



SHARED STORAGE SOLUTIONS

for Collaborative Media Production Networks



Introducing

Facilis HUB Shared Storage

Central to Your Media Production Workflow



SHARE THE PERFORMANCE

WWW.FACILIS.COM

“

“We’re able to edit the footage natively, without transcoding or making proxies, which saves lots of time.”

RYAN HUMPHERYS
HEAD OF POST PRODUCTION
ICON FITNESS



CASE STUDY



Icon Fitness Keeps People Healthy with Help from Facilis

Icon Health and Fitness, Inc. is the world’s largest manufacturer of exercise equipment. Based in Logan, Utah, the company manufactures treadmills, elliptical trainers, stationary bicycles, weight machines, and yoga and Pilates equipment. Icon has a wide range of brands including NordicTrack, ProForm, Weider, Weslo, Gold’s Gym and FreeMotion fitness.

The Icon team initially purchased a 40TB Facilis system back in 2012 when their Synology DiskStation NAS just couldn’t keep up with the demands of video media and the sheer amount of data required over their 1GB Ethernet connection. As Icon continued to grow, and as the products themselves started to require video content, it was time to purchase a system that could handle the team’s collaborative editing workflow that frequently sees up to 10 editors on individual workstations editing simultaneously.

Last year, Icon purchased a new Facilis server with two TX16 expansion chassis for a total of 320TB just to handle the increased content creation demand for the popular iFit brand. Most recently, the marketing department purchased a new 192TB 24EX system. Ryan Humpherys, head of post-production for the Icon Fitness marketing department, and his team handle all the marketing and social media campaigns at a studio a mile down the road from the Icon Fitness headquarters. “We frequently shoot on ARRI Alexa Mini at 4K or on Red cameras at 5 or 6K. We’re able to edit the footage natively, without transcoding or making proxies on the Facilis system, which saves lots of time.”

“We looked around at other vendors and nothing else ticked all the boxes for expandability, high-speed, ease of administration, and all the connectivity options. Even our IT admin was impressed as he’s never seen another system that works as well, allowing us to easily manage everything ourselves over such a high-speed connection with no IT assistance required.”

CUSTOMERS

With over 3,000 systems installed worldwide it’s hard to pick just a few customers. This small list represents major studios and small boutiques; broadcasters and Fortune 500 companies; educational, sports and houses of worship.





FACILIS TECHNOLOGY'S TOP 5

ONE: Virtual Volumes

Facilis has a unique way of creating virtual disks on demand that look and act like basic hard drives but are evenly distributed across a much larger drive set. In doing this, Facilis ensures that every virtual drive that's created has the same performance, no matter if the system is completely empty or almost full. If you consider how spinning disks get slower as they get full, this is a great feature. The administrator can easily change the size of the virtual drives on the fly, using any available space.

TWO: The Facilis Shared File System

In shared storage networks there's always a management layer that's responsible for protecting the base file system from damage by people writing to the same place at the same time. NAS (network-attached storage) does this through a layer called TCP/IP developed in the 1970s, and network filesystems like SMB, CIFS and NFS. Because this technology was not built for video, network file systems will require tuning to get the best speeds, and will always have limitations. Since the client workstation operating system is in charge of providing access to NAS, any changes in client OS can have an affect on network reliability.

The Facilis Shared File System was developed exclusively for video and audio content. It changes what's old, clunky, and inefficient about TCP-IP network file systems but keeps the scalability and reliability that they're known for. On top of that, it adds features that you'll never see in a NAS, and eliminates complex network filesystem permissions that can obstruct your workflow.

THREE: Fibre Channel & Ethernet in Perfect Harmony

There are long whitepapers written about the benefits of Ethernet vs. Fibre Channel in media creation workflows. To each their own, Facilis does both seamlessly even on the same client workstation. We're advocates of Fibre Channel connectivity because we know the benefits in high-bitrate workflows, and we're advocates of Ethernet for its lower-cost scalability and performance.

FOUR: Web Console Management

The web console is the user-facing representation of the Facilis Shared File System and virtual volume management. Post production content creation facilities have used project-based workflows for decades, and no one is better at volume management in project-based workflows than Facilis. Volumes of any size can be created, size can be changed on the fly, and permissions can be managed with either total simplicity or ultimate security.

FIVE: FastTracker

FastTracker is a media indexing application that runs on the Facilis server and tracks all the files entering the system. Users can add metadata and keywords for searching, and the proxy generator can make multiple versions of the indexed media for previewing over the network, or for proxy workflows. When working in Adobe, the FastTracker Adobe Panel gives the editor direct access to all the files on the server through catalogs that can be secured to certain user accounts. The Desktop Panel can be used to access media when in Avid, FCPX or Resolve among others, and preview media outside the creative applications.



