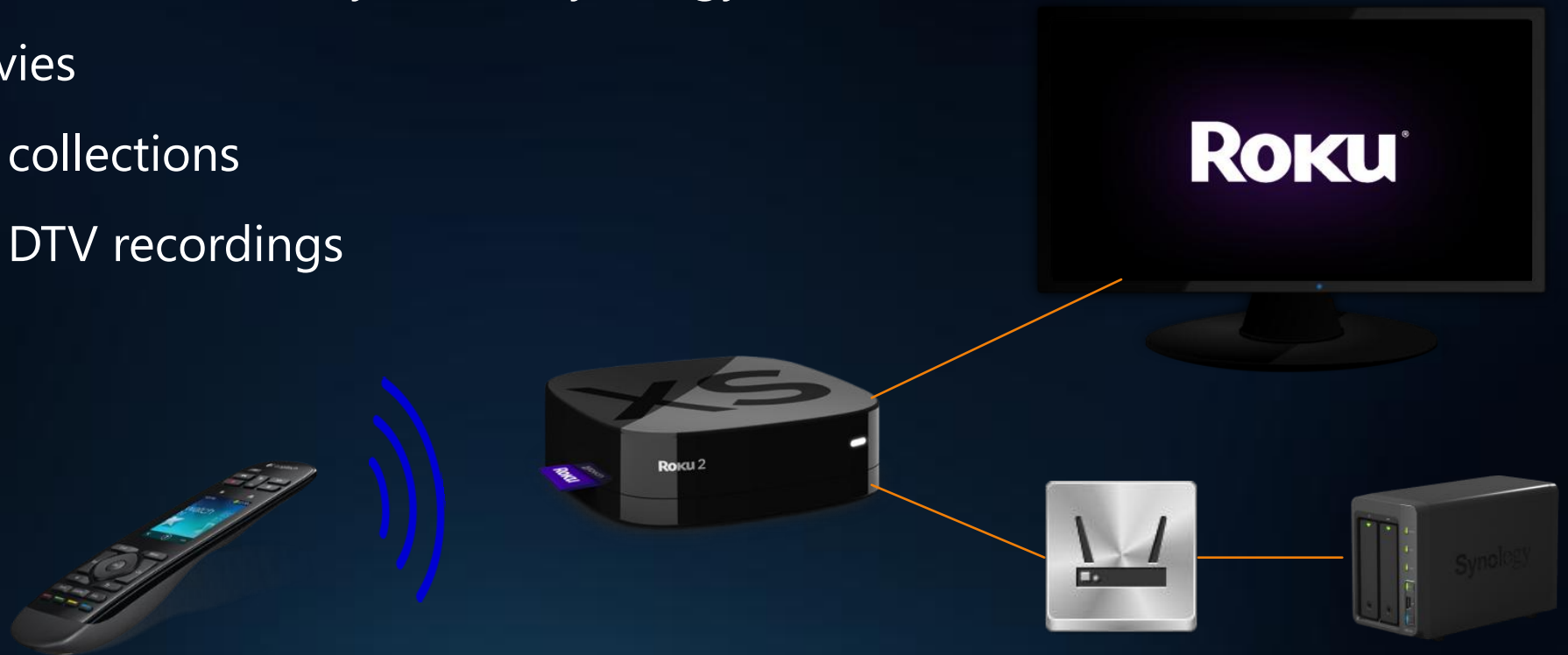
What is a ROKU TV?

- It's like an Apple TV, without the Apple:
 - plugs into a TV
 - it offers 750+ channels (apps)
 - it's mostly distributed in North America
- Why are we supporting ROKU?
 - as it's pretty cheap, it's quite popular



DS video for ROKU TV

- DS video on ROKU supports the functions of iOS/Android
 - browse your video library on the Synology
 - play movies
 - manage collections
 - manage DTV recordings



DS video for ROKU TV

- What should you know about DS video for ROKU?

Feature	Models / requirement
plays .mp4, .mov, .m4v	all
mkv	transcoding type 2
other formats	transcoding type 1
DTV Live stream	transcoding type 1



Thank You