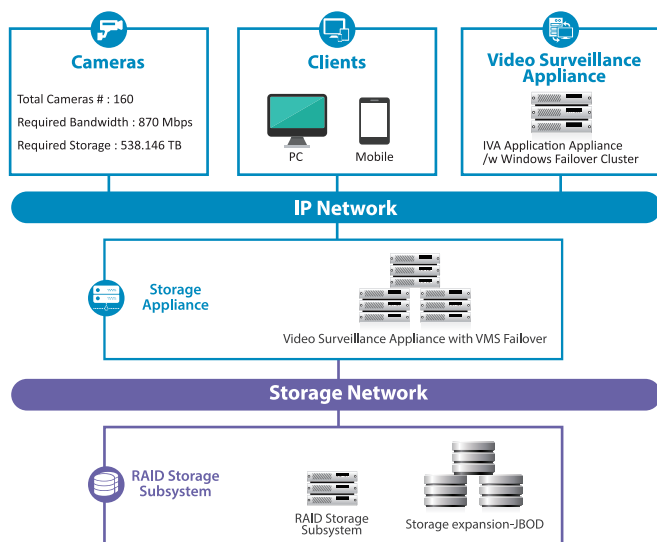# Vess A8600
Enabling Video Analytics on Recording Storage Appliance

Introduction

Use of IP based video surveillance applications have increased exponentially in the past several years and this trend is likely to accelerate. Intelligent Video Analytics (IVA) software has advanced with this trend developing ever more powerful tools for crime prevention and investigation, crowd management, consumer behavior analysis, production management, and many other applications as well as some not yet conceived. IVA software advances coincide with a need for better hardware as these advanced capabilities create a demand for higher performance and greater reliability of the platforms on which they run. Reliable round the clock operation, extreme thermal overhead, high load graphics, uninterrupted video data streams and storage management are key requirements of the underlying surveillance hardware platforms.

Generic Vess Series Product based Video Surveillance Architecture

Cameras
Total Cameras # : 160
Required Bandwidth : 870 Mbps
Required Storage : 538.146 TB

Clients
PC   Mobile

Video Surveillance Appliance
IVA Application Appliance /w Windows Failover Cluster

IP Network

Storage Appliance
Video Surveillance Appliance with VMS Failover

Storage Network

RAID Storage Subsystem
RAID Storage Subsystem   Storage expansion-JBOD

Versatility

PROMISE Vess A8600 is a multipurpose platform designed and optimized for Video Surveillance capable of operating as a Video Recording Appliance. Scalable CPU architecture of the Vess A8600 enables it to handle a very heavy camera recording stream load; or with an added graphics card, it can process complex AI based analytics.

AI Acceleration

The market has responded to the demand for more advanced surveillance capabilities with higher performance hardware platforms. This increase in performance comes with an increase in total cost of surveillance installations. PROMISE SmartBoost™ enhanced Vess A8600 easily handles a large number of cameras while simultaneously providing the resources needed to perform complex AI-based video analytics. In order to perform real-time video analytics, the Vess A8600 features scalable CPU architecture. Addition of a graphics card transforms the Vess A8600 into an AI Accelerator. Vess A8600 is equipped with six PCI Express Gen 3 slots supporting a variety of high performance graphic cards.

IVA Platform

PROMISE Vess A8600, a powerful platform for AI based IVA applications will support up to four NVIDIA RTX A4000 cards. Optimal thermal management is incorporated into the Vess A8600 hardware. This is a very important (and sometimes overlooked) feature for rack mounted servers running uninterrupted in an enterprise environment. The PROMISE RAID based storage database ensures safe, secure, reliable high performance. These factors place Vess A8600 in a front runner position for consideration in any enterprise AI based surveillance plan.
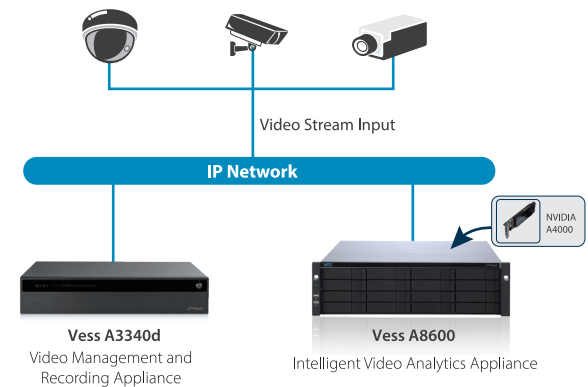
Criteria