FACILIS WEB CONSOLE

The Facilis Web Console delivers simple yet powerful control and management of post production environments.

The browser-based console can be accessed from any desktop or mobile device, and provides secure access to all administrative tasks. As part of an administrator's toolset, it integrates seamlessly with Active Directory users and groups, or can work independently with a fully autonomous user database.

Access Management

Administrators can instantly place storage on all user desktops from a single interface, and determine which network path the workstation uses to access the storage.

Volume & User Management

The Admin Console provides volume add, delete and resize, user account creation and permissions to project-based volumes, as well as volume hosting location in multi-server environments.

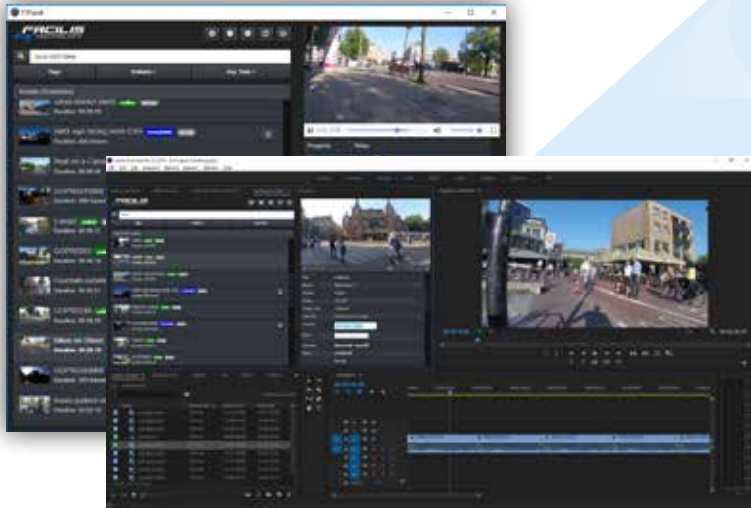
Monitoring

Per-volume and per-workstation bandwidth monitoring with weeks of historical data that can be zoomed-in and reviewed. See every detail of your daily workflow activity.



FASTTRACKER

Facilis offers a fast way to track media and create proxies through automated folder and volume indexing. Add keywords and comments for searching, and access high-res or proxy media directly in Adobe Premiere Pro and After Effects.



New in Version 3.0:

- Unlimited Adobe Panel & Browser Seats at No Charge
- Custom Proxy Locations & Selectable Encode Profiles
- Desktop Panel for non-Adobe Workflows
- Indexed Record Notification for CatDV
- Keyword Insertion with Active Comment Field



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UNIQUE FACILIS FEATURES

Avid®, Adobe® & Apple® Project & Media Sharing

Native, application-level Avid Media Composer® bin & project sharing, Adobe Premiere Pro® Team Projects and native shared projects. Custom Project Manager for sharing Apple FCPX® libraries

HUB One Aggregation & Offload

The Facilis HUB One aggregates multiple TerraBlock drive groups and offloads server processing to achieve a higher level of bandwidth and stream count.

Client Connectivity Fail-over

When the server is available over multiple paths, the client profile software will enable a secondary path to the storage if the first is interrupted, without any manual configuration or user intervention.

Direct-Attached Mount Appearance

Even when connected through Ethernet, mount volumes to appear as a hard drive in Finder or Explorer. Network drive restrictions are removed, and OS-level access speed improves.

Open Storage Attachment

Re-purpose existing Fibre Channel or SAS-connected storage through the Facilis Shared File System. Share and secure your storage arrays alongside Facilis project-based Virtual Volumes.

Selectable Data Sharing Methods

Software defined sharing methods provide file-level sharing for total collaboration and volume-level for ultra-high performance data access over Fibre Channel. Enjoy up to 3GB/sec in volume-lock mode.

Remote Client Software Deployment

Remove the task of manual install per-client during upgrades with remote software deployment. Select any or all clients and upgrade software with a push of a button.

Remote “Push/Pull” Volume Mounting

From any browser interface, the administrator can manage volume access on the desktops of the client workstations in real time, adding or removing volumes as needed for the project.

Connectivity Settings per Volume

When multiple connections to the server are available, the administrator can determine preferred network path on a per volume or per workstation basis. This can be used to increase or throttle access to certain volumes.



