Versio™ IOX NAS Storage

Scalable Broadcast Storage Systems

IOX NAS Storage provides broadcast and production facilities with an economical, easy-to-manage, high-availability, shared storage solution for Versio™ integrated playout servers: Versio™ Ingest ST 2110 servers and Nexio+™ AMP SDI servers. This storage solution enables easy scaling of capacity or bandwidth without having to take the system off-air — a true shared online storage, ideal for fast-turnaround environments such as news and sports. The file system features multiple controller active/active pairs that contribute their attached storage to a single namespace storage pool. As more controllers and storage are added, performance and capacity increases are achieved without adding shares, mountpoints or volumes. IOX provides the fastest client recovery in the event of catastrophic storage loss and the highest level of service SLA on the market. Featuring the EditShare® EFS solution and built on Hewlett Packard Enterprise (HPE) enterprise-grade hardware, IOX is designed for optimal operation in the most demanding environments. It is offered in bundles of predefined capacity and bandwidth, and delivered with preinstalled software.

Benefits

- Flexible capacity & bandwidth: allows scaling storage size and throughput as business needs grow, without affecting existing media or interrupting on-air operations
- High availability: enables continuous broadcast operations, with no performance degradation in the event of multiple and simultaneous failures
- Facilitates collaboration: true shared storage access eliminates file copying, providing a fast-turnaround editorial environment and a shorter time to air
- Reduces capital expenditures: provides an economical storage solution, yet allows unlimited pay-as-you-go expansion
- Administer as one system: save time administering as single system regardless of size
- Easy to manage: allows unattended drive rebuilds, supports remote monitoring and diagnostics, and includes an informative web user interface for storage statistics and health status
- Exceptional performance: Hardware RAID features storage pools and tiering, to avoid performance degradation
- Tailored designs: storage to be sized depending on the total requirements of bandwidth and capacity, with multiple possible topologies depending on the level of redundancy required

Features

- High availability in read/write streaming operations with Nexio and Versio media servers under real-time multichannel ingest and playout, file transfer, transcode, edit, and render/conform.
- On-air scalability
  - Scales from 40 TB to over 2 PB (~9years @ XDCAM50)
  - Scales from 3 Gbps to over 48 Gbps (guaranteed bandwidth in degraded or rebuilding modes)
- Multiple stack parity topology supported
  - Single = Stack RAID6 internal parity only
  - 1+1 = Stack Mirroring (HA Copy2)
  - N+1 = Single-Stack Parity (HA XOR)

- Fastest client recovery of less than 20ms for uninterrupted service to on-air playback servers or to editing applications
- Automatic drive rebuilds require no operator action and result in no performance degradation
- Internal node storage controllers
- High drive density with standard Hard Drive in 12x and 16x storage nodes
- Support for Windows, macOS, and Linux client connections via Ethernet
- Storage pools with partitioned data
- Bandwidth managed by user or workflow operational groups
- Redundant metadata controllers
- Media files stored in native wrapper (e.g., MXF OP1a, MOV)
- Files openly accessible over SMB, CIFS, FTP or EFS client – no gateways required
- Inexpensive Ethernet connectivity for all server nodes and clients: 1, 10, 25, 40 or 100 GbE interfaces
- Supports collaborative content between multiple NLE systems (Avid Media Composer, Adobe Premiere, FCP, DaVinci, etc.)
- Fully client-side-offloaded parity processing, allowing storage architecture to use extremely low-cost bridge nodes instead of competitive high-performance storage processing nodes
- Ability to create different media spaces or directories to store main and redundant copies
- Create two separate storage domains to split main & backup operations
- Alternatively, main & backup Nexio/Versio servers connecting to a common shared storage

Applications

Single IOX storage node

- Up to 24 channels
- 3,000 Mb/s shared bandwidth (guaranteed), 40/80TB of capacity
- RAID-6 storage protection, includes metadata controller
- Suitable solution for small broadcast and production facilities, remote regional sites, Disaster Recovery locations, ingest and production environments

1+1 IOX storage nodes

- 40+ channels
- 4,000 Mb/s shared bandwidth (guaranteed), 56/112TB of capacity
- High Availability storage Copy2 protection (mirroring), with 2x external metadata controllers
- Suitable solution for entry-level channel launch, customers with lower bandwidth requirements, real-time performance and peace-of-mind redundancy

Smaller fully redundant IOX storages with 2+1, 3+1, 4+1 storage nodes

- All the Rec/Play channels that you need
- 8/12/16 Gb/s shared bandwidth (guaranteed), 112/252/336 TB of capacity
- High Availability storage N+1 protection, with 2x external metadata controllers
- Suitable solution for larger broadcasters and playout productions, demanding real-time on-air applications, supports extreme bandwidth environments

Really large fully redundant IOX storage with 12+1 nodes

- Hundreds of channels
- 48 Gb/s shared bandwidth (guaranteed), 2.3 PB of capacity
- High Availability storage N+1 protection, with 2x external metadata controllers
- Suitable solution for the largest multichannel systems, multipurpose collaborative environments with dozens of concurrent file import/export transfers, NLE workstations and file transcoders

Specifications

Specification	IOX-EXP-MDC	IOX-EXP-300/450	IOX-EXP-200
System	HPE DL360, Intel 8-core Xeon CPU	HPE DL380, Intel 12-core Xeon CPU	HPE DL380 with powerful quad-core CPU optimized for I/O intensive applications
Memory	64 GB DDR4	64 GB DDR4	64 GB DDR4

Network	Dual 10/25GB SFP28	Dual 10/25GB SFP28	Dual 10/25GB SFP28
Drive Controller	N/A	12Gb/s Hardware RAID Controller and standard RAID 6 protection	12Gb/s Hardware RAID Controller and standard RAID 6 protection
Drive Options	N/A	16 x enterprise-grade HDDs in 4TB, 6TB, 8TB or 10TB capacities	12 x enterprise-grade HDDs in 4TB, 6TB, 8TB or 10TB capacities
System Drives	Mirrored 480 GB SSD OS Drives	Mirrored 480 GB SSD OS drives, rear accessible	Mirrored 480 GB SSD OS drives, rear accessible
Other	1+1 hot-swappable power supplies 1+1+1 hot-swappable fans	1+1 hot-swappable power supplies 1+1+1 hot-swappable fans	Hot-swappable power supplies and fans
Form Factor	1U	2U	2U
Racked Weight (w/HDD)	13.77 kg (30.36 lb)	24.5 kg (54 lbs)	17.1 kg (37.75lbs)
Dimensions	4.29 x 43.46 x 74.98 cm 1.69 x 17.11 x 29.5 in	8.73 x 44.54 x 73.02 cm 3.44 x 17.54 x 28.75 in	8.73 x 44.54 x 73.02 cm 3.44 x 17.54 x 28.75 in
Input Voltage	100-240 VAC	100-240 VAC	100-240 VAC
Input Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Power Consumption (steady state/peak)	85 W	500 W	500 W
Thermal Emissions	1902 BTU/hr	1902 BTU/hr	1902 BTU/hr
Operating Temperature	10°C (50°F) – 35°C (95°F)	10°C (50°F) – 35°C (95°F)	10°C (50°F) – 35°C (95°F)
Operating Humidity	8% – 90%, non-condensing	8% – 90%, non-condensing	8% – 90%, non-condensing

Storage Temperature	-30°C (-22°F) – 60°C (140°F)	-30°C (-22°F) – 60°C (140°F)	-30°C (-22°F) – 60°C (140°F)	
Storage Humidity	8% – 90%, non-condensing	5% – 95% non-condensing	5% – 95% non-condensing	

Ordering Information

Versio IOX Express NAS bundles are offered in three different topologies to support customers' requirements and workflows: high-availability parity stack (N+1), Copy2 high availability (1+1) and non-high availability. All bundles include metadata hardware and/or store hardware nodes with drives, software licenses, basic hardware warranty, Dual Port 10/25G SFP28, and a spare hard drive for each store node. Additional support available through Imagine's MyCare.

Topology	IC SKU	Bandwidth (Gbps)	Capacity (Usable TB)	Capacity Hours @ 70 Mbps/stream (XDCAM 29.97)	Bundle Includes
HA	IOX-EXP-BNDL-HA-1	8	112	3,562	2 x IOX-EXP-MDC 3 x IOX-EXP-450-64TB
	IOX-EXP-BNDL-HA-2	12	252	8,014	2 x IOX-EXP-MDC 4 x IOX-EXP-450-96TB
	IOX-EXP-BNDL-HA-3	16	336	10,685	2 x IOX-EXP-MDC 5 x IOX-EXP-450-96TB
	IOX-EXP-BNDL-HA-4	20	420	13,357	2 x IOX-EXP-MDC 6 x IOX-EXP-450-96TB
	IOX-EXP-BNDL-HA-5	20	560	17,809	2 x IOX-EXP-MDC 6 x IOX-EXP-450-128TB
Copy2	IOX-EXP-BNDL-C2-1	4	56	1,781	2 x IOX-EXP-MDC 2 x IOX-EXP-300-64TB
	IOX-EXP-BNDL-C2-2	4	112	3,562	2 x IOX-EXP-MDC 2 x IOX-EXP-300-128TB
Non-HA	IOX-EXP-BNDL-	3	40	1,272	1 x IOX-EXP-200-48TB

NH-1				1 x IOX-EXP-SINGLE
IOX-EXP-BNDL-NH-2	6	120	3,816	2 x IOX-EXP-200-72TB 1 x IOX-EXP-SINGLE
IOX-EXP-BNDL-NH-3	9	180	5,724	3 x IOX-EXP-200-72TB 1 x IOX-EXP-SINGLE

Additional Options

Imagine SKU	Short Description	Long Description
IOX-EPC-MDC-RAM	VERSIO IOX EXPRESS METADATA CONTROLLER ADDITIONAL RAM UPGRADE	Versio IOX 1U Metadata Controller Increase DRAM to 128GB on IOX-EXP-MDC. Increases file system capacity from 50M to 100M files. Has to be at time of Controller purchase
IOX-EXP-100G-SFPX2	VERSIO IOX EXPRESS DUAL PORT 100G SFP28 NETWORK ADAPTER CARD	Versio IOX Express Dual Port 100G SFP28 Network Adapter Card for IOX Express Metadata or Storage Nodes. No transceivers included.