PROMISE
TECHNOLOGY

Vess

Empowering
Video Surveillance

Highly integrated.
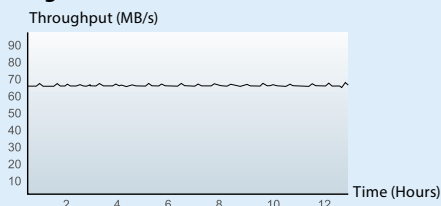Simple to deploy.

Vess A-Series & Vess R-Series

High Performance NVR Appliance and Storage Solutions for Video Surveillance

The latest advances in video surveillance are helping a growing number of organizations and corporations protect their interests from the diverse and growing threats that exist today. As a worldwide storage leader, PROMISE Technology develops high-performance storage solutions that solve the unique challenges customers face in video surveillance. With outstanding design, performance, and support, PROMISE's industry leading NVR storage appliances and external storage solutions deliver the optimal mix of features and capabilities that exceed the critical requirements of video surveillance.
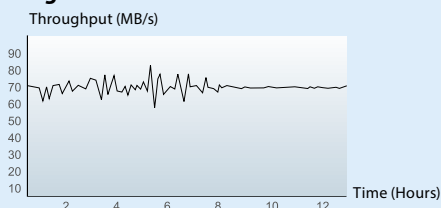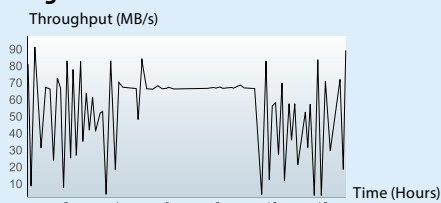
Why Vess for Video Surveillance?
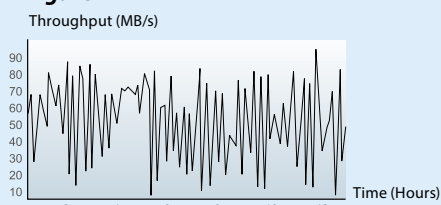
Designed for Video Surveillance

The demands of video surveillance applications are unique and you need storage solutions that are designed to excel in this environment. Vess is designed for video surveillance, eliminating the complexity of integrating a solution designed for IT in a surveillance environment. Plus, Vess delivers the best price/performance ratio of any competitor on the market, a huge asset to customers who demand outstanding performance on a tight budget.

SmartBoost Technologies

Reliable performance is crucial for video surveillance. When a storage array is newly configured, its performance is stable before it's filled up with video data *(figure 1)*. Once the newly configured array is filled up, the recording pattern becomes a continual process of writing off old surveillance video data and writing on new video data, creating a workload overhead that slightly impacts performance *(figure 2)*.

If any of the drives fail, the system enters degraded or critical mode status which greatly impacts streaming performance *(figure 3)*. The failed disk now needs to be replaced so the rebuild can start. During the rebuild, streaming performance can be much more unstable, as in addition to the normal request load the controller needs to reserve some computing power for the rebuild *(figure 4)*.

The Vess Series is engineered to tackle these challenges. The Vess Series delivers industry leading reliability by providing more reliable and stable performance for surveillance video recording, especially when the array is in a critical state or during rebuild, which is key to eliminating frame dropping.

SMARTBOOST
The hidden force.

Partner Proven

The Vess Series has been certified and tested with the world's leading video management software, including Milestone, Genetec, AxxonSoft, and CamIQ delivering the highest levels of compatibility and performance. This provides a complete solution at a great price point, ensuring that customers' expectations for excellence, performance, and scalability are met.

figure 1
Throughput (MB/s)

Time (Hours)

A stable performance index before video data fills up the storage array volume

figure 2
Throughput (MB/s)

Time (Hours)

Slightly unstable when recording server overwrites video on the storage array volume

figure 3
Throughput (MB/s)

Time (Hours)

The storage array enters degrade mode and shows largely unstable performance

figure 4
Throughput (MB/s)