PRODUCTS

SHARED STORAGE NETWORKS

Facilis HUB Shared Storage

Central to Your Production Workflow



Facilis 8 & HUB 16

8 or 16 HDDs on 12Gb SAS Controller
Facilis 8 Capacities: 32TB; 48TB; 64TB; 96TB
HUB 16 Capacities: 64TB; 96TB; 128TB; 192TB
Benchmark: 1GB/sec or 2GB/sec



HUB Hybrid 16

8 HDD & 8 SSD on 12Gb SAS Controllers
Capacities: 80TB; 96TB; 112TB; 128TB
Benchmark: 3GB/sec



HUB 32

16 HDD on Internal 12Gb SAS Controller
16 HDD on External 12Gb SAS Controller
Capacities: 128TB; 192TB; 256TB; 384TB
Benchmark: 3GB/sec



HUB 8S & HUB 16S

8 or 16 SSD on 12Gb SAS Controllers
Facilis 8S Capacities: 16TB; 32TB
HUB 16S Capacities: 32TB; 64TB
Benchmark: 3GB/sec or 4GB/sec



HUB One

32 to 128 HDD on 12Gb SAS Controllers
Facilis HUB One on 32Gb FC
Capacities: 128TB to 1PB
Benchmark: 3.5GB/sec



XP16 & NL16

16 HDD on External 12Gb SAS Controller
16 HDD on External 6Gb RAID Controller
Capacities: 64TB; 96TB; 128TB; 192TB
Benchmark: 2GB/sec

Facilis **HUB** systems are built from the ground up to be the most efficient way to access video on your multi-platform workstations. **HUB** is the evolution of the Facilis Shared File System, block-level virtualization and multi-connectivity performance.

With 1GB/sec speeds through standard dual-port 10Gb, and options like 40Gb Ethernet and Fibre Channel, the **Facilis 8** features are not entry-level.

The 16-drive **HUB 16** has all the power of the previous 24D server, with a lower price/TB and better expandability options.

The **HUB Hybrid 16** offers advanced SSD technology with an integrated, high capacity HDD-based group at a much lower cost than previous Hybrid models. If it's ludicrous speed in a small form factor you're looking for, check out the **HUB 8S** and **HUB 16S**. Premium SSD speed and capability now more affordable than ever.

The **HUB One** can be built fully redundant, with multi-server bandwidth aggregated into a single point of network connectivity. There is no better way to deliver high bitrate video to large workgroups while maintaining high availability and data integrity than the **HUB One**.

When it comes time to expand your online capacity, the **XP16** adds a second 16-drive group to your **HUB** System. The **NL16** is a hardware RAID-protected array that can be used as simple offload, or in conjunction with **Object Cloud**.

Every **HUB** comes with unlimited seats of our FastTracker asset tracking application.

HUB PERFORMANCE

Model Name	Capacity (TB)	UHD DPX 2160p	6K RED HD 7:1 24p	UHD DNxHR HQ Pro Res HQ	UHD XAVC 480	HD Pro Res HQ DNxHD 220	HD Pro Res SQ DNxHD 145	XDCAM HD 50Mb
Facilis 8	32,48,64,96	1	6	7	10	14	18	45
HUB 16	64,96,128,112,128	2	9	11	16	24	36	75
HUB 32	128,192,256,384	3	16	18	25	45	58	96
HUB One (D16 Stack)	128,192,256	3	20	22	30	53	66	112
HUB Hybrid 16* / 8S	80,96/16,32	3	28	30	42	65	88	180
HUB 16S	32,64	4	30	33	48	70	96	200

Stream counts are based on a 99% full drive set. Facilis drive set virtualization maintains full performance at full capacity.

* Numbers based on the SSD group - for HDD-group stream count, see Facilis 8.



PRODUCTS

ARCHIVE & BACKUP

Nothing is more critical than our customer's data. We offer drive failure protection and inter-server mirroring to avoid downtime, but data backup is still a recommended practice. We now offer integration with localized object storage that virtualizes Disk, Cloud and LTO storage into the same folder and file location.

OBJECT Cloud

Object Storage Virtualized to your Desktop

Many facilities have concerns about deploying backup and archive workflows due to the additional management involved. Administrators must learn new applications and processes that are often detached from your normal workflow. What if your archive media was accessible and managed as easily as your active media, but wasn't really there taking up space? This is the benefit of desktop object storage with Facilis Object Cloud.

With an easy setup and deployment, any Facilis nearline array, 3rd party attached storage or native Facilis virtual volume can act as the cache drive for cloud and LTO data. After writing to the archive, the disk-based data can be purged but still remains as offline file headers, ready to be searched and restored at a moment's notice.

