Vess A7000 Series

Application Note

Vess A7000 Performance

The Vess A7000 series comes with 16 or 24 SAS/SATA disk slots and it has one built-in SAS 12Gb expansion port which can handle up to 144 disks via 5 JBODs. With the Vess A7000, you’ll discover how much easier it is to manage all your disks and enclosures via a single WebPAM PROe.

Chosen Product for Intelligent Video Analytics

To handle more advanced Intelligent Video Analytics (IVA) demand in Surveillance market, Vess A7000 series is designed to support multiple add-on graphic cards with embedded GPU to meet the requirement of such advanced projects in the field. The unique SMARTBOOST™ Video technology makes Vess A7000 series more suitable for Vess A7000 series.

Stepping Stone to Artificial Intelligence

Together with the hardware design of scalable add-on GPU, SMARTBOOST™ Video/Storage technology, Vess A7000 series is the best entry point of Artificial Intelligence (AI) applications for your future surveillance demand. Taking good care of your recording videos without frame dropped, reduce your system loading, scalable hardware design to add more GPU onto your system, brings you connected with AI technology without any risk of unnecessary cost.

Typical set-up of Promise Vess Products in Surveillance Projects

<table>
<thead>
<tr>
<th>Camera</th>
<th>Total Cameras # : 160</th>
<th>Required Bandwidth : 870 Mbps</th>
<th>Required Storage : 538.146 TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients</td>
<td>IP Network</td>
<td>VM/Servers</td>
<td>RAID Storage Subsystem</td>
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PROMISE Vess™ A7000
Storage Solutions Designed for Surveillance

Single Package Offering 1PB Raw Capacity
With the latest Vess A7000 series and Vess J3600 series, it’s now available to deliver 1PB raw capacity with 12/14TB HDD full populated. Vess A7000 series can directly attach maximum 5 units JBOD without extra RAID head to provide you the best TCO(Total Cost Ownership) for your surveillance projects.

Dedicated for Surveillance Application
Considering the high surveillance storage demands in certain territories and specialized surveillance applications like Banking, Prison, City Surveillance, Large Scale system, etc., the Vess J3600 paired with Vess A7000 is a robust storage expansion platform. This solution combines is a system building block, installing reliability and flexibility in a cost-effective package simple to administer, while meeting the demands of your application.

Optional Cost-effective Storage Expansion Platform
As the demands for capacity expansion explode for video surveillance, it is imperative that the system administrator’s find a cost-effective way to meet performance and expansion goals. Using Vess J3600s with Vess A6600/A7000 brings an optimal structure of storage expansion platform to save the total system cost without requiring an extra RAID box. The same reliability and quality of Promise Storage appliance for surveillance systems is achieved, helping to solve the overhead of the surveillance system administrators when a larger storage capacity is required.

Simplified Storage Management GUI
Management of Vess J3600 is done using the GUI of Vess A6600/A7000. The Vess A6600/A7000 performs the role of RAID head of Vess J3600 in the storage network. This approach contrast with storage management separated by another RAID head device in a typical storage network arrangement; the Vess J3600 being paired with Vess A3030/A7000 simplifies the storage management platform making storage management easier and more efficient.

SMARTBOOST™ Open storage platforms for video surveillance often come with some challenges with recording, live view and playback via VMS. Our PROMISE SMARTBOOST™ Technology has been specially designed to provide the most stable and high performance storage solutions for surveillance systems.

Stable Performance With Disk Rebuild
Stable performance is crucial for surveillance video recording. Common storage involves constant disk rebuilding, which creates I/O response time lag and makes performance less stable. In surveillance this means that a critical video frame and therefore key value might be lost.

PROMISE SMARTBOOST™ Technology /fine-tunes the RAID engine and balances the rebuild process and pace to provide stable recording performance.

PROMISE understands that rebuild speed is also important for data safety. So, we do not make the rebuild process slow, but we monitor the host I/O and control the throttle property.

Video Playback
Video playback increases I/O handling volume and complexity as playback involves sending Read requests to the disk to access stored data while on-going recording generates numerous Write actions to the disk.
As a result:
- Disk performance will decrease due to the mixed Read and Write commands.
- The disk head moves around to read data at disk locations that may be far away from one another.
Specially developed for surveillance purposes, our PROMISE SMARTBOOST™ Technology improves predictive reading to avoid mixing read and write commands and keep disk performance at a high level.

Minimize CPU Usage
As an open platform for surveillance storage, you can benefit from some extra applications that run on the system. These additional resources won’t impact your storage and leave free memory to run other applications for specific tasks.

PROMISE SMARTBOOST™ Technology not only reduces CPU usage in your internal process, but it also reduces the storage drivers needed to only one CPU core that supports all I/O access. This frees up more CPU space for your other applications.

Large built-in disks and scalable design
The Vess A7000 series comes with 16 or 24 SAS/LATa disk slots and has one built-in SAS 12Gb expansion port which can handle up to 144 disks via 5 JBODs. With the Vess A7000, you’ll discover how much easier it is to manage all your disks and enclosures via a single WebPAM PROe.

Vess A7000 SMARTBOOST™ Mode
Other RAID card

Vess A7000 SMARTBOOST™ Mode