DSS Professional System Requirements & Performance

V8.2.0

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1 System Requirements

Feature	Description
OS for DSS Professional Server	Microsoft® Windows Server 2019 Standard (64-bit) Microsoft® Windows 10 20H2 Pro (64-bit) Microsoft® Windows 11 21H2 Pro (64-bit)
OS for DSS PC Client	Microsoft® Windows 10 20H2 Pro (32-bit) Microsoft® Windows 10 20H2 Pro (64-bit) Microsoft® Windows 11 21H2 Pro (64-bit) Microsoft® Windows Server 2019 Standard (64-bit)
OS for DSS Mobile Client	iOS 10.0 and above Android 5.0 and above

2 Performance

2.1 Hardware for Server

Feature	Minimum	Recommended
CPU	Intel Xeon E-2224 3.4GHz, 8M cache	Intel Xeon Silver 4114@ 2.2GHz 10 Core Processor
Memory	8GB	16 GB
System Disk	1TB 7.2K RPM SATA 6Gbps 512n 3.5in Cabled Hard Drive	1TB 7.2K RPM SATA 6Gbps 512n 3.5in Hot-plug Hard Drive
Storage Disk	7200 RPM Enterprise Class HDD	7200 RPM Enterprise Class HDD
Ethernet Port	2 Ports@1000 Mbps	4 Ports@1000 Mbps

2.2 Maximum Performance

Contents		Minimum	Recommended
Organizaton, User and Role	Organizations	10 levels; 999 organizatons in total	
	Role(User Permission)	500 roles	
	User	10 online users and 2, 500 total users	200 online users and 2, 500 total users
	Role for a User	32 users	
	DSS Agile VDP User	50 online users and 5, 000 total users	500 online users and 5, 000 total users
Recording Plan	General Recording Plans	256	3,000
	Motion Detection Recording Plans	256	3,000
	Video Retrieval Plans	256	3,000
	File Retrieval Plans	256	3,000
Event	Event Rules	256	3,000
	Combined Event Rules	100	100
	Combined Events	128	1,000
Map	Hierarchies	8 Hierarchies	
	Size of Offline GIS Map Package	500 MB	
	Raster Maps	32	256
	Submaps per Map	32	
	Maximum Size of Raster Map	15 MB	
	Raster Map Resoluton	8, 100 × 8, 100	

Contents		Minimum	Recommended
Map	Resources on GIS Map	300	
	Resources per Raster Map	300	
	Radars	20	
Person and Vehicle Management	Person and Vehicle Groups	999	999
	Sub Groups per Level (Main Group Included)	10	10
	Persons	5,000	300,000
	Cards	10,000	600,000
	Faces	5,000	300,000
	Fingerprints	10,000	600,000
	Vehicles	5,000	50,000
Face and Vehicle Watch Lists	Face Watch Lists	50	
	Total Faces	5,000	300,000
	Faces per Face Watch List	5,000	50,000
	Vehicle Watch Lists	32	
	Vehicles per Vehicle Watch List	5,000	50,000
Access Control		5,000	30,000
	Access Permision Groups	50	
	Door Groups	50	500

Contents		Minimum	Recommended
Access Control	Public Passwords	1,500	
Video Intercom	Rooms	5,000	
	Persons for a Room	10	
	VDP Accounts for a Room	5	
Attendance Data	Attendance Terminals	64	
	Attendance Periods	64	
	Attendance Shifts	100	
Intelligent Analysis	People Counting Groups	30	30
	People Counting Rules	20	20
Parking Lot Management	Vehicles	5,000	50,000
	Vehicle Groups	32	32
	Parking Lots	4	16
	Entrances and Exits	12	60
	Entrance and Exit Points	12	60
	License Plates for per Reserve Parking Space	10,000	10,000
	Parking Space Detectors for per Parking Lot	100	500
	Parking Spaces for per Parking Lot	300	1,500

Contents		Minimum	Recommended
Parking Lot Management	Parking Spacse Available Displays for per Parking Lot	10	30
	Image Size for a Layer	15 MB	15 MB
	Resolution for a layer	8100 × 8100	8100 × 8100
	Total Layers	32	128
	Layers for per Parking Lot	16	16
	Resources for per Layer (parking spaces not included)	200	600
	Parking Spaces for per Layer	300	1,000
	Vehicle Search Rules	32	
Group Talk	Groups	10	30
	User in a Group	20	100
Notification Center Message		1,000	
Synthesis	Bridges	5	
	Incoming Trigger Event	100	
	Incoming Trigger Source	500	
Data Info	Event Records	5,000,000	20,000,000
	Face Recogniton Records	5,000,000	20,000,000
	ANPR Records	5,000,000	

Contents		Minimum	Recommended
Data Info	Video Metadata Records	5,000,000	
	Access Control Records	5,000,000	
	Atendance Records	5,000,000	
	Video Intercom Records	5,000,000	
	Visitor Records	5,000,000	
	Lift Control Records	5,000,000	
	Entrance Records	5,000,000	
	Exit Records	5,000,000	
	Parking Records	5,000,000	
	Forced Exit Records	5,000,000	
	Historical People Counting Records	5,000,000	
	In Area Statistical Records	5,000,000	
	Heat Map Records	5,000,000	
	MPT Records	5,000,000	
	Operator Logs	5,000,000	
	Service Logs	5,000,000	

Data Info	**Independent database deployment**		
	Event Records	NA	30,000,000
	Face Recognition	NA	30,000,000
	ANPR records	NA	30,000,000
	Metadata Records	NA	30,000,000

Contents		Minimum	Recommended
Single Server			
Total Devices	Devices	512 devices	2, 000 devices
	Auto-Registrated Devices	1, 000 devices	10, 000 devices
Video Devices and Channels	Total Video Devices and Channels	256 devices; 256 channels	1, 000 devices; 2, 000 channels
	Devices Added by Hikivision Protocol	256 devices; 256 channels	500 devices; 2, 000 channels
	P2P Video Devices	32 devices	32 devices
	Devices Added by ONVIF Protocol	256 devices; 256 channels	1000 devices; 2000 channels
	ANPR Channels	64 channels (12 channels for entrance)	500 channels (60 channels for entrance)
	Face Recognition Channels	64 channels	100 devices; 500 channels
	Video Metadata Channels	64 channels	500 channels
	People Counting Channels	16 channels	100 channels
	Heat Map Channels	16 channels	100 channels
	POS Channels	16 channels	100 channels
	MPT Devices	32 devices; 32 channels	100 devices; 100 channels
	EEC Devices	8 devices	64 devices
	MDVR/MNVR	32 devices; 256 channels	100 devices; 800 channels
ACS Devices	Access Control Devices and Lift Control Devices	64 devices; 64 doors	500 devices; 1, 000 channels
	Access Control Devices	64 devices; 64 doors	500 devices; 1, 000 channels
	Lift Control Devices	64 devices; 64 doors	500 devices; 1, 000 channels

Contents		Minimum	Recommended
Single Server			
ACS Devices	Video Intercom Devices	256 devices	2, 000 devices
Alarm Devices	Alarm