

STORAGE CONFIGURATION GUIDE

Using SNS EVO Shared Storage with Adobe[®] Premiere Pro[®] CC



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Using EVO Shared Storage with Adobe® Premiere® Pro CC

EVO is a high performance shared storage system designed for media workflows. All of the software included with EVO, down to the operating system itself, is designed by SNS specifically for use with leading production applications like Adobe Premiere Pro, After Effects, and others. At its core, EVO comprises of many key storage and workflow features designed to help teams work more efficiently, and be more organized throughout the media creation pipeline.

(This document is for use with EVO high performance NAS shares. For more information regarding our iSCSI and Fibre Channel solutions, please contact us at studionetworksolutions.com/support/)

The Benefits of Shared Storage for Adobe Premiere Pro CC Workflows

Adobe Premiere Pro CC serves as a hub for production workflows, and today, teams are creating and acquiring more media than ever before. When multiple people need access to the same Without a shared storage system like EVO, it's common for teams to rely on direct-attached RAID's or single external drives that get passed from person to person, throughout the facility. This approach to storing media is causes silos and prevents teams from being able to take advantage of more efficient workflows. In many non-shared workflows, files are needlessly duplicated, and having disparate copies of projects and media causes confusion and makes it impossible for multiple people to work with the same assets simultaneously.

With EVO, you can greatly improve the efficiency of your workflow by storing all media and projects centrally, on the EVO server, which is purpose-built to be used by multiple editors accessing media and projects on any workstation, across the entire facility's network. It also helps improve organization by leveraging technology like media asset management, automation, and the many collaborative features available in Adobe Premiere Pro.

EVO STORAGE ARCHITECTURE

- EVO OS optimized for multi-user editing workflows
- SAN or NAS configurations (SMB, AFP, NFS, AFP, FTP, and iSCSI)
- Extensive connectivity options available in a single chassis
- LDAP and Active Directory integration for user administration
- NAS Recycle Bin to restore files deleted from network volumes
- Includes Slingshot API
- RAID 0, 1, 4, 5, 6, and 10
- Available with 10/25/50Gigabit Ethernet
- Available in SSD and HDD configurations

EVO WORKFLOW

- Includes ShareBrowser media management software for Mac and Windows, and the ShareBrowser web app with no additional license fees
- Available Slingshot API and task builder for automating file management
- Certified Integrations with leading technology from Telestream, Ross, StorageDNA, and NewTek, enabling EVO to be deployed in a variety of production, post, and broadcast facilities
- Tag, search, and preview assets with the ShareBrowser web app
- Project locking — protect projects for Adobe Premiere Pro, After Effects, and other projects stored on the network.
- Media and Metadata export to Premiere Pro

The EVO Workflow

ShareBrowser Media Management Software

Every EVO includes ShareBrowser, a web and desktop media management software that enables teams to organize and search for all media and projects across EVO storage, local, offline, and other third party SAN and NAS network disks. With ShareBrowser, you can preview proxies, tag media, index, catalog and comment on your assets, and collaborate around a central, searchable database. Other ShareBrowser features include:

- Integration with Dropbox, Hightail, Amazon and Adobe Creative Cloud
- LTO integration to easily send files and projects to tape archive
- Data verification and MD5 checksum generation
- An HTML5 web app for searching, tagging, previewing, and apply tags to media without client software

Slingshot Automation and API

EVO also features Slingshot, an easy-to-use automation builder and API framework for EVO shared storage. With Slingshot, you can create and run automated file workflows that span EVO, third-party storage systems, and even cloud storage. Slingshot has a point and click “Task Builder” that can be used to create time-saving automations like:

- Setting watch folders that move files to an FTP server every hour
- Scheduling server-to-server transfers
- Data verification and MD5 checksum generation
- Sending files to cloud storage like Amazon S3 at a specific time based on your rules and requirements

Developers can use the Slingshot API to transfer files on demand to an external server or cloud storage provider, so you can offload file transfer operations, and process them on an EVO server instead of consuming resources on another appliance.

Type	Volume	Write Status
	Avid 752.9 GB free of 1.1 TB	Unlocked
	Dropbox 41.1 GB free of 199.5 GB	-
	Filespace 34.6 GB free of 337.3 GB	MiniO
	Google Drive 41.1 GB free of 199.5 GB	-
	Media 501.4 GB free of 1.1 TB	smb / Unlocked
	Nearline 752.9 GB free of 1.1 TB	smb / Unlocked
	NFS 752.9 GB free of 1.1 TB	Project Locking
	OneDrive 41.1 GB free of 199.5 GB	-
	Portable 1.8 GB free of 1.9 GB	-
	Projects 501.4 GB free of 1.1 TB	smb / Project Locking

The ShareBrowser volume list, which shows all of your visible volumes.