Time (Hours)

The storage array starts rebuilding and presents greatly unstable performance

aimetis
a Senstar company

CamIQ

CSV

axxon
Experience The Next

digifort

milestone

SeeTec
An OnSSI Company

BOSCH
Invented for life

Genetec

OnSSI

SONY

NVR Storage Appliances for IP Video Surveillance

Vess A-Series Highlights

- Optimized for video surveillance recording
- Ideal for up to over a hundred full-HD IP cameras
- Integrated solution results in less management overhead
- Easy & affordable to scale with the Vess R2000 external storage series
- Vess A4600 & A4800 can directly connect to the Vess J2000 without a RAID unit in between which makes it a more cost effective solution in some environments
- Hot swappable drive bays, redundant power supplies and One Plug Auto Service ensure Vess is incredibly easy to administer & maintain

The Vess A-Series NVR storage appliances are engineered specifically to be the best solution for midsize to large-scale IP video surveillance deployments. Featuring failsafe protection that provides continuous recording without dropping frames under live playback conditions, it is ideal for 32 to over a hundred full-HD IP cameras, making it perfect for gaming, banking, transportation, manufacturing and many more industries.

Vess A3340

Vess A2600

Vess A4800

Vess R-Series External Storage Highlights

- Industry leading performance and reliability at an excellent price
- Expand up to 160 disk drives with Vess J2000 expansion units
- Supports 6Gbps & 3Gbps SAS & SATA drives simultaneously
- Dual active/active SAS JBOD I/O modules
- 3U-16 & 4U-24 form factor featuring hot-swappable drive bays
- Reliable N+1 redundant power supplies
- Energy efficient system reduces power and cooling costs

The high availability active-active Vess R-Series is designed for data-intensive industries, including midsize to large scale surveillance installations where downtime is unacceptable and where large external storage capacity, support for on-demand expansion, long retention periods, and reliable high bandwidth throughput are a must.

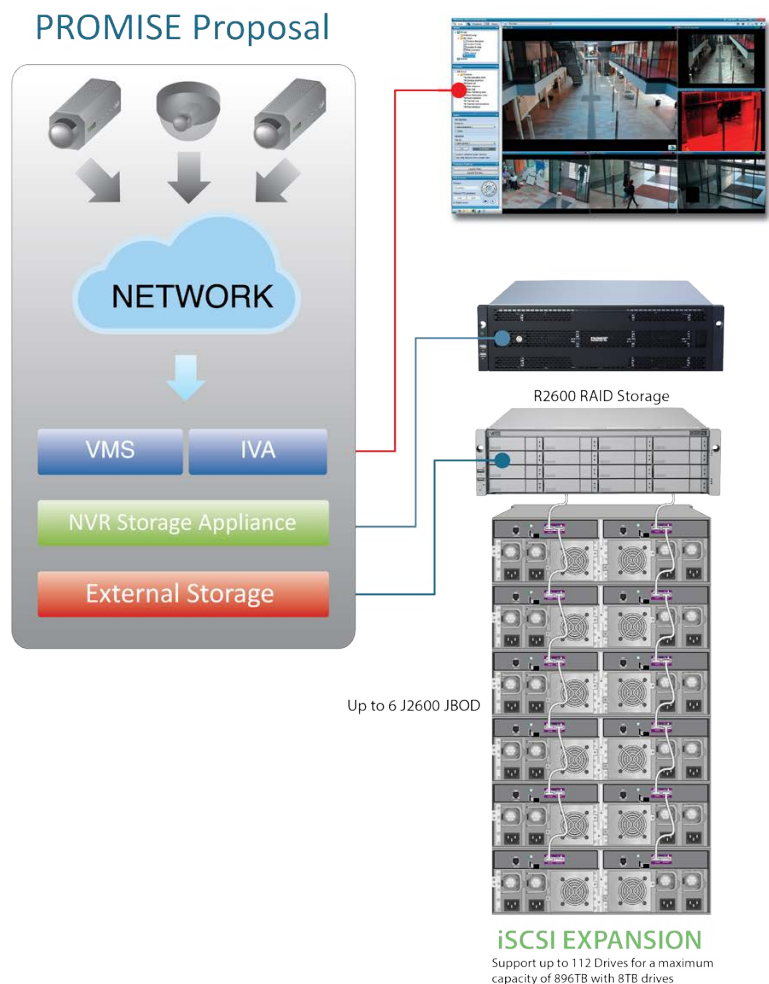# NVR Storage Appliances for IP Video Surveillance

