

Versio™ IOX SAN

Scalable, High-Performance, Online Storage



Versio™ IOX SAN is a high-performance online storage system specifically designed for broadcast and production facilities, including news, sports and live-event applications. This unique SAN solution is designed to evolve into a multi-use Network Attached Storage (NAS) appliance capable of meeting, or even exceeding, the performance and cost efficiency of current SAN solutions.

Delivering unparalleled levels of bandwidth and storage to support the most demanding media workflows, Versio IOX SAN provides sharable and scalable storage throughout the content lifecycle. It also offers the highest levels of digital asset protection, including Imagine's patented Intrinsic Mirroring™ technology.

Note: Versio IOX SAN is a fully compatible, drop-in replacement for all Nexio® Farad™ 1.0, 2.0 and 2.1 storage solutions.

Versio IOX SAN delivers numerous real-world benefits:

- Flexible capacity & bandwidth — Allows scaling of storage & bandwidth 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. Supports Intrinsic Mirroring for seven nines of availability
- Faster time to air - True shared storage access facilitates collaboration and eliminates file copying, providing a fast-turnaround editorial environment and a shorter time to air
- Reduced capital expenditures – Provides an economical entry-level storage, yet allows pay-as-you-go expansion
- Easy to manage – Allows unattended drive rebuilds, supports remote monitoring and diagnostics, and includes an informative web user interface
- Superior codec support – virtually unlimited storage bandwidth supports a huge selection of codecs, including HD codecs above 100Mbps, such as AVC-Ultra, Sony XAVC, DVCPRO, ProRes, and DNxHD/DNxHR

Features

- Addresses high storage and bandwidth needs of production environments (sports, news, live events) with capacity for any size workload
- Supports requirements for many HD channels and faster file transfers. “Archive as you go” workflows particularly benefit from the increased performance
- Unrivaled high-performance delivers the highest system throughput and the fastest processing speed
- Highly reliable and available storage system delivers continuous broadcasting operational excellence, with no single point of failure
- Advanced and comprehensive failure criteria minimize costs and downtime when system failure occurs
- Provides a fast-turnaround editorial environment and a shorter time to air. Also, ideal for applications in live production, playout and distribution

- Able to seamlessly migrate from an initial high-performance, high-availability SAN implementation into a multi-use NAS appliance as organization moves to an IT-centric ecosystem

Details

- On-air scalability to over a petabyte of online shared storage with RAID-601 storage protection
- Tens of gigabits per second of assured streaming bandwidth, even during degraded or rebuilding modes
- RAID-601 provides high availability, protecting against drive, controller and storage chassis failures, while maintaining system throughput
- Nexio RAIDsoft™ striping increases bandwidth and patented Nexio Intrinsic Mirroring™ ensures content availability
- Configurable spare drive provisioning provides automatic drive failover and rebuild
- Automatic drive rebuilds require no operator action and result in no performance degradation
- High drive density with 12 3.5 in. drives (**raw 24 TB, 48 TB, 72 TB, and 96 TB; usable 16 TB, 32 TB, 48 TB, and 64 TB) in 2RU**)
- Support for Ethernet and Fibre Channel client connections
- Redundant, high-performance 8 Gb/s Fibre Channel connections per Nexio Farad core storage sub-system, with **active/active** redundant RAID controllers
- Dual hot-swappable power supplies per enclosure
- On-air scalability to petabytes of online shared storage with RAID-601 storage protection
- Tens of gigabits per second of assured streaming bandwidth, even during degraded or rebuilding modes
- RAID-601 provides high availability, protecting against drive, controller and storage chassis failures, while maintaining system throughput
- Nexio RAIDsoft™ striping increases bandwidth and patented Intrinsic Mirroring™ ensures content availability
- Configurable spare drive provisioning provides automatic drive failover and rebuild
- Automatic drive rebuilds require no operator action and result in no performance degradation
- Support for Ethernet and Fibre Channel client connections
- Redundant, high-performance 16 Gb/s Fibre Channel connections per Versio™ IOX Storage core storage sub-system, with active/active redundant RAID controllers
- Dual hot-swappable power supplies per enclosure
- Superior codec support
 - With storage bandwidth limits effectively removed from consideration, customers are free to select the codec that best fits their needs, even HD codecs above 100Mbps such as AVC-Ultra, Sony XAVC, DVCPRO, ProRes, and DNxHD/DNxHR

