



## Manage storage as building blocks – it's a breeze to add capacity as you need it!

Data storage requirements are increasing exponentially over time. Wide adoption of private cloud, big data, data analytics, and business intelligence – all drive demand for more and more data which needs to be stored and securely protected from losses. Ceph offers the advantages of data reliability, resilience and redundancy with the ability to instantly scale capacity on the fly by adding storage nodes software configuring instantly.

Data storage solutions don't have to be a headache! Traditional NAS and SAN solutions have astonishing costs when increasing storage capacity. This often requires substantial re-investment in both software and hardware. The building block approach of **Cephalino** offered by WPG America is one solution to your budget constraints – with manageable incremental cost and lowest risks – allowing you to grow your storage capacity as your data grows.

**WPG Americas, Micron and Leadman Electronics USA** have partnered together to offer users options where extreme fast storage systems may not be required and where higher investments cannot be justified. **Cephalino** uses Micron Memory and SSD products to offer “just-right” performance and a comparatively cost-effective solution that can be scaled up as storage requirements increase as well as for customers who would like to experiment, explore, experience, migrate, expand their IT systems' data to cost-performance optimized Ceph cluster.

**Cephalino** is a turn-key product inspired by Micron Accelerated Ceph Storage Solutions. The principle of **Cephalino** is to build turnkey building blocks for general use within your IT systems, leveraging commercial-off-the-shelf hardware as the baremetal and open-source Ceph to become a flexible and scalable turnkey storage system. We believe such solution can benefit majority IT systems in a more dynamic way which results high flexibility on expanding your storage needs on-demand.

## Key Features

### Scalable storage on-demand with Cephalino

Ceph is a distributed storage system providing block, object, and file level storage, designed for excellent reliability and ultra-scalability from terabytes to exabytes. This industry-leading Micron Accelerated Solution builds on open-source software and tightly integrates compute, networking and optimized solid state storage into a highly scalable platform, and delivers storage at the blazing speed of enterprise flash.

### Start Storage blocks from Cephalino

Cephalino is a Micron Accelerated Ceph Storage Solution which is available as a turnkey platform with fast, factory-direct shipment. As your storage needs grow, you can add Cephalino nodes that scale both storage performance and storage capacity with your data — keeping costs low and performance high.

### Easier Deployment use Cephalino

As turnkey platforms, Micron Accelerated Ceph Storage Solutions free your IT teams to focus on high-value tasks like rapid deployment, faster time to value and improving your bottom line.

### All-Flash Cephalino

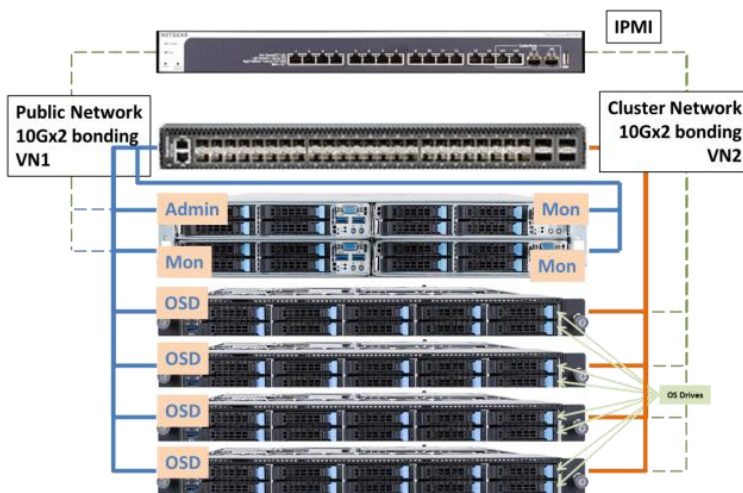
Our Micron Accelerated solutions utilize economical enterprise-grade SATA SSDs and design expertise to deliver performance and capabilities far beyond SSD journals and legacy “back-end” storage (spinning rust). Performance-engineered, fully integrated, tuned and tested. Scalable reliable storage without breaking your budget.

The **Cephalino** system consists of 1 Administrator node, 3 Ceph Monitor nodes, and 4 Ceph Object Storage Device (OSD) nodes, with a 10G network switch to bond a 10Gbps network pipe and 1 IPMI network switch in total of 8U of rack space. This allows installation of Cephalino in a 25U rack with PDU (½ rack) with plenty of space for capacity expansion.

## Cephalino Performance

4K Block Size (Random)			
	IOPS	Throughput	Latency
<b>Write</b>	50K	202 MB/s	2.1 ms
<b>Read</b>	412K	1,651 MB/s	0.8 ms

64K Block Size (Sequential)			
	IOPS	Throughput	Latency
<b>Write</b>	19.7K	1,266 MB/s	7.3 ms
<b>Read</b>	153K	9,799 MB/s	4.6 ms



Description	Quantity	Vendor	Details
<b>Cephalino</b>	<b>1</b>	<b>WPG Americas</b>	<b>MERC10 – Cephalino 25U ½ rack Ceph storage solution</b>
<b>Admin node</b>	<b>1</b>	<b>WPG Americas</b>	<b>Cephalino Admin node</b>
CPU	1	Intel	E5-2620 v4, 2.1Ghz 8 core
Memory	2	Micron	16GB DDR4-2400 ECC RDIMM
SSD	2	Micron	M510DC SSD Series 120GB (RAID 1 mirror)
LAN	1	-	2 port 10GbE
<b>Monitor node</b>	<b>3</b>	<b>WPG Americas</b>	<b>Cephalino Monitor node</b>
CPU	2	Intel	E5-2620 v4, 2.1Ghz, 8 core
Memory	4	Micron	16GB DDR4-2400 ECC RDIMM
SSD	2	Micron	M510DC SSD Series 120GB (RAID 1 mirror)
LAN	1	-	2 port 10GbE
<b>OSD node</b>	<b>4</b>	<b>WPG Americas</b>	<b>Cephalino OSD (Storage node)</b>
CPU	2	Intel	E5-2690 v4, 2.6Ghz, 14 core
Memory	16	Micron	16GB DDR4-2400 ECC RDIMM
SSD	2	Micron	M510DC SSD Series 120GB (RAID 1 mirror)
	8	Micron	M510DC SSD Series 950GB (JBOD)
Controller	1	Avago	LSISAS Controller w/CacheVault
LAN	2	-	2 port 10GbE
<b>Other</b>			
10G Switch	1	-	Public and Cluster Network Switch – 32 port 10GbE w/VLAN
1G Switch	1	-	IPMI Network Switch – 16 port 1GbE
LAN Cables	-	-	Associated cables

## How to buy: please contact WPG Americas directly

Floyd Goodrich, 503-702-8825  
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