Flexible Solution

The Vess A-Series is integrated with the operating system of your choice, and customers are provided with the option to purchase the system with or without hard disk drives. The Vess A-Series ships without video management software (VMS) installed, allowing users the flexibility to deploy the VMS of their choice.

Additionally, the stand-alone Vess NVR greatly reduces support and equipment costs because there is no separate RAID storage unit to manage, eliminating the need for a server, controller cards, external cables, and a separate storage enclosure for a complete video surveillance system; the Vess NVR storage appliance does it all!

Integrated Solution - Easier to Manage & Grow

The all-in-one Vess A-Series solution makes it incredible easy to scale as your surveillance needs grow. Security practitioners can easily scale with no user configuration, just plug and add. When external storage is a must, easily scale up with PROMISE's Vess R-Series external storage series, creating a total video surveillance solution that combines a recording appliance and external storage.

Mid to Large Range NVR Appliance Storage Solutions with
3rd Party VMS

PROMISE Proposal

NETWORK

VMS | IVA

NVR Storage Appliance

External Storage

R2600 RAID Storage

Up to 6 J2600 JBOD

iSCSI EXPANSION
Support up to 112 Drives for a maximum capacity of 896TB with 8TB drives

visit www.promise.com for more information on PROMISE products

Product Specifications Vess A - Series

Model Name	Vess A2330	Vess A2210	Vess A3340 / A3340d / A3340 POE
Product Category	NVR Storage Appliance	NVR Storage Appliance	NVR Storage Appliance
Availability	Released	Released	Released
Ideal Camera Range[2]	Up to 35*	32 to 64	Up to 80*
Form Factor	2U6, 19" Rackmount	2U6, 19" rackmount	2U8, 19" Rackmount
Drive Support	SATA (6Gb/s[1] or 3Gb/s), NCQ, TCQ, Hot Swappable		
System Processor	Intel® Celeron J1900	Intel® Core™ i3 Dual-core 4-thread or Xeon E3	Intel® Xeon® E3
System Memory	8GB DDR3	8GB Standard (max. 16GB)	8GB DDR4 (Max 32GB)
Max. # of HDDs Supported	Up to 118 drives through iSCSI & JBOD expansion	Up to 118 drives through iSCSI & JBOD expansion	Up to 120 drives through iSCSI & JBOD expansion
RAID Levels	0, 1, 1E, 3, 5, 6, 10 (0+1), 30, 50; Any combination can exist at the same time		
Preloaded OS (64-bit)	Windows Embedded Standard 7 Runtime (WS7P), Windows 10	Windows Embedded Standard 7 Runtime (WS7P), Windows 10, Windows Server 2012R2 Standard	Windows Embedded Standard 7 Runtime (WS7P), Windows 10, Windows Server 2012R2 Standard
Power Supply	250W	500W (Three redundant 250W N+1 design)	A3340: 350W A3340d: Dual 350W A3340 POE: 520W
Dimensions (H x W x D)	88.5 x 440 x 395 mm (3.5 x 17.3 x 15.6 in)	88.5 x 440 x 400 mm 3.5 x 17.3 x 15.7 in	88.2 x 446 x 410 mm (3.5 x 17.6 x 16.1 in)
Weight	6.8kg (14.96 lbs) w/o drives 10.94kg (24.1 lbs) w/drives	10.4 kg (22.9 lbs) w/o drives 14.9 kg (32.8 lbs) w/ drives	7.38kg (16.23 lbs) w/o drives 12.9kg (28.38 lbs) w/drives
Warranty	3 years and 2 years EW plans	3 years and 2 years EW plans	3 years and 2 years EW plans

