# Application Note

Adobe Premiere Pro

4K/5K Video Editing with

**PegasusPro R16**

# Contents

# 1. Scope

This document highlights the high-performance of PROM-ISE PegasusPro R16. The PegasusPro Series supports digital collaborative editing of 4K/5K video formats using Adobe Premiere Pro editing over 10G Ethernet. The PegasusPro Series enables multiple editors to move video footage and other production assets to and from the PegasusPro Thunderbolt™ 3 Direct Attached Storage (DAS) volume to a Network Attached Storage (NAS) volume, and supports simultaneous playback and editing of 4K/5K video without frame drop. Additionally, a separate Pegasus3 or Pegasus32 system can be directly attached to the PegasusPro R16 via Thunderbolt™ 3 as a separate volume available to the host administrator.

PegasusPro R16 includes the famous PROMISE hardware RAID to protect your digital assets in the event of a hard drive failure.
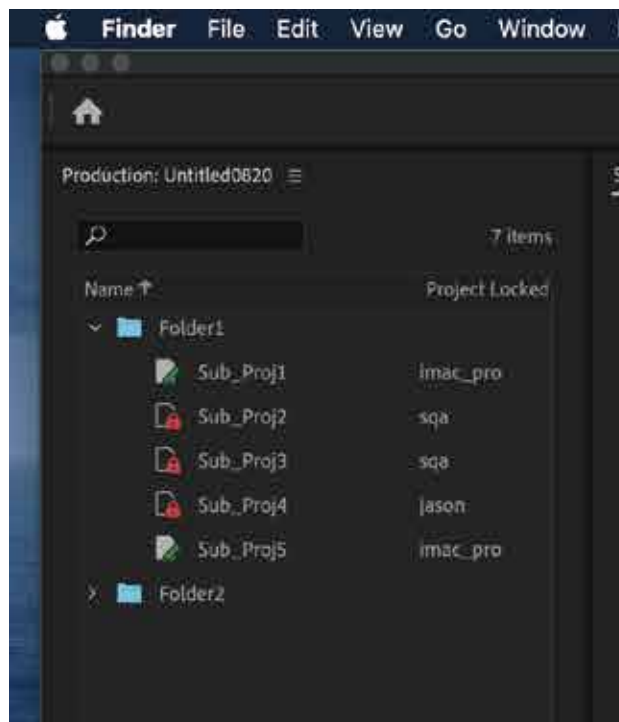


# 2. Executive Summary

The PROMISE PegasusPro Series features FileBoost, a proprietary breakthrough technology that facilitates high performance DAS-to-NAS and NAS-to-DAS file transfer.  Upon loading the needed video assets, the user can edit ingested data from 4K/5K cameras.

PROMISE hardware RAID technology with HDD or SSD in the 16-drive PegasusPro R16. The combined performance boost reduces time required for all participants, representing a vast improvement in post-production workflow for collaborate editing of multiple streams in ProRes 422 (HQ) and ProRes 4444 XQ video using Adobe Premiere Pro Productions.



FILE BOOST
The hidden force.
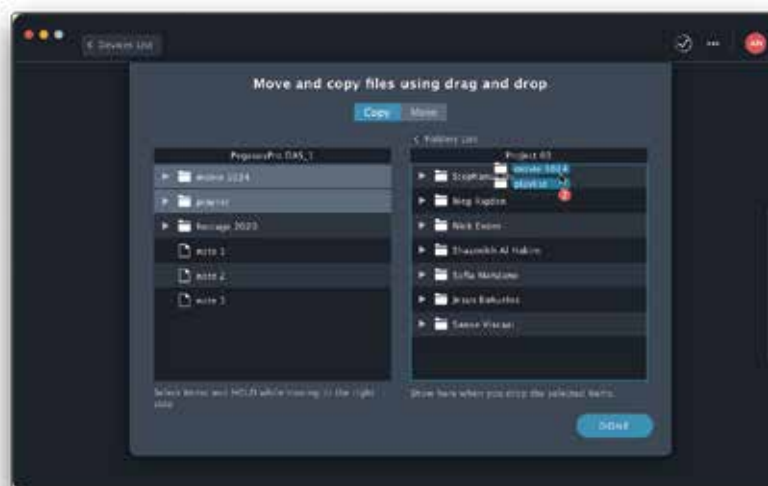
# 3.Use Scenario

• The data presented was created with a Mac OS X platform connected to  PegasusPro R16 in Device Mode using Adobe Premiere Pro Productions.

• This test cycle compares PegasusPro performance equipped with 3.5" HDD in an A/V environment application. Multiple-stream playback, editing, with video/audio overlay were applied in this test.

• A/V Streaming Passing Criteria is set to reasonable frame drop on 5120 x 2700 30 FPS, 3840 x 2160 30 FPS video format for ~1 hour streaming with multiple Mac clients playback and editing over a 10G network.

