Server and Storage Recommendation

Calculation Information

Configuration Date: September 03, 2020
Configuration Name: Stříbro
Product: XProtect Express+

Integrator Details
First name: Martin
Last name: Praveček
Company: -
Email: martin.pravecek@ketnet.cz
Phone: +420603568940

Cameras

Camera Name	Manufacturer / Model	Qty	Resolution / Codec / Complexity	Continous FPS	Event FPS	Hours	Motion / Event %	Retention (Days)	Bitrate (Kbps)
IQ765N	IQinVision IQ765N	8	5MP (2592x1944) h.264 Medium-Low (Typical)	15	0	24	0	14	6414.2
IQ755	IQinVision IQEye 700 series	7	5MP (2592x1944) MJPEG Medium-Low (Typical)	10	0	24	0	14	29747.23
DAHUA SD59230U-HNI	Dahua DH-SD59230U-HNI	13	2MP (1600x1200) h.264 Medium-Low (Typical)	15	0	24	0	14	2444.07
DAHUA SD59430U-HNI	Dahua 59430U-HNI	1	4MP (2032x1920) h.264 Medium-Low (Typical)	15	0	24	0	14	4966.34
HikVision DS-2CD4B36FWD-IZS	HikVision DS-2CD4B36FWD-IZS	1	3MP (2048x1536) h.264 Medium-Low (Typical)	15	0	24	0	14	4004.35
Hikvision DS-2CD2642FWD-IZS	HikVision DS-2CD2642FWD-IZS	1	4MP (2032x1920) h.264 Medium-Low (Typical)	15	0	24	0	14	4966.34
Hikvision DS-2DE7230IW-AE	HikVision DS-2DE7230IW-AE	1	2MP (1600x1200) h.264 Medium-Low (Typical)	15	0	24	0	14	2444.07
DAHUA IPC-HFW5541E-ZE	Dahua DH-IPC-HFW5541E-ZE	3	5MP (2592x1944) h.264 Medium-Low (Typical)	15	0	24	0	14	6414.2

Recording Server Specification

Qty
1 x Server(s) with the following configuration
Intel Xeon E5-2609 v4
16 GB RAM
2 Gigabit NICs
Windows Server 2016 x64 Standard/Datacenter
OS and Application Volume - Disk Configuration:
2 x 300 GB minimum RAID 1
Video Database Disk Configuration:
Connectivity Internal or Direct Attached

Camera Bandwidth to Rec. Server:	319.28	Mbps
Client Bandwidth from Rec. Server:	27.36	Mbps
Rec. Server Bandwidth:	346.64	Mbps
Rec. Server Disk Throughput Total:	39.92	MB/sec
Estimated IOPS:	212.91	
Rec. Server Video Storage:	47143.40	GB

12 x	7.2K RPM	10TB	RAID 1 / RAID10

Management Server Notes:	Recording server specifications include support for the Management Server.
Disk Notes:	Since there will not be separate arrays for the Live and Archive Databases, it is recommended to not setup archiving. If there are multiple arrays then the cameras need to be evenly distributed between the arrays. The calculations have been done assuming that the system is not archiving.
Network Notes:	Bandwidth calculations are done assuming 3 cameras being viewed simultaneously from each server. Milestone recommends using at least two network cards so the client network and camera network can be separated. A minimum of two network cards are used in this configuration for that reason.
SQL Maintenance Notes:	SQL server should be set to a regular backup schedule and transaction logs truncated as part of the scheduled backup process.
GENERAL DISCLAIMER:	All information, to include but not limited to, documentation, configuration calculations, installation and trouble-shooting advice, consultancy and support services which may be provided within this email is delivered 'as is' without warranty of any kind. Unless otherwise agreed in writing between you and Milestone Systems A/S or its Affiliates, system integrator, as the recipient, agree to assume the entire risk as to the results and performance achieved or not achieved by reliance on such information. Milestone Systems A/S and its Affiliates shall, to the extent allowed by law, assume no liability for the Recipient's reliance on such information and disclaims all warranties, whether express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, title and non-infringement, or any warranty arising out of any proposal, specification or sample with respect to the email. Furthermore, Milestone Systems A/S and its Affiliates shall not be liable for loss of data, loss of production, loss of profit, loss of use, loss of contracts or for any other consequential, economic or indirect loss whatsoever in respect of delivery, use or disposition from the content of this email.

** All figures above assume an even distribution of cameras (quantity and resolution) across all Recording Servers.