Task Builder

Task: Copy Options: Move Replace

Scheme: **FTP**

IP/hostname:

User dir is root

Passive

User:

Password:

Relative path:

> Advanced

An example of a copy to FTP automation being set up in the Slingshot task builder.



Using SNS EVO with Adobe Premiere Pro CC

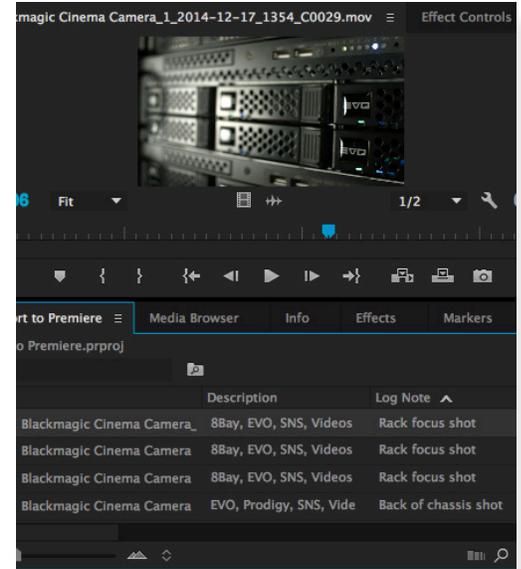
Extending Premiere Pro CC Metadata Fields

Adobe Premiere Pro includes searchable metadata fields directly inside the project panel to help you find media based on descriptions and log notes. EVO extends the capabilities of these fields by integrating them with the ShareBrowser software included with EVO.

ShareBrowser lets users search, apply keyword tags, and add comments to media stored on EVO. Once you add tags and comments to media in ShareBrowser, the files and associated metadata can be exported directly into Premiere, where they appear as descriptions and log notes inside your Adobe Premiere Pro Project Panel.

Using Adobe® Team Projects with EVO

Collaboration is a necessity for creative teams, since projects require contributions from many people and disciplines. Using Adobe Team Projects, teams can now share, manage, and collaborate within a single team project file from anywhere in the world—it's a major step forward for collaborative post production workflows.



ShareBrowser tags and comments inside the Premiere project panel.

Using Adobe® Team Projects on Premise

Using a Team Project in Premiere Pro requires each collaborator to have access to the project assets. The easiest way to handle this is to have your project media available over SAN or NAS network volumes on EVO. When a collaborator joins a team project, Premiere Pro will look at the same file path from the original project file and map the media automatically on other networked workstations.

Using Adobe® Team Projects Remotely

Another benefit of Team Projects is that it enables teams to collaborate with talented people around the world. If you are working with remote editors or artists in a team project, you can use Adobe's Creative Cloud storage, or other cloud services to share lightweight proxy media, animation, stills, and other assets from almost anywhere in the world. To improve the efficiency of these remote workflows, EVO integrates with Adobe Creative Cloud, Dropbox, and other services that help teams share media.

Using SNS EVO with Adobe Premiere Pro CC

Protecting Files with EVO Advanced Project Locking

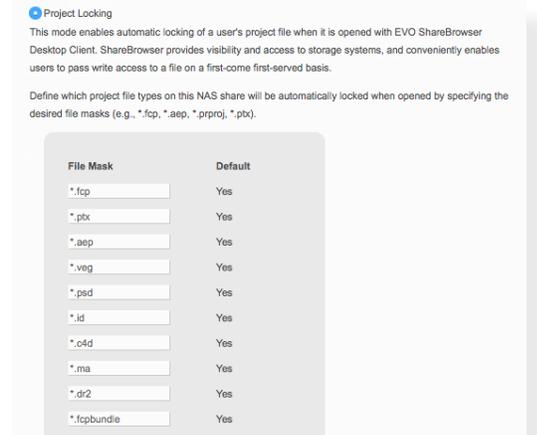
Project locking is a paramount feature of EVO workflows that prevents multiple editors from inadvertently overwriting each other's work. This feature can be set up in EVO to automatically lock Premiere Pro project files, allowing other users to open the same project in read-only mode, see who has project locks in place, as well as send messages to users to request projects be unlocked. When projects are on an EVO project sharing workspace, they can dynamically move between users, eliminating duplicate versions stored locally across multiple client computers. You can also apply this protection to After Effects CC, Photoshop CC, and define your own file types for other applications you are using.

As of Fall 2017, Adobe Premiere Pro CC enables project locking within the application. In these versions, you can choose to use EVO project locking, which will indicate the read/write status of a project within ShareBrowser and Finder/Explorer, or the native Premiere Pro project locking, which will not show read/write status from ShareBrowser or Finder/Explorer.