Specifications

Specifications and designs are subject to change without notice

GENERAL INFORMATION

Core Chasis	Active/Active controller module pair per enclosure 2x SAS I/O ports per module connecting to the controller node 1 x 4-lane 6Gb mini-SAS connector per module
Store Chasis	Dual SAS Connector modules with two 4-lane 6Gb mini-SAS connectors per module
Management/Status Reporting (some optional components and plugins require additional license)	HPE Storage Management Utility (SMU). Management access, out-of-band: WEB GUI, CLI. Interface Types: USB 100/1000 Ethernet. Protocols Supported SNMP, SMI-S, SSL, SSH, SMTP, FTP, HTTP, Telnet HPE OneView for VMware vCenter vStorage API for Array Integration in vSphere VMware Site Recovery Manager(SRM) Plugin HPE StoreFront Manager for Microsoft Hyper-V HPE MSA Remote Snap software
Maximum Stack Configuration	3.5" Controller & Expansion — 8 enclosures, total 96 drives 2.5" Controller & Expansion — 8 enclosures — total 199 drives
Maximum Single Volume Configuration	Maximum 64 LUNs (128 LUNs mirrored) IOX Storage Pools — 1 stack of up to 8 enclosures NAS — up to 8 pools, total 64 enclosures
Protection Levels	RAID-6
Hot-Swappable Components	Disk drives, PSU/cooling modules, Core RAID Controllers, Expansion SAS modules, and all cabling
Physical	Height: 8.9 cm (3.5") 2 EIA Units Width: 44.7 cm (17.6") IEC Rack Compliant Depth: 24-bay 2.5" Controller array: 19.5 in / 49.5 cm Depth: 25-bay 2.5" Expansion array: 22.3 in / 56.7 cm Depth: 12-bay 3.5" Controller/Expansion: 22.5in. / 57.2 cm Weight (no controllers): 12-bay 3.5" Controller/Expansion: 31 lbs. (DC-pwr model: 32.6 lbs) Weight (no controllers): 24-bay 2.5" Controller array: 29.1 lbs (DC-pwr model: 30.7lbs) Weight (no controllers)t: 25-bay 2.5" Expansion array: 38 lbs

DISK DRIVES

Drive Types and Sizes	High drive density with the following available options: 3.5" 10TB SAS 7.2K Hard Drive 3.5" 8TB SAS 7.2K Hard Drive 3.5" 6TB SAS 7.2K Hard Drive 3.5" 4TB SAS 7.2K Hard Drive 3.5" 2TB SAS 7.2K Hard Drive 2.5" 2TB SAS 7.2K Hard Drive 2.5" 1TB SAS 7.2K Hard Drive 2.5" 1.8TB SAS 10K Hard Drive 2.5" 600GB SAS 15K Hard Drive 2.5" 1.2TB SAS 10K Self Encrypted Hard Drive 2.5" 3.2TB SAS Solid State Drive (SSD) 2.5" 1.6TB SAS Solid State Drive (SSD) 2.5" 800GB SAS Solid State Drive (SSD) 2.5" 400GB SAS Solid State Drive (SSD) 2.5" 200GB SAS Solid State Drive (SSD)
Cache	6GB per controller
Read/Write Cache	4GB per controller
Mean Time Between Failures (MTBF)	1.2 million hours or higher
Annual Failure Rate (AFR) at full 24/7 operation	0.73% (at full 24x7 operation)
Transfer Rate, Sustained	147 Mb/s or higher
Power Consumption (idle)	9.0 W or lower