Test criteria for verification of major IVA features include online face detection, line crossing, LPR, etc. using BriefCam Rapid Review and Milestone XProtect 2022 R2.

Setup

Intelligent Video Analytics Appliance	Product	Vess A8600, 3U 16Bay, 19" video surveillance appliance
	Drive Support	Up to 16, 3.5" 6G SATA, HDD and SSD
	System Processor	Intel Xeon Silver 4208 @2.1GHz
	System Memory	16GB*2 RAM
	Network Interface	Dual Gigabit Base-T
	Operating System	Microsoft® Windows Server 2019
AI IVA Acceleration	Graphic Card	NVIDIA A4000
Analytic Software	Intelligent Video Analytics software	BriefCam Rapid Review
Video Management Appliance	Product	Vess A3340d, 2U 8Bay, 19" Rackmount
	Operating System	Microsoft® Windows 10 IoT Enterprise
VMS	Video Management Software	Milestone XProtect Corporate 2022 R2

Topology

Video Stream Input

IP Network

NVIDIA A4000

Vess A3340d
Video Management and Recording Appliance
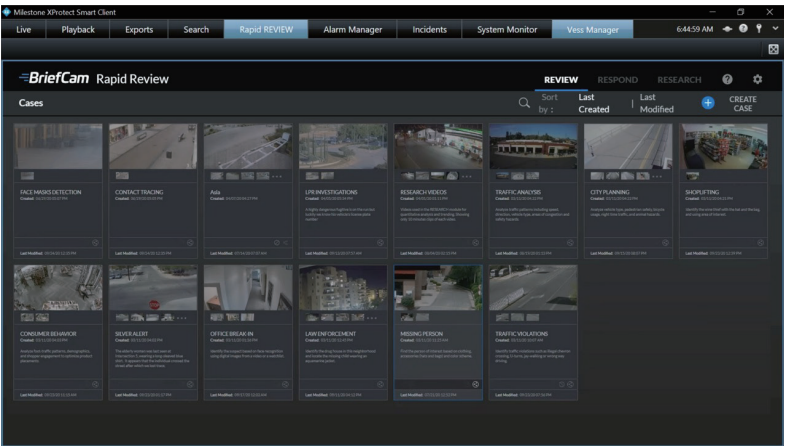
Vess A8600
Intelligent Video Analytics Appliance

Milestone XProtect Corporate 2022 R2

Milestone is a top provider of Video Management Software. XProtect Corporate version high-end enterprise level software is used for managing a large range of video surveillance networks. PROMISE products are tested and verified with Milestone software.

BriefCam Rapid Review

BriefCam is a leading provider of advanced video analytic technology. Rapid Review is VMS-based Video Analytics Platform version from BriefCam. This is a Multiuser Standalone platform that provides a Review module. BriefCam Rapid Review is integrated with Milestone Video Management platform making the Promise-Milestone-BriefCam experience a fully integrated and interoperable system.

Conclusion

Testing has demonstrated that PROMISE Vess A8600 is well-suited for Intelligent Video Analytics applications. PROMISE Vess A Series delivers the perfect combination for operating a video recording and analysis environment. The Vess product lines are qualified and tested with the most widely distributed VMS environments. Vess A8600 equipped with a graphics card performs all essential IVA detection and alerts, including face detection, intrusion detection, face and object search. The combination of Vess A8600 with the graphic card options and Vess A Series recording storage appliances is the most capable, cost effective and reliable setup in the market. The combination easily and reliably handles very high numbers of cameras and performs AI-based IVA operations.