▶ Assets	Today, 2:36 PM	--	Folder
▶ Audio	Today, 2:28 PM	--	Folder
▶ Footage	Today, 2:31 PM	--	Folder
▼ ProjectFiles	Today, 2:31 PM	--	Folder
▶ AfterEffects	Today, 2:31 PM	--	Folder
▶ Audition	Today, 2:31 PM	--	Folder
▼ Premiere	Today, 4:38 PM	--	Folder
▶ Adobe Premiere Pro Auto-Save	Today, 4:33 PM	--	Folder
▶ DemoProject.prproj	Today, 3:24 PM	28 KB	Adobe...Project
▶ ProductionDocs	Today, 2:31 PM	--	Folder
▶ Renders	Today, 2:29 PM	--	Folder

Using EVO project locking, you can see the lock status from within ShareBrowser, or even from within Finder/Explorer (above.)

If you choose to use the native Premiere Pro project locking instead of EVO's project locking mode for your other files, just remove .prproj from your EVO project locking settings, or set up your EVO share as "unlocked." Using "unlocked" shares will not enable EVO's project locking feature.



Project locking can be configured to automatically lock files by extension, like .prproj, .aep, and .psd.



Using SNS EVO with Adobe Premiere Pro CC

Setting up your EVO Shared Storage Environment

Configuring your workstations

For optimal performance, your workstations should meet all system requirements for your production software, have no unnecessary software installed, and maintain consistent software versions on each machine in the environment. A single protocol (SMB or AFP) should be chosen for the network shares, however, if the environment includes a mix of Mac and Windows machines, SMB should be used.

Configuring your storage

EVO systems are extensively tested with Adobe Premiere Pro and come configured with optimal settings for the majority of workflows, and these settings should not be changed unless instructed by SNS support. However, when configuring your storage and your client machines for exceptionally high-throughput workflows with Adobe Premiere Pro and EVO, there are still a few things to keep in mind:

Ensure System Clocks Match

Timestamps are important for sharing network storage. EVO can be set to synchronize with a network time provider by entering the DNS and NTP address for a time server. EVO can also act as a time server for your workstations, so their clocks can be synchronized even without internet access.

Segregate your Network

If you have a 10Gigabit Ethernet or greater link to EVO, and you have EVO connected to the local network, you want to make sure you're using the fastest link. To do this, use separate subnets between the local network and your EVO network, and configure the workstation network connections to point to EVO over the fastest network. The dedicated adapter used to connect to the EVO should be the first in the service order.

Set the Maximum Transmission Unit (MTU)

There are a few settings to enable on both EVO and the host workstation to ensure the best performance with 10Gb or higher Ethernet. First, the maximum transmission unit (MTU) of all ports in the connection path (EVO, workstation, switch) need to be set to the same value. We recommend that you use the EVO default MTU of 9000 (for 10GbE or higher).

Cabling and Transceivers

In addition to making sure your network card is configured correctly and that your MTU is the same value across machines, it is essential to make sure that your network hardware supports the required bandwidth of the network infrastructure. If using optical interfaces, ensure the transceivers are approved by the network adapter manufacturer. Currently, we recommend Category 6A (CAT6A) or duplex fiber optic cabling be used for all 10Gb network purposes. If you're using 25Gb or 50Gb Ethernet contact us for our latest recommendations.



Using SNS EVO with Adobe Premiere Pro CC

Mounting a Volume for use with Adobe Products

When mounting an EVO share on Mac or Windows, it's recommended to use ShareBrowser. However, standard OS mounting procedures will work just as well (Connect to Server on macOS and Mapping a drive letter on Windows.)

EVO Performance

We determine EVO stream counts through extensive testing, in environments that recreate the way you would interact with shared storage in your daily workflow. We test numerous combinations of network protocols, workstation hardware, NLE versions, clip sizes, and even the physical placement of the data on the hard drives.

With an eight-disk (HDD) RAID5 system you can expect the following real-world performance with these commonly used codecs:

Codec	Streams (HDD)
Avid DNxHD 36 1080p @ 23.97	84
ProRes 422 (145) @ 29.97	35
ProRes 422 HQ (220) @ 29.97	28
ProRes 422 HQ 4K (720) @ 23.98	11
ProRes 4444 4K @ 23.98	7
Uncompressed 10 Bit HD @ 29.97	5
RED 6K 5:1 WS @ 23.98	4
ProRes 4444 4K @ 29.97	4

With an eight-disk (SSD) RAID5 system you can expect the following real-world performance with these commonly used codecs:

Codec	Streams (SSD)
ProRes 4444 4K @ 23.98	15
Uncompressed 10 Bit HD @ 29.97	12
ProRes 4444 4K @ 29.97	12
16-bit 4K DPX @ 23.97 (~1.3GB/s)	2 (1 per workstation)
16-bit 4K DPX @ 29.97 (~1.6GB/s)	1

The results above were gathered using a file system that was at least 75% full in all cases, using a mix of Mac and Windows workstations

EVO Performance

Optimizing your Premiere Pro Project Settings

We recommend using Adobe’s suggested Premiere Pro Project Settings to enable optimal performance with EVO shared storage. This includes setting scratch disks and the media cache for projects and templates to local storage. In some cases, video preview settings, rendering options, and playback settings can be adjusted for improved client-side performance. And in larger projects, like those found in feature films/TV, implementing an online/offline workflow with compressed codecs can help improve performance as well.

