



ATTO SAS THUNDERLINK® ADAPTERS

- SH 3128:
Thunderbolt 3 to dual port
12Gb SAS

ATTO ETHERNET THUNDERLINK® ADAPTERS

- NS 3102:
Thunderbolt 3 to dual port
10Gb Ethernet
- NS 3101:
Thunderbolt 3 to single port
10Gb Ethernet
- NS 2102:
Thunderbolt 2 to dual port
10Gb Ethernet
- NS 2101:
Thunderbolt 2 to single port
10Gb Ethernet

BENEFITS:

- vSan Clusters with all flash arrays provide low latency performance
- Using Mac Pro for vSAN creates a purposeful platform for devOps or web development
- ThunderLink is an enabling I/O connectivity option

ABOUT ATTO:

ATTO Technology, Inc. has been developing high performance, low latency storage connectivity solutions for 30 years.



Using Thunderbolt™ for VMware vSAN™ Connectivity

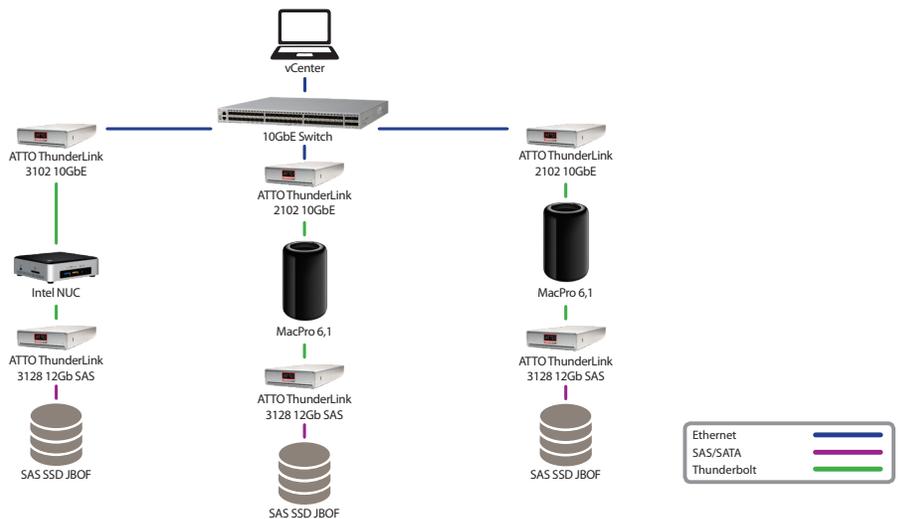
APPLE MAC PRO® AND THUNDERBOLT ENABLED MICRO SERVERS PROVIDE NEW OPTIONS FOR vSAN CLUSTERS

Opportunities to benefit from virtualized environments come in many forms. When it comes to DIY for Hyper-Converged infrastructure VMware is a market leader for their vSAN software*. The benefits to the user environment in terms of flexibility, scalability and agility are quickly leveraged by the use of industry standard hardware. This makes vSAN a compelling use case when it comes to hybrid cloud, remote workgroups and disaster recovery. It doesn't stop there.

When one considers the use of industry standard hardware and the benefits of the vSAN cluster solution, there is little to stand in the way of advantages of the Mac Pro or alternative micro servers that use an external Thunderbolt port as I/O transport in favor of the traditional PCIe slots. Thunderbolt technology offers high throughput (20-40 Gb/s) to peripheral devices. This high performance, low latency connectivity is a great complement to the flash storage that is part of the vSAN environment. Thunderbolt is PCIe I/O, easily managed and connected externally through adapters like ATTO ThunderLink® for block storage or network connectivity.

ATTO ThunderLink adapters fit the bill for building a vSAN cluster with Thunderbolt enabled platforms. They combine high performance connectivity in a small footprint solution with low power consumption. ThunderLink adapters combined with an ATTO provided VMware ESXi driver, provide the capability for the Thunderbolt port in a vSAN environment to provision and manage compute resources' connectivity to SAS JBOD or JBOF storage. ThunderLink adapters with Gigabit Ethernet connectivity provide a low latency interface for the cluster access to network resources.

With VMware certified ESXi drivers and tools, ATTO offers a comprehensive suite of connectivity products to meet the needs of users who select VMware as a platform service for their application development, testing and deployment, collaboration with remote locations, or for gaining efficiencies for IT resource management. Look to ATTO to provide the widest breadth of Thunderbolt to storage protocol and network connectivity solutions that are available in the market.



