



Ahead-IT.eu Supermicro DIS224A Metro Cluster



Ahead-IT offers out-of-the-box preconfigured turn-key high availability storage solutions with integrated backup and disaster recovery. Their solutions are ideal for hosting users' critical virtual servers and NFS/SMB/iSCSI/FC shares, requiring the highest performance, IOPS and low latency.

Their Supermicro DIS224A Metro Cluster combined with the ZFS- and Linux-based

Open-E JovianDSS data storage software is a full flash High Availability Metro Cluster solution that offers ultra-low latency, which is of extreme importance for environments demanding highest performance. For instance, disk mirroring or data replication, as well as cloud connections between multiple locations greatly benefit from low latency connections.

- › Enhanced storage performance
- › Optimal resource utilization
- › Flexible scalability
- › Optimized for Private Cloud
- › High Availability
- › Data compression
- › Tiered RAM and SSD Cache
- › Thin, thick and over-provisioning

Ultra-Low Latency Full Flash Metro Cluster



Enhanced storage performance

Nowadays, enterprise storage has to provide big capacity while also being fast, affordable and include reliable support. This is exactly what Supermicro DIS224A Metro Cluster has to offer. It is an innovative hybrid storage system combining the capacity of HDDs with the performance of SSDs in a single solution that offers high performance while lowering cost. Additionally, by leveraging capacity optimization technologies and advanced tiered SSD and RAM caching, Supermicro DIS224A Metro Cluster provides an overall efficiency boost and increased cache performance. On top of that, powerful tuning tools allow the system to optimize on I/O heavy databases or high throughput video editing equally well.

Optimal resource utilization

The Supermicro DIS224A Metro Cluster fully utilizes your storage resources thanks to many high-end features included in Open-E JovianDSS. These features are especially crucial when deploying virtual environments. With deduplication and compression you are able to virtually increase your storage size and use thin provisioning to easily grow physical storage capacity without downtime. More efficient use of disk space also allows for longer disk retention periods. Tiered caching will allow reaching high performance values from all disks which can be managed and monitored in Supermicro DIS224A Metro Cluster. This solution fully leverages hybrid storage, combining high performance and high capacity at an affordable price.

Flexible scalability

The Supermicro DIS224A Metro Cluster will let you experience unlimited flexibility and minimize unappreciated downtime. Open-E JovianDSS uses a 128-bit file system that includes unlimited snapshots for easy backup, unlimited clones for easy duplication, unlimited capacity with volume sizes up to one Zetabyte, as well as unlimited amount of disks which can be increased on the fly without effort by using thin provisioning. There are no limitations and you may easily control the total cost of ownership and expand your storage infrastructure as data grows.

Optimized for Private Cloud

A private cloud combines flexibility and scalability of a public cloud with the isolation and security required by many large organizations, since the storage system is located at your desired location. It is an ideal solution for service providers (MSPs), independent software vendors (ISVs), and resellers that manage resources for their end users. With Supermicro DIS224A Metro Cluster you get to design your own redundant environments and can easily distribute access to resources across various teams in your organization. It is a very secure solution that gives you total control over your data and allows you to grow as your company grows.

Active-active failover resource switching time test results

Total number of targets	Switching time [seconds]	Performance test results [passed/failed]
2	22	Passed
10	27	Passed
20	28	Passed

High Availability solution functionality test results

Functionality test name	Functionality test results [passed/failed]
Manual Failover	Passed
Automatic Failover triggering after network failure	Passed
Automatic Failover triggering after shutdown test	Passed
Automatic Failover triggering after reboot test	Passed
Automatic Failover triggering after power-off	Passed
Automatic Failover triggering after I/O test	Passed

High Availability, low latency and high performance

High Availability

The Supermicro DIS224A Metro Cluster is a perfect option if you are looking to deploy a High Availability cluster setup with SMB, NFS or iSCSI for storing business-critical data. The Supermicro DIS224A Metro Cluster ensures reliability and redundancy through failover in case of a failure. By using the cluster management software, all features related to the cluster setup can be quickly accessed and maintained - everything is in one place and guarantees ease of use for the storage administrator. Moreover, Open-E JovianDSS includes an independent Virtual IP (VIP) addresses feature. With this, VIPs can be used by multiple servers and flexibly switched at all times. When a hardware failure is detected, VIPs are automatically moved from the primary to the secondary node without the client servers noticing a timeout.

