



VGI MediaFort Pro 2U12 HA Cluster-in-a-Box

Visual Graphics Inc. (VGI) is a leading system integrator dedicated to helping Media and Entertainment (M&E) companies streamline and modernize their workflows. Certified by Open-E, the new VGI MediaFort Pro 2U12 Cluster-in-a-box system is built specifically to deliver high-availability data storage for mission-critical file services (SMB/NFS), large-scale data archiving, and long-term compliance retention. Additionally, it serves as a robust solution for enterprise backup repositories and disaster recovery across hybrid on-premises and cloud environments.

The VGI MediaFort Pro 2U12 system is built upon a strong collaboration between VGI, Open-E, and Seagate. VGI leverages its extensive domain expertise in professional video production to design purpose-built deployment topologies:

Capacity-Optimized Chassis: The system utilizes the cost-effective Seagate Exos AP 2U12 "Cluster-in-a-box" server enclosure. Built specifically for 3.5" HDDs, this form factor prioritizes raw physical volume and density to sustain massive scale-out storage pools comfortably.

Enterprise Software-Defined Storage: Pre-loaded with Open-E JovianDSS (a Linux and 128-bit ZFS-based storage solution), the system provides automated data self-healing, silent data corruption protection, and robust data integrity.

High Availability: Featuring redundant, hot-swappable dual-node server modules, the system eliminates single points of failure to guarantee continuous operation.

Recommended for:



**High-Capacity
Storage**



**Media &
Entertainment**



Archiving



**Backup &
Disaster Recovery**



File systems



With the **VGI MediaFort Pro 2U12 High Availability Cluster-in-a-Box** you can build:

- High-Availability Environment for Your Data
- High-capacity Data Storage System
- Reliable Backup System
- and More!

open-e 
JovianDSS

Check the VGI MediaFort Pro 2U12 HA CiB Performance Outlook & Optimization Guidelines

Because the Exos AP 2U12 chassis is built around a 12-bay 3.5" HDD layout, performance is characterized as moderate but highly consistent for sequential throughput. To maximize data ingestion speeds during large backup windows or archive migrations, VGI implements specific protocols and ZFS file system tuning:

Storage Pool Configuration (ZFS VDEV Trade-offs)

Primary System Recommendation: VGI recommends utilizing this specific server configuration primarily for capacity-centric workloads (such as backup repositories and data retention), where physical storage density is prioritized.

Hybrid Cache Configuration (Optional): For environments requiring performance acceleration, enterprise SAS SSDs can be integrated as dedicated read/write caches (SLOG/L2ARC). Note that utilizing these drives requires 2.5" to 3.5" adapters and reduces the available physical storage pool to 4 HDDs per node.

High-Performance Tier Alternative: If a project demands an all-flash, high-IOPS primary data storage tier for real-time collaborative editing or fast shared production, VGI provides alternative hardware solutions natively designed for high-density 2.5" SSD arrays (such as the Exos AP 2U24).

Efficient Data Storage Allocation

SMB Ingestion Tuning: Open-E recommends using the Open-E JovianDSS Special Update (SU), which features Samba 4.22 and IO optimization to vastly improve sequential write performance for inbound media backups.

SMB Multichannel vs. Bonding: Enterprise testing verifies that configuring SMB Multichannel across the dual 100GbE ports delivers vastly superior throughput and efficiency compared to standard Balance-ALB bonding topologies - particularly during heavy sequential read operations.

Hybrid Storage Context & Hardware Recommendations

RAIDZ1 (2x6 HDD VDEV Layout): Delivers significantly better operational read/write performance. Because ZFS distributes I/O across two separate virtual devices (vdevs), it effectively doubles parallelism. This layout tolerates one drive failure per vdev.

RAIDZ2 (1x12 HDD VDEV Layout): Strongly recommended by Open-E and VGI for production environments storing high value media assets. While sequential write speeds are lower due to a single reconstruction path, it offers enhanced security by tolerating any two concurrent drive failures.



Maximize your business's data storage protection and reliability with **VGI MediaFort Pro 2U12**. Contact us today to learn more and enhance your data storage capabilities!
Explore the solution now!

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	Passed
Automatic Failover triggering after reboot	Passed
Automatic Failover triggering after power-off	Passed

Active-active failover resource switching time test results

Total number of targets	Switching time [seconds]	Performance test results [passed/failed]
2	26/25	Passed
10	30/29	Passed
20	36/35	Passed

High-Capacity Solution for Secure Private Cloud Environments



High Availability with Cluster-in-a-Box Design

The **VGI MediaFort Pro 2U12** is the perfect choice if you are looking to deploy a high-availability cluster setup using NFS or SMB to store business-critical data. Powered by the Open-E JovianDSS High Availability Cluster Feature Pack, it ensures exceptional reliability and redundancy through automatic failover. The built-in cluster management software puts all your features in one place, making it incredibly easy for storage administrators to access and maintain the system. Additionally, Open-E JovianDSS includes an independent Virtual IP (VIP) address feature. This allows VIPs to be used by multiple servers and flexibly switched at any time. If a hardware failure is detected, VIPs automatically move from the primary to the secondary node, without your client servers ever experiencing a timeout.