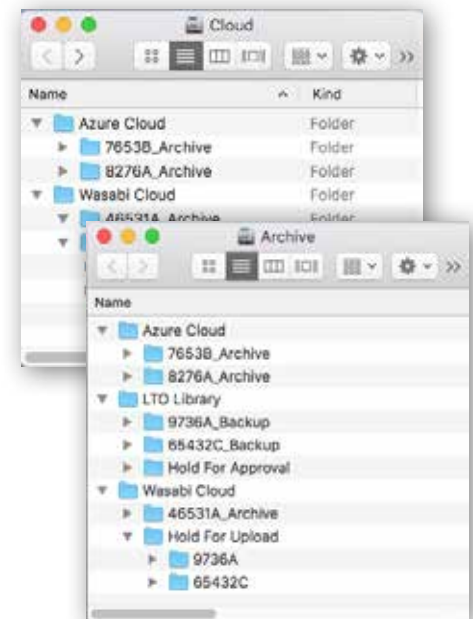
When accessing cloud-based media directly or through **FastTracker**, you can start viewing the asset immediately while the restore is in process. Object Cloud Software & Storage package is available for any Windows 10 server running Facilis version 7.2 or higher.

Object Cloud Nearline & Archive Bundles

Facilis has partnered with object storage and cloud service providers to offer our customers a complete archive storage hierarchy for one low fixed price. Renew your yearly storage fee with Facilis, and you're completely supported.



Cloud



Object Cloud Cache

HUB Nearline Server with 128TB to 512TB of nearline spinning disk, and 100TB of cloud storage.



Object Cloud & LTO Cache




HUB Nearline Server with 128TB to 512TB of nearline spinning disk, 24-slot LTO8 library and 100TB of cloud storage.

Archive Add-on with LTO8 and Archiware P5

For customers that don't require the functionality of Object Cloud, or would rather have a separate database for archived media, we offer more affordable LTO library support on Facilis servers through Archiware P5.

TERRABLOCK SYSTEMS

TerraBlock servers are available as legacy units through 2019 for any customer who wants to maintain like-servers in their environment. All TerraBlock units offer legendary performance and reliability, and are guaranteed to be supported through available support and warranty extensions for five years with new software releases and hardware warranty.

Model Name	Capacity	UHD DPX 2160p	6K RED HD 7:1 24p	UHD DNxHR HQ Pro Res HQ	UHD XAVC 480	HD Pro Res HQ DNxHD 220	HD Pro Res SQ DNxHD 145	XDCAM HD 50Mb
 24D 2x12 Drive Groups	96TB, 192TB	2	10	11	16	24	34	74
 24EX/16 16 Drive Group	64TB, 128TB	1	8	7	13	18	24	48
 24EX/12 12 Drive Group	48TB, 96TB	1	5	6	10	14	17	42

Stream counts are based on a 99% full drive set. Facilis drive set virtualization maintains full performance at full capacity.



FACILIS SHARED STORAGE

Facilis means simple, and our approach is different. Instead of focusing on expensive and complex hardware to get around the inefficiencies of network-attached storage, we change the network. Our Shared File System is unique in the industry, delivering connectivity over Fibre Channel and Ethernet, with a custom protocol that avoids the overhead and latencies of commodity network storage. We then add the ability to run at full speed even when completely full. This benefit cannot be found in any other storage system in our market, and has a direct effect on your total cost of ownership.

The work of post-production and content creation is an art, but there's a lot of science involved with producing high-quality programming consistently. Facilis is dedicated to the content creation market, supporting diverse workflows from offline craft editorial and low bitrate web delivery to 8K film restoration and HDR color grading for studio releases. Flexible, cost-effective and scalable, Facilis solutions can be found in great universities and local high schools, major networks and public access.

You won't find many of our product's key features in standard network-attached storage, and some can't be found in any other solution on the market. Our development team works hard to ensure that the software running Facilis storage products is reliable and usable; simple and powerful. Thousands of facilities worldwide have trusted Facilis Technology to keep their editors working, and keep their clients happy. Hundreds of returning customers every year confirm the loyalty that the Facilis brand has maintained since 2003.



Shown with optional connectivity hardware

Available Capacities:	16TB to 448TB per server; Network Capacities up to 4PB
Capacity Scalability:	Up to 256TB per Virtual Volume; Unlimited Network Capacity
Base Unit Connectivity:	Dual 1Gb; Dual 10Gb/40Gb Ethernet or Dual 8/16/32Gb Fibre Channel
System OS Drive(s):	Single or Mirrored 6Gb/s Solid State Drive
Server OS:	Standard Windows 10 IOT; Optional Windows Server 2016; Windows Server 2019
Client Workstation OS:	Win 7/8/10, Mac OS 10.7-10.15, Linux 2.6.18+ RHEL/SUSE/CentOS
Drive Failure Protection:	DynaRAID dynamic, software-defined RAID1, 5, 50, 51. External Hardware RAID6
Redundancy Options:	RAID51 Server Mirroring; Hub Server Failover; FC and Ethernet Client Multi-path Failover
Nearline and Offload:	Object Cloud Integrated Cloud and LTO Virtualization
Service & Support:	First Year Total Care Support and Warranty Included; 24/7/365 Support Available