## 3.1Configuration and Topology



WD 18TB HDD inside

| Network | 1Gb |
| Network | 10Gb |
| THUNDERBOLT. | 40Gb |
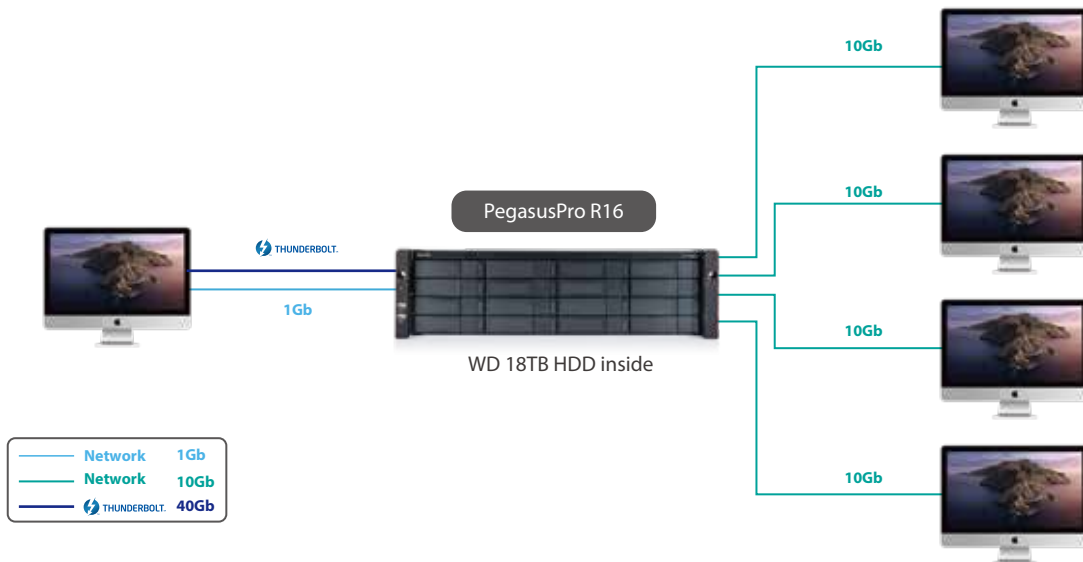
System configuration on Mac Platform:

| Platform OS | Mac OSX 10.15.6 |
|---|---|
| Platform Spec | New Mac Pro(2019)<br>CPU: 3.5G 8 core Intel Xeon W<br>Memory: DDR4 32GB<br>GPU: AMD Radeon Pro Vega II Duo 32GB |
| Application SW | Adobe Premiere Pro 2020 (14.3.1) |
| Storage Spec | PegasusPro R16 |
| Storage Configuration | WD 18TB HDD * 16 → Build RAID 5<br>(Using default Stripe/Sector size) |
| Video Format | 3840 x 2160, 30 FPS, ProRes 4444 XQ<br>5120 x 2700, 30 FPS, ProRes 4444 XQ |
| Interface Type | 10G Base-T Networking (with Cat6e Cable) |
| PROMISE Product | PegasusPro R16<br>CPU: Intel® Core™ i7-8700 CPU@ 3.20GHz<br>RAM: 64GB (16GB * 4) |

## 3.2 Test Procedure Summary

**To prepare for multiple users collaborative editing, all video footage and audio transferred to NAS volume.**

**1** **Create a Premiere Production plus several sub-projects:**
Select and open a new production and requisite files to import.

**2** **Operate multiple clients to open the same Production:**
Select sub-projects and import footage and add into Sequence.

**3** **Adjust the "Zoom Level" and "Playback Resolution":**
Set "Zoom Level" as 50% and "Playback Resolution" as 1/2 in each client.

**4** **Enable "Frame Drop indicator" in playback window:**
This indicates any frame drops that occur during playback testing.

**5** **Start playback in each client:**
Click "Start" button in each client, and playback for 1 hour.

**Adobe Premiere Pro**

# 4. Test Results and Conclusion

**PegasusPro Device Mode + Adobe Premiere Pro via 10G Network:**

| A. Up to 5 Hosts for 4K(3840 x 2160) editing on PegasusPro R16 HDD SKU + Adobe Premiere Pro | | | | | | | |
|---|---|---|---|---|---|---|---|
| PegasusPro R16 (HDD, RAID5) | | | | | | | |
| Resolution | Codec | Frame Rate | Data Rate | Zoom Level | Playback Resolution | # of Hosts Editing & Previewing | Result for playback 1 hour |
| 3840 x 2160 | ProRes 4444 XQ | 30FPS | 1.7 Gb/s | 50% | 1/2 | 4 | No Frame Drop |
| 3840 x 2160 | ProRes 4444 XQ | 30FPS | 1.7 Gb/s | 50% | 1/2 | 5 | 1000~1200 Frame Drop |

| B. Up to 3 Hosts for 5K(5120 x 2700) editing on PegasusPro R16 HDD SKU + Adobe Premiere Pro | | | | | | | |
|---|---|---|---|---|---|---|---|
| PegasusPro R16 (HDD, RAID5) | | | | | | | |
| Resolution | Codec | Frame Rate | Data Rate | Zoom Level | Playback Resolution | # of Hosts Editing & Previewing | Result for playback 1 hour |
| 5120 x 2700 | ProRes 4444 XQ | 30FPS | 2.2 Gb/s | 50% | 1/2 | 2 | No Frame Drop |
| 5120 x 2700 | ProRes 4444 XQ | 30FPS | 2.2 Gb/s | 50% | 1/2 | 3 | 1000~1200 Frame Drop |