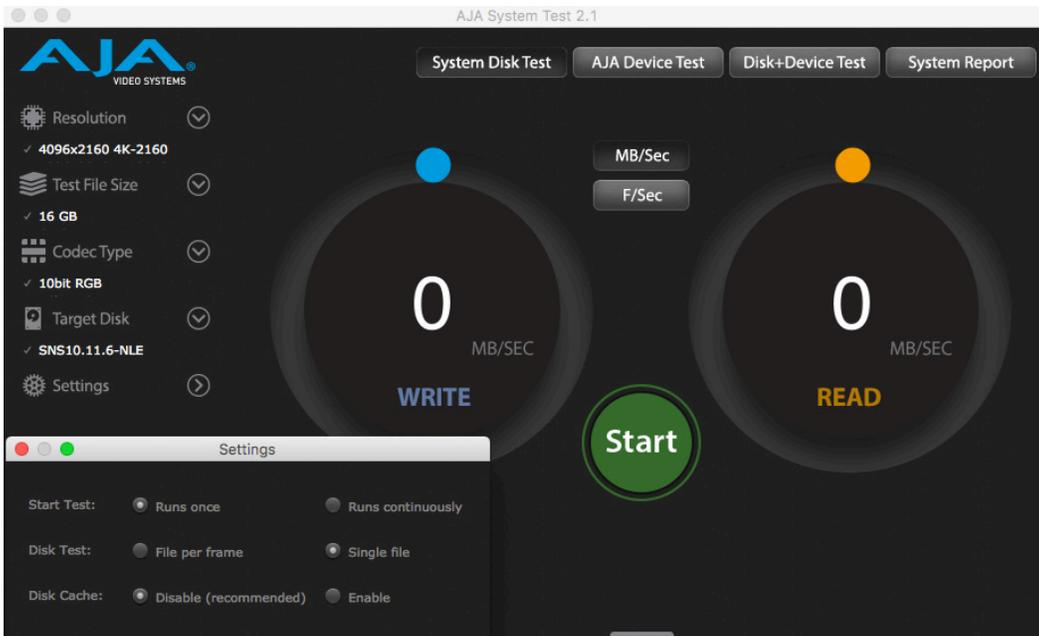
Workstation Benchmark Tools

Throughput numbers from client-side benchmarking tools only reflect the results of a single workstation writing to or reading from the EVO system, and are not indicative of the total throughput and speed an EVO is capable of delivering to multiple users.

For client-side testing, we recommend the AJA System Test, a user-friendly tool we have found to provide consistent results across different file-sharing protocols and operating systems. To use AJA System Test to exercise a high level of throughput, we recommend setting the video frame size to “4096x2160 10-bit RGB” and using a minimum file size of 16 GB.

These settings in the utility will not necessarily push the EVO or your workstations as much as possible, but we recommend them as a standard for comparison purposes.

A typical setup and test session of AJA should look something like this:





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EVO Self Test Tools

EVO includes a self-test suite, which can help to check that major components of the system are functioning as expected. These tools are generally used in troubleshooting cases, and are particularly useful in helping to identify whether a particular problem exists within EVO or if the problem lies outside EVO.

You'll find the Self Test Tools page in the Troubleshooting section of the EVO interface.

Network port tests

EVO's network ports can be placed into loopback tests. Once the test completes, ensure pop-ups are allowed in your browser and click the "Last test result" link to view the stats. If you are using a network switch, we advise running this tool in different configurations to A/B test the differences between using a switch (i.e., looping through it) and bypassing the switch.

Running...

Sender interface:	eth1 (192.168.2.25 / 00:e0:81:e5:18:81)
Receiver interface:	eth3 (192.168.4.25 / 00:e0:81:e5:18:83)
Length of test:	30 seconds

[Last test result](#)

Drive tests

Individual shares can be tested in a way that is completely isolated to the EVO unit itself, meaning, no workstation or other computer is required to generate IO for the test load.

Troubleshooting and Support

If a functional or performance problem is observed, try to isolate the symptom by determining if the issue is present on a specific machine, network share, or when any particular action is performed. Make a note of the feedback and the time it occurs, and if possible, create a repeatable test with consistent results.

Please refer to our Knowledge Base and/or contact us using the Support page at studionetworksolutions.com/support. Providing details about the environment and the steps taken to produce the issue when opening a support case can speed up the resolution.

We want to make sure you get the very most out of your EVO and are happy to help troubleshoot and optimize your environment.