

Omneon ContentServer

Omneon MediaGrid™ is a highly scalable content storage system that plays an active part in the broadcast workflow. More than just high-performance shared storage for all users within a facility, MediaGrid constantly adapts to the changing resiliency and bandwidth requirements of the broadcast workflow and can actively process stored media. The ContentServer component of MediaGrid functions as the individual storage element within the system, providing high-bandwidth media access and processing functions.



INTELLIGENT

The ContentServer is an intelligent storage device that interacts with other components of the Omneon MediaGrid to achieve the system's very high access bandwidth and storage capacity. Each ContentServer contains disk storage and network connectivity, both of which are used by the system to provide capacity and access bandwidth. Multiple ContentServers can be interconnected on an Ethernet fabric to provide capacity and bandwidth scalability.

All ContentServers in a MediaGrid system participate in storing and retrieving data for clients. When clients make a file request, they connect to multiple ContentServers, who each either store or retrieve file data as requested by the client. Since many ContentServers are active in all read and write operations, the clients benefit from the aggregate performance of these ContentServers and see file access speeds far better than traditional networked storage systems.

In addition to serving file data to clients, each ContentServer manages its own content through read and write verifications. If inconsistencies are found, ContentServers immediately report them and the system automatically repairs the content by re-replicating the data from another ContentServer.

RELIABLE

MediaGrid offers tremendous reliability partly from its use of replicated data within the system. Users configure a "replication factor" on a per file or per directory basis, so when file data is first written to specific ContentServers, exact copies of this file data is generated and distributed across other ContentServers in the system. The replication factor determines the number of copies of a given file that will be created, and is entirely user-configurable.

The algorithm behind this replication approach ensures that no copies of individual file data resides on the same ContentServer. In the event of a failure of any individual ContentServer or disk, exact replicas of file data residing on the failed component will be generated on other ContentServers to ensure replication is maintained at the desired level. Because file data is spread across multiple ContentServers, many ContentServers holding that file data are involved in the replication process, effectively reducing the time to replicate the lost content by the number of ContentServers involved.

ContentServers do not allocate system resources for time-consuming disk rebuilds, as is the case with failures in RAID-protected systems. Instead, the replication mechanism restores lost content within minutes (not hours), all while client access is unimpaired because of the existence of replicated copies.

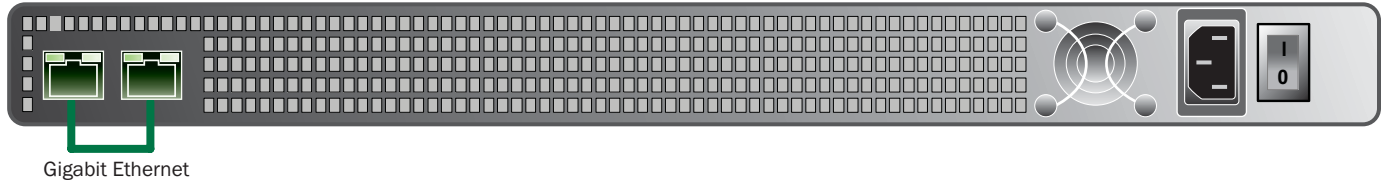
> BENEFITS

- Active storage capability applies ContentServer computational resources to media-related processing
- MediaGrid system capacity can exceed 1PB of total capacity in a single file system
- Client access bandwidth scales linearly as additional ContentServers are added
- Replication technique provides manageable approach to protecting content on a per-file or per-directory basis
- Data protection without RAID results in higher system performance during data recovery process

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<http://www.omneon.com/products>

Omneon ContentServer



Gigabit Ethernet

The Omneon ContentServer includes dual Gigabit Ethernet ports used for network connectivity and communications with the ContentDirectors, other ContentServers and clients. ContentServers work as a group to provide aggregated storage capacity, network bandwidth and processing power.

ContentServer 1042	
Capacity:	4 x 500 GB drives, hot swappable
I/O:	2 x Gigabit Ethernet Ports
Power Supply & Cooling:	1 x power supply with integrated fan. Fan speed automatically controlled based on on-board temperature monitoring.
Field Replaceable Units:	Hard Drives
Rack Space Required:	1 RU
ContentServer 1242	
Capacity:	24 x 500 GB drives, hot swappable
I/O:	2 x Gigabit Ethernet Ports
Power Supply & Cooling:	4 x power supplies with integrated fan. Fan speed automatically controlled based on on-board temperature monitoring.
Field Replaceable Units:	Hard Drives, Power Supplies
Rack Space Required:	4 RU

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<http://www.omneon.com/Demos-On-Demand>



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