# 5. Conclusion

The PegasusPro Series R16 performs extremely well with no frame drop for the lower number of hosts tested, and acceptable frame drop for the higher number of hosts in the tests. DAS/NAS high performance editing and sharing is made possible using proprietary technology created by industry leader PROMISE Technology. To help make collaborate editing more effectively. FileBoost technology, exclusive to the PegasusPro Series, enables high performance post production workflow with multiple editors over NAS. Users quickly ingest footage and share with other editors and production staff.

With Thunderbolt™3 and 10G Network ports, uploading and sharing high resolution video is extremely fast. PegasusPro Series models are ideal for filmmakers, photographers, graphic designers and other multimedia professionals, especially on set – where speed and efficiency are crucial.

# 6.Product Specifications

| | PegasusPro R16 | PegasusPro R8 | PegasusPro G1 |
|---|---|---|---|
| Model | | | |
| Form Factor | Rackmount | Tower | Tower |
| CPU | Intel CPU i5-8500.3.0 GHz. 9MB Cache.65W.6 Cores Intel CPU i7-8700. 3.2GHz. 12MB Cache.65W 6 Cores | Intel CPU i5-8500.3.0 GHz. 9MB Cache.65W.6 Cores Intel CPU i7-8700. 3.2GHz. 12MB Cache.65W 6 Cores | Intel CPU i5-8500. 3.0 GHz. 9MB Cache.65W.6 Cores. |
| Memory | 32 GB UDIMM DDR4 ECC (4 x 8GB)Up to 128GB | 16 GB UDIMM DDR4 ECC (2 x 8GB)Up to 64GB | 8 GB UDIMM DDR4 ECC  Up to 32GB |
| Memory Slot | 4 x Long-DIMM DDR4, Best performance with 4 DIMM used | 2 x Long-DIMM DDR4 | 2 x Long-DIMM DDR4 |
| Drive Bays | 16 x 3.5-inch(Up to 112 Drives with JBOD Expansion) | 8 x 3.5-inch | N/A |
| Drive Support | 3.5" & 2.5" ( SAS 12Gb/s; SATA 6Gb/s) HDD/SSD | 3.5" & 2.5" SATA 6Gb/s  HDD/SSD | N/A |
| Hot Swap | Yes | Yes | N/A |
| RAID Level | RAID 0, 1, 5, 6, 10, 50, 60 | RAID 0, 1, 5, 6 | N/A |
| **Interface** | | | |
| Thunderbolt Port | Yes | Yes | Yes |
| Gigabit (RJ45) | 2 | 2 | 2 |
| LAN Port | 4 port 10GbE SFP/Base-T, Max to 4 port 25GbE SFP | 4 port 10GbE SFP/Base-T, Max to 4 port 25GbE SFP | 4 port 10GbE SFP/Base-T, Max to 4 port 25GbE SFP |
| USB Port | USB2.0*2 (Front) / USB3.2*4(Back) | USB2.0*2  & USB3.2*4 | USB2.0*2  & USB3.2*4 |
| Graphic Port | HDMI*1; VGA*1 | HDMI*1; VGA*1 | HDMI*1; VGA*1 |
| Serial Port | Yes | N/A | N/A |
| **System** | | | |
| LED Indicator | Front Panel: Power Status, System status, Global RAID status, Global HDD activity, System Heartbeat Drive carrier: Status and activity | System status and Thunderbolt Target Link | System status and Thunderbolt Target Link |
| Power Button | Yes | Yes | Yes |
| Dimension(H x W x D) | 131mm x  447 mm x 503mm | 310 mm x 187 mm x 245 mm | 130 mm x 185 mm x 245 mm |
| Weight | 16kg (Empty chassis) | 7.2kg (Empty chassis) | 3.4kg |
| Temperature Range | Operating5° ~ 40℃ ( non-operating：-40° ~ 60℃) | Operating5° ~ 35℃ ( non-operating ：-40° ~ 60℃) | Operating5° ~ 35℃ ( non-operating ：-40° ~ 60℃) |
| Acoustic Noise Levels | 39.7db | 35.7db | N/A |
| AC Input | (550W*1) 100 ~ 240V AC, 60 ~ 50Hz | (350W*1)100 ~ 240V AC, 60 ~ 50Hz | (350W*1)100 ~ 240V AC, 60 ~ 50Hz |
| Fan | System fan: 4500RPM.12V | System fan: 2700RPM.12V | System fan: 4500RPM.12V |
| PCIe Slot | 2 | 2 | 3 |
| SAS 12G HBA for JBOD Expansion | Optional | N/A | N/A |
| System Warning | Buzzer | Buzzer | Buzzer |
| Warranty and Support | 3 years | 3 years | 3 years |

# PROMISE
## TECHNOLOGY

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