Data Compression and In-Line Deduplication

The **VGI MediaFort Pro 2U12** features built-in data compression to minimize storage usage, boost performance, and save physical space. You can choose resource-friendly protocols like lz4, which offers medium compression rates with very low system overhead, or high-ratio protocols like gzip-9 for archiving and backups. Additionally, the in-line deduplication feature removes redundant data to further optimize your storage. The software scans each block for duplication; if it finds a match, it skips writing the new block and creates a pointer to the original instead. This process can achieve a deduplication ratio of 3:1 or higher, meaning 3TB of data would only occupy 1TB of physical disk space. This feature is especially beneficial for highly repetitive workloads like VDI, server virtualization, and backups, where deduplication ratios can be significantly higher.

Simplified High Availability with Cluster-in-a-Box Management

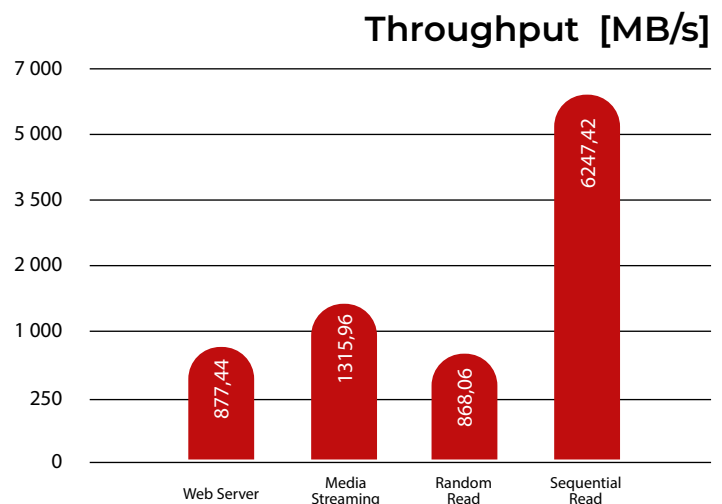
Powered by the Open-E JovianDSS High Availability Cluster Feature Pack, the **VGI MediaFort Pro 2U12** system ensures exceptional reliability and redundancy through automatic failover. If a hardware failure occurs, VIPs automatically move from the primary to the secondary node without your client servers ever experiencing a timeout. Managing these advanced features is simple and intuitive. The integrated web-based GUI provides a quick, centralized overview, letting you easily monitor and manage all of your storage resources and HA cluster settings from one place.

Optimized for Secure Private Cloud

The **VGI MediaFort Pro 2U12** is purpose-built to meet the rigorous demands of secure private cloud infrastructures. Designed for organizations that require complete control over their data, it combines airtight security protocols with high-performance architecture. This ensures that your sensitive workloads remain isolated, protected, and compliant with strict industry standards. With seamless integration capabilities, enterprise-grade encryption, and robust access controls, the system delivers the agility of the cloud without compromising on security. It is the ideal foundation for businesses looking to scale their private cloud environment while maintaining maximum data privacy and operational resilience.

Advanced Data Protection

Your data is fully secured and resilient with the **VGI MediaFort Pro 2U12**, thanks to multiple layers of protection powered by Open-E JovianDSS. To ensure continuous data integrity, the system runs automatic and scheduled checks that instantly detect and correct errors. Meanwhile, a sophisticated self-healing mechanism addresses corrupted data to maintain total redundancy. For flexible backup and rapid recovery, you can take advantage of unlimited snapshots and clones. Plus, in the event of a hardware failure, built-in RAID arrays provide an essential layer of security. Together, these features deliver a comprehensive approach that safeguards against data loss and ensures effective disaster recovery.



Hardware details

For each of the 2 servers

Chasis	Seagate Exos AP 2U12 (2U 12-bay chassis)
Motherboard	Seagate AP-BV-1 (rev. X07)
CPU	AMD EPYC 7292P (16C/32T, 2.0 GHz)
RAM	Samsung M393A8G40AB2-CWE 256GB DDR4-3200 ECC
Storage raw capacity	288TB
HDDs	Seagate® Exos® X24 ST24000NM002H 24TB 7.2K RPM SAS 12Gb/s
Hard drive interface	Broadcom / LSI 9500-16i Tri-Mode HBA (SAS-12G)
Network interface	Realtek RTL8111 1GbE Mellanox ConnectX-4 Lx 25GbE (dual-port) Mellanox ConnectX-5 MCX516A-CCAT 100GbE (dual-port)
Form factor	2U

About Visual Graphics Inc. (VGI)

Visual Graphics Inc. (VGI) is a premier technology system integrator specializing in cutting-edge infrastructure for the Media and Entertainment (M&E) industries. Headquartered in Tokyo, Japan, VGI bridges the gap between complex hardware/software innovations and real-world broadcast, film, and digital video production environments. VGI is uniquely positioned to design, deploy, and maintain highly complex workflows across both On-premises and Cloud environments, ensuring seamless continuity from content ingestion to final payout

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About Open-E

Founded in 1998, Open-E is a well-established developer of IP-based storage management software. Our flagship product, Open-E JovianDSS, is a robust, comprehensive, and award-winning data storage application known for its excellent compatibility, ease of use, and stability. It's an undisputed leader in price-performance with over 41,000 installations worldwide. Building on this expertise, we've introduced Open-E JovianVHR, a software-defined data storage solution specifically designed to act as the immutable data storage target for a Hardened Repository from Veeam.

With a reputation for business reliability and a commitment to innovation, Open-E has become the technology partner of choice for industry-leading IT companies.

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.