Model Name	Vess A2600	Vess A4600	Vess A4800
Product Category	NVR Storage Appliance	NVR Storage Appliance	NVR Storage Appliance
Availability	Released	Released	Released
Ideal Camera Range[2]	64 to 128	64 to 128	64 to 128
Form Factor	3U16, 19" rackmount	3U16, 19" rackmount	4U24, 19" rackmount
Drive Support	SATA (6Gb/s[1] or 3Gb/s)	SATA (6Gb/s or 3Gb/s), NCQ, TCQ	
System Processor	Intel® Xeon® E3 Quad-core 8-thread	Intel® Core™ i3 Dual-core 4-thread	
System Memory	8GB Standard (max. 16GB)	8GB Standard (max. 32GB)	
Max. # of HDDs Supported	Up to 128 drives through multiple 3U JBOD expansion enclosures	Up to 112 drives through multiple 3U JBOD expansion enclosures	Up to 120 drives through multiple 4U JBOD expansion enclosures
RAID Levels	0, 1, 1E, 3, 5, 6, 10 (0+1), 30, 50, 60	0, 1, 1E, 5, 6, 10 (0+1), 50, 60; Any combination of these RAID levels can exist at the same time	
Preloaded OS (64-bit)	Windows Embedded Standard 7 Runtime (WS7P), Windows Server 2012 R2 Standard or Linux	Windows Storage Server 2012R2 Standard, Windows Server 2012 R2	
Power Supply	500W (Three redundant 250W N+1 design), 1288 BTU/hr	Three redundant 250W Energy-efficient 80PLUS Certified 90-264V full-ranging w/PFC Hot swappable N+1 Design	
Dimensions (H x W x D)	130.1 x 446.2 x 461 mm (5.1 x 17.6 x 18.1 in)	131 x 447 x 630 mm (5.1 x 17.6 x 24.8 in)	174 x 447 x 630 mm (6.9 x 17.6 x 24.8 in)
Weight	15.9 kg (35.1 lbs) w/o drives 27.9 kg (61.5 lbs) w/ drives		
Warranty	3 years and 2 years EW plans	3 years and 2 years EW plans	

*This number was tested under criteria w/o frame loss at 720p@30fps@H.264

[1]Initiator still runs at 3Gb/s mode
[2]The ideal camera range were the test output with fully populated enclosure and 8GB memory under 20FPS, H.264 and High Video Quality compression

Product Specifications Vess A6120 Series

Model Name	Vess Orange	Vess Black	Vess Blue
Product Category	Analytics Server	Management Server	Recording Server
Availability	Released	Released	Released
Form Factor	1U4	1U4	1U4
Processor	2 x Intel Xeon E5-2620 v4	1 x Intel Xeon E5-2620 v4	1 x Intel Xeon E5-2603 v4
Memory	16/32GB DDR4 ECC	8GB DDR4 ECC	8GB DDR4 ECC
Internal Storage	M.2 64G	M.2 64G	M.2 64G
SSD	0/2 (optional)	N/A	N/A
HDD	4 x 3.5" SATA (SAS optional)	4 x 3.5" SATA (SAS optional)	4 x 3.5" SATA (SAS optional)
Max. # of HDDs Supported	Up to 112 HDDs thru iSCSI & JBOD	Up to 112 HDDs thru iSCSI & JBOD	Up to 112 HDDs thru iSCSI & JBOD
Power Supply	Dual 650W Platinum	Dual 650W Platinum	Dual 650W Platinum
RAID Levels	0, 1, 1E, 3, 5, 6, 10(0+1), 30, 50, 60	0, 1, 1E, 3, 5, 6, 10(0+1), 30, 50, 60	0, 1, 1E, 3, 5, 6, 10(0+1), 30, 50, 60
RAID Stripe Size	64K, 128K, 256K, 512K and 1MB	64K, 128K, 256K, 512K and 1MB	4K, 128K, 256K, 512K and 1MB
Networking	1GbE x 4	1GbE x 2	1GbE x 2
Optional Add-on Card*	A. 2-port 1G Base-T, B. 2-port 10G Base-T, C. 2-port 10G SFP+, D. SAS Expansion Card, E. Extension RAID Board, F. Graphic Card, G. 4-port 1G Base-T		
Preloaded OS	Win 10 Enterprise / WS2012 R2	Win 10 Enterprise / WS2012 R2	Win 10 Enterprise / WS2012 R2
Dimensions (HxWxD)	710mm x 430mm x 43.5mm	710mm x 430mm x 43.5mm	710mm x 430mm x 43.5mm
Weight			
Warranty	3 years and 2 years EW plans	3 years and 2 years EW plans	3 years and 2 years EW plans

*Promise prepares a set of add-on cards for customers to choose, offering great flexibility for customizing the platform for various kinds of projects. For all possible integration possibilities, please check the Vess A6120 Quick Start Guide or the Product Manual for more information.

Product Specifications Vess R-Series & Vess J-Series

Model Name	Vess R2600			Vess J2600	Vess J2610 / J2810
Product Category	IP SAN Storage			JBOD Storage Expansion Enclosure	JBOD Storage Expansion Enclosure
Availability	Released			Released	Released
Form Factor	3U16, 19" rackmount			3U16, 19" rackmount	3U16 / 4U24
Controller	Single/Dual RAID Controller			Single IO controller (J2600sS) Dual IO controller (J2600sD)	Single IO controller
Drive Support	SAS/ SATA (6Gb/s or 3Gb/s), NCQ, TCQ			SAS/ SATA (6Gb/s or 3Gb/s), NCQ, TCQ	SAS/ SATA (6Gb/s or 3Gb/s), NCQ, TCQ
Cache Memory per Controller	2GB Standard (max. 16GB)			N/A	N/A
Max. # of HDDs Supported	112			112	112 / 168
Host Connect Interface	R2600iS/iD 4x 1Gb iSCSI	R2600tiS/tiD/xiS/xiD* 2x 10Gb iSCSI 4x 1Gb iSCSI	R2600fiS/fiD 2x 8Gb FC 4x 1Gb iSCSI	Dual, IN/OUT 6G SAS-wide (x4) port over SFF-8088 (per controller)	Dual, IN/OUT 6G SAS-wide (x4) port over SFF-8088
RAID Levels	0, 1, 1E, 3, 5, 6, 10 (0+1), 30, 50, 60			N/A	N/A
Power Supply	Three redundant 250W Energy-efficient 80PLUS Certified, 90-264V full-ranging w/PFC, Hot swappable N+1 Desgin			Three redundant 250W Energy-efficient 80PLUS Certified, 90-264V full-ranging w/ PFC, Hot swappable N+1 Desgin	Three redundant 250W Energy-efficient 80PLUS Certified, 90-264V full-ranging w/ PFC, Hot swappable N+1 Desgin
Dimensions (HxWxD)	131 x 447 x 507 mm			131 x 447 x 507 mm 5.1 x 17.6 x 20 in	175 x 447 x 461 mm 6.9 x 17.6 x 18.1 in
Weight	20.1 kg (44.3 lbs) w/o drives, 31.3 kg (69 lbs) w/ drives			15 kg (33.1 lbs) w/o drives 26.2 kg (57.8 lbs) w/ drives	
Warranty	3 years and 2 years EW plans			3 years and 2 years EW plans	3 years and 2 years EW plans

*R2600ti supports 10GBASE-T 10 Gbit/s Ethernet over copper twisted pair cable, while R2600xi supports 10G SFP+ over fiberoptic fabric

Contact us