Thin, thick and over-provisioning

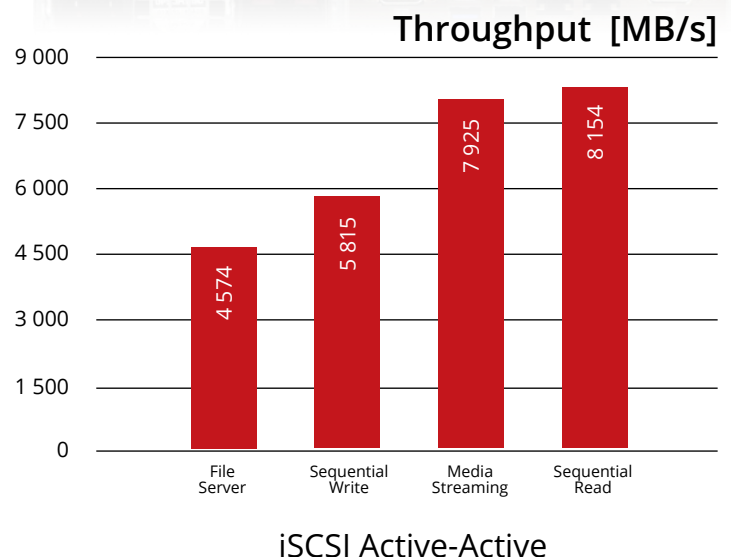
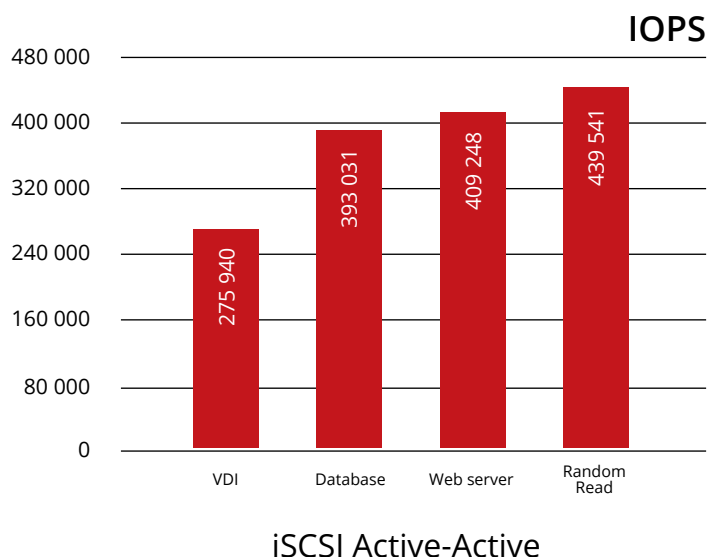
The Supermicro DIS224A Metro Cluster uses thin provisioning to improve your storage utilization by allocating an exact amount of storage space at the required time. You'll eliminate the cost of unused storage space and never again have to pre-allocate storage up front and buy too much hardware. There is no need for evaluating storage requirements and taking the risk of rebuilding the entire system when it runs out of space. With Supermicro DIS224A Metro Cluster it is easy to manage storage capacity and set notifications when physical space shrinks.

Tiered RAM and SSD Cache

Open-E JovianDSS-based Supermicro DIS224A Metro Cluster works as a tiered storage environment - dramatically speeding up access to frequently accessed files. It uses a caching algorithm to cache "often used" and "recently used" data separately, and provides the best performance for your storage by tiering hot data between RAM and SSD Cache. In Supermicro DIS224A Metro Cluster data is always saved on HDDs and only Hot Data is stored in RAM and SSD to ensure data safety and increase performance.

Data compression

The Open-E JovianDSS-based Supermicro DIS224A Metro Cluster offers data compression for minimizing your storage capacity usage. Smaller data blocks means that the system can read and write quicker, ultimately boosting performance and taking less space on your storage. In Supermicro DIS224A Metro Cluster you will find resource-friendly compression protocols (lz4) with low system resource utilization at medium compression rates, but also protocols that are able to achieve very high rates for archiving or backup (as gzip-9). Compression in combination with deduplication, virtualization or high availability solutions further reduce acquisition costs, power and cooling costs, and rack space throughout the system lifecycle.



Hardware details

For each of the 2 servers

	Default configuration	Options
Motherboard	Supermicro X11DPI-NT	-
CPU	2x Intel® Xeon® Silver 4116 CPU 2.10GHz	Upscale
RAM	8x 16GB Samsung M393A2G40DB0-CPB DDR4 ECC REG	Up to 2TB
Storage raw capacity	8TB	Up to 2PB
HDDs	20x 240GB SAMSUNG MZ7KM240MHQ-00005	Flexible
Read cache	2x 400GB Intel® DC P3600 Series	Flexible
Write log	2x 800GB Intel® DC P3700 Series	Flexible
Drive controller	1x LSI SAS 3008-8I Host Bus Adapter	Extra HD SAS external connection for JBOD expansion
Network interface	2x Intel® Ethernet Controller X540-AT2 1x Mellanox ConnectX®-4 Lx 25Gb/s 1x Mellanox ConnectX®-4 100Gb/s 1x Intel® Ethernet Controller X722 for 1GbE	Flexible
Form factor	2U	4U with 72 x 2.5"



About Ahead-IT

Ahead-IT is a supplier of outstanding virtualization, storage and server solutions. From our office in Wetteren - Belgium, we cater for regional, national as well as international customers. Private individuals, SMEs as well as large businesses rely on our expertise and know-how of reliable quality servers with service.

Partner Contact

Van Impe Philippe
Honderdweg 20
9230 Wetteren
Belgium

E-mail: sales@ahead-it.eu
Website: www.ahead-it.eu
Phone: +32 (0)9 365 30 20

About Open-E

Open-E, founded in 1998, is a well-established developer of IP-based storage management software. Its flagship product Open-E JovianDSS is a robust, award-winning storage application which offers excellent compatibility with industry standards, and is the easiest to use and manage. Additionally, it is of the most stable solutions on the market and undisputed price performance leader.

Thanks to its reputation, experience and business reliability, Open-E has become the technology partner of choice for industry-leading IT companies. Open-E accounts for over 30,000 installations world-wide and has received numerous industry awards and recognition, also with its product Open-E DSS V7.

For further information about Open-E, its products and partners, visit <http://www.open-e.com/>

About the Open-E JovianDSS Server Certification

Open-E JovianDSS delivers software-defined storage which results in a wide variety of different hardware requirements such as performance range, capacity capability, and connectivity. To ensure compatibility and robust storage environments, all selected partners offer storage systems which are tested, benchmarked and certified by Open-E. This way, customers are able to use solutions that require exceptional security and redundancy, without compromising performance.