* <https://blogs.vmware.com/virtualblocks/2018/02/07/vmware-debuts-as-a-leader-in-gartner-magic-quadrant-for-hyperconverged-infrastructure-hci/>



ATTO THUNDERLINK® ADAPTERS



- FC 2162:
Thunderbolt 2 to dual port
16Gb Fibre Channel



- FC 2082:
Thunderbolt 2 to dual port
8Gb Fibre Channel

"Thunderbolt enabled VMware ESXi by ATTO with the ThunderLink product line allowed us to create a vSphere setup based on Mac to be able to provide virtualization services for our macOS Servers. Mixing virtual hardware, snapshots and Veeam backup with the simplicity of macOS server is a game changer for the SMB market."

Yoann Gini
Founder, Abelianni
Security and Systems Architect
Specializing in IT solutions for Apple

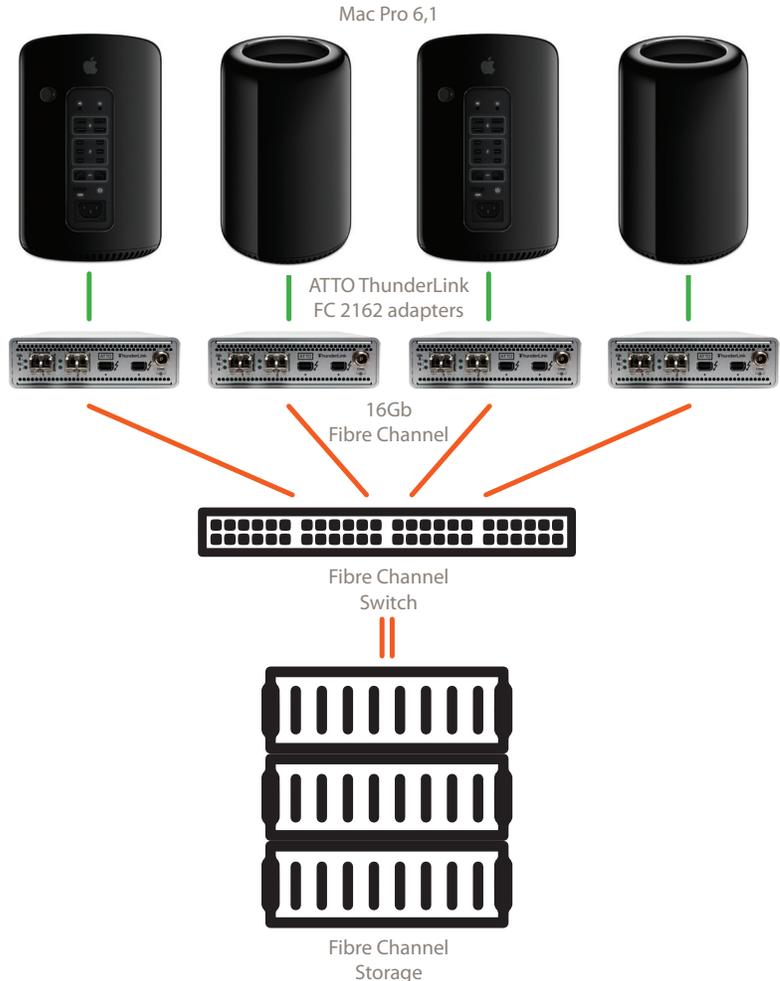


Certified solution through VMware VCG:

To view the listing visit: <https://www.vmware.com/resources/compatibility/search.php?deviceCategory=io>

Apple Mac Pro® and Thunderbolt™ Enabled Micro Servers in vSphere Environments

Using ATTO ThunderLink Thunderbolt enabled ESXi driver with vSphere Essentials or Essentials Plus combined with Mac Pro® Server Platforms allows for streamlined connectivity to external Fibre Channel or SAS storage in a fully supported VCG environment



Now virtualize your Mac Pro hosts with ESXi and use ATTO ThunderLink® Thunderbolt™ adapters to efficiently connect to Fibre Channel storage by using an ATTO VMware Ready™ VCG approved ESXi driver. ATTO ThunderLink Thunderbolt enabled Fibre Channel adapters are designed as purpose built devices. With a smaller footprint, and less power required, you achieve the same throughput with a singular device compared to other Thunderbolt enabled solutions.

Application Development, VDI, Cloud hosting or Shared private clouds are just a handful of use cases. ThunderLink devices can easily fit in to new or existing vSphere environments.