ENVIRONMENTAL

Input Power Requirements	110VAC 3.32A, 344-390 W; 220VAC 1.61A, 374-432W
Maximum Input Power	100-240 VAC, 50/60 Hz., 4.5-1.9A; 48-60 VDC 10.4A/8.3A
Power Supply Efficiency	Bronze Rated - high efficiency 82% @ 20% load 86% @ 80% load 85% @ 100% load
Heat Dissipation	1622 BTUs/hour
Operational Temperature	41° to 104° F (5° to 40° C)Note: Derate 2° C for every km, up to 3000 meters
Non-Operational Temperature	-40° to 158° F (-40° to 70° C)
Operational Humidity	10% to 90% RH @ 104° F (40° C), non-condensing
Non-Operational Humidity	Up to 93% RH @ 104° F (40° C), non-condensing
Operational Shock	3G's for 11 ms
Non-Operational Shock	15G's 11 ms, ½ sine
Operational Vibration	5 to 500 Hz, 0.14 g shaped
Non-Operational Vibration	3-365-3Hz, 1.22 g, z-axis, 0.85 g, X&Y axis shaped spectrum
Declared Acoustics Noise Levels	Sound Power: LWAd=6,75 B Sound Pressure: LpAm — 55 dBA

REGULATORY / CERTIFICATION

Compliance	NEBS Level 3
Safety	UL 60950-1, 1st edition (United States) CAN/CSA-C22.2 No.60950-1-03 (Canada) EN 60950-1 (European Union) IEC 60950-1 (International) EN 60950-1 (GS Mark, Germany) CCC Mark China (PRC)
Electromagnetic Compatibility Emissions	VCCI:2008-04 Class A (Japan) EN 55022 Class A (EU); CISPR 22 (International Class A) AS/NZS CISPR 22 Class A (Australia, New Zealand) VCCI Class A (Japan) KN 22 Class A (S. Korea) FCC 15:109(g) Class A (USA) ICES-003:2004 Class A (Canada)
Harmonics / Flicker Immunity	EN61000-3-2 (EU) EN 61000-3-3 (EU) EN 55024 (EU) KN 24 (S. Korea)
RoHS and WEEE	RoHS-6/6 Compliance, China RoHS, WEEE
Country Approvals	United States, Australia/New Zealand, Canada, China (PRC), European Union (EU), Germany, Japan, South Korea, Taiwan

Ordering Information

VST3512C	VERSIO IOX STORAGE CORE KIT. 2U ENCLOSURE, 12 3.5" SLOTS. ORDER 12 3.5" DRIVES PER CAPACITY REQMNT
VST3512S	VERSIO IOX STORAGE EXPANSION KIT. 2U ENC., 12 3.5" SLOTS. ORDER 12 3.5" DRIVES PER CAPACITY REQMNT
VST2524C	VERSIO IOX STORAGE CORE KIT. 2U ENCLOSURE, 24 2.5" SLOTS. ORDER 24 2.5" DRIVES PER CAPACITY REQMNT
VST2525S	VERSIO IOX STORAGE EXPANSION KIT. 2U ENC., 25 2.5" SLOTS. ORDER 25 2.5" DRIVES PER CAPACITY REQMNT
VST37A00	VERSIO IOX STORAGE 3.5" 10TB SAS 7.2K HARD DRIVE FOR VST3512-SERIES ENCLOSURE
VST37800	VERSIO IOX STORAGE 3.5" 8TB SAS 7.2K HARD DRIVE FOR VST3512-SERIES ENCLOSURE
VST37600	VERSIO IOX STORAGE 3.5" 6TB SAS 7.2K HARD DRIVE FOR VST3512-SERIES ENCLOSURE
VST37400	VERSIO IOX STORAGE 3.5" 4TB SAS 7.2K HARD DRIVE FOR VST3512-SERIES ENCLOSURE
VST37200	VERSIO IOX STORAGE 3.5" 2TB SAS 7.2K HARD DRIVE FOR VST3512-SERIES ENCLOSURE
VST27200	VERSIO IOX STORAGE 2.5" 2TB SAS 7.2K HARD DRIVE FOR VST2525-SERIES ENCLOSURE
VST27100	VERSIO IOX STORAGE 2.5" 1TB SAS 7.2K HARD DRIVE FOR VST2525-SERIES ENCLOSURE
VST2A180	VERSIO IOX STORAGE 2.5" 1.8TB SAS 10K HARD DRIVE FOR VST2525-SERIES ENCLOSURE
VST2F060	VERSIO IOX STORAGE 2.5" 600GB SAS 15K HARD DRIVE FOR VST2525-SERIES ENCLOSURE
VST2A12E	VERSIO IOX STORAGE 2.5" 1.2TB SAS 10K SELF ENCRYPTED HARD DRIVE FOR VST2525-SERIES ENCLOSURE
VST2S320	VERSIO IOX STORAGE 2.5" 3.2TB SAS SOLID STATE DRIVE (SSD) FOR VST2525-SERIES ENCLOSURE
VST2S160	VERSIO IOX STORAGE 2.5" 1.6TB SAS SOLID STATE DRIVE (SSD) FOR VST2525-SERIES ENCLOSURE
VST2S080	VERSIO IOX STORAGE 2.5" 800GB SAS SOLID STATE DRIVE (SSD) FOR VST2525-SERIES ENCLOSURE
VST2S040	VERSIO IOX STORAGE 2.5" 400GB SAS SOLID STATE DRIVE (SSD) FOR VST2525-SERIES ENCLOSURE
VST2S020	VERSIO IOX STORAGE 2.5" 200GB SAS SOLID STATE DRIVE (SSD) FOR VST2525-SERIES ENCLOSURE
VST35C12	VERSIO IOX STORAGE 2RU 3.5" 12-DRIVE SPARE ENC. 2X PWR SUP; RAID CONT. OR SAS EXP. MODULE SOLD SEP
VST25C24	VERSIO IOX STORAGE 2RU 2.5" 24-DRIVE SPARE ENC. INC. 2X PWR SUP; RAID CONT. SOLD SEPARATELY
VSTRAIDC	VERSIO IOX STORAGE RAID CONTROLLER. (2) IN EACH OF 2RU 3.5" 12-DRIVE OR 2.5" 24-DRIVE "CORE" ENCL.
VSTRAIDN	VERSIO IOX SCALE-OUT SAS RAID CTRLR. (2) IN EACH OF 2RU 3.5" 12-DRIVE OR 2.5" 24-DRIVE "CORE" ENCL.
VST4SFP8	VERSIO IOX STORAGE 8GBPS FC SFP 4-PACK. RAID CONTROLLER REQS (1) PACK EA., (2) PACKS PER "CORE" ENC

VST4SF16	VERSIO IOX STORAGE 16GBPS FC SFP 4-PACK. RAID CONTROLLER REQS (1) PACK EA., (2) PACKS PER "CORE" ENC
VSTFCC5M	VERSIO IOX STORAGE - 5M OM3 MULTIMODE OPTICAL FIBRE CHANNEL LC-LC CABLE
VSTSAS1M	VERSIO IOX STORAGE - 1M SAS CABLE
VSTSAS2M	VERSIO IOX STORAGE - 2M SAS CABLE

Versio IOX SAN Media I/O Hosts:

- MIOH Controllers rated for 4-8Gbps+ and hundreds of streams each
- Generally, N+1 requirement
 - ≤4Gbps total payload = 2 MIOH
 - ≤8Gbps total payload = 3 MIOH
 - ≤12Gbps total payload = 4 MIOH
 - Maximum 4 MIOH per stack direct-attach
 - ... after which you must add Fibre Channel switches
 - Maximum 13 MIOH (48Gbps useable n+1 payload) tested by engineering
 - Maximum 25 MIOH (96Gbps) theoretical

NXPM190A	NEXIO+ MEDIA I/O HOST TURNKEY APPLIANCE. MAY REQUIRE FC-HBA AND/OR 1/10GBE NIC SOLD SEPARATELY
PLH2FC8G	ATTO 2-PORT 8GBPS FIBRE CHANNEL HBA. INCLUDES 2X 8GBPS SFP AND 2X 5M LC-LC MULTIMODE FIBRE CABLES
PLHP25GM	2-PORT 25GBE LOM FOR IMAGINE 1RU AND 2RU. INCLUDES 2X 25GBPS SFP28, 2X 5M LC-LC OM4 MM FIBRE. ORDER 10GBE SFP+ WITH SKU NXSFP0F-10 IF 10GBE NETWORKING REQUIRED