**PROMISE Vess™ A6000**
Purpose Built Storage for Surveillance

**Single Package Offering 1PB Raw Capacity**
With the latest Vess A6000 series and Vess X6000 series, it's now available to deliver 1PB raw capacity with 12/14x 15K SAS full populated. Vess A6000 series can directly attach maximum to 5 units JBOD without extra RAID head to provide you the best TCO/Total Cost of 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 systems, etc., the Vess A6000 series paired with Vess J3600 or Vess K7000 is a robust storage expansion platform. This potent combination 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 demand for capacity expansion explode for video surveillance, it is imperative that the system administrators find a cost-effective way to meet performance and expansion goals. Using less J3600s with Vess A6000/A7000 brings an optional 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 system is achieved, helping to solve the headache 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 A6000/A7000. The Vess J3600 series performs the role of RAID head of Vess J3600 in the storage network. This approach contrasts with storage management separated by another RAID head device in a typical storage network arrangement; the Vess J3600 being paired with Vess A6000/A7000 simplifies the storage management platform making storage management easier and more efficient.

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**Vess A6000 Series**
**Application Note**

**Vess A6000 Performance**
The Vess A6000 series comes with 16 or 24 SAS/SATA disk slots and it has one built-in 512GB expansion port which can handle up to 104 disks via 5 JBODs. With the Vess A6000, you'll discover how much easier it is to manage all your disks and enclosures via a single WebPAM PROe.

<table>
<thead>
<tr>
<th>Vess A6000 Performance</th>
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</thead>
<tbody>
<tr>
<td>Vess A6000 (16TB)</td>
<td>Vess A6000 (24TB)</td>
</tr>
<tr>
<td>Vess A6000 (16TB)</td>
<td>200 GB/s</td>
</tr>
<tr>
<td>Vess A6000 (24TB)</td>
<td>320 GB/s</td>
</tr>
<tr>
<td>Vess A6000 (16TB)</td>
<td>60</td>
</tr>
<tr>
<td>Vess A6000 (24TB)</td>
<td>80</td>
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</tbody>
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**Typical set-up of Promise Vess Products in Surveillance Projects**

**Typical Camera Setup**

<table>
<thead>
<tr>
<th>Camera Model</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H.264 1080P</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>(1920x1080)</td>
</tr>
<tr>
<td>FPS</td>
<td>30</td>
</tr>
</tbody>
</table>

**Criteria:**
- No frame lost
- Overall CPU usage is under 70%
- Pure Recording only/Motion Detection Disabled/RAID Status: Normal RAID 5

**Conclusion:**
Considering the high surveillance storage demands in certain territories and specialized surveillance applications such as Banking, Prisons, City Surveillance, Large-Scale Systems, etc., the Vess J3600s paired with Vess A6000 or Vess A7000 is a robust storage expansion platform. This potent combination is a system building block, installing reliability and flexibility in a cost-effective package, simple to administer, while meeting the demands of your application.

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Flexible PSU
This Power Supply Unit supports three CRPS (Common Redundant Power Supply) PSU units of 550W each with direct connections for power input. You can opt for (1+1) PSU support to support 550W redundant PSU, or (2+1) PSU units to support 1100W redundant PSU.
* We suggest you use (2+1) PSU when adding a VGA card or if you have extra power requirements.

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

Video Recording
Video Management Systems (VMS) need to update their metadata/databases frequently to maintain data consistency. This makes the RAID engine and disk busy because
•  The RAID engine needs to update parity to write small-size commands to partial disk groups.
•  The disk heads need to move to service this kind of data in specific areas.
•  When the disk is busy seeking or servicing those small data packets, it may drag disk performance down, and there is no buffer to handle minor errors or timeouts.

PROMISE SMARTBOOST™ Technology reduces the loading of the RAID driver and frees up time for the disk to handle unexpected errors or slow responses by the disk mechanism. This results in high and stable performance for your video recording.

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.

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 processes, but also allows the storage drivers not to use CPU resources that support all I/O access. This frees up more CPU space for your other applications.

Large built-in disks and scalable design
The Vess A6000 series comes with 16 or 24 SAS/SATA disk slots and it has one built-in 512GB expansion port which can handle up to 144 disks via 5 U.2 SASDs. With the Vess A6000, you’ll discover how much easier it is to manage all your disks and enclosures via a single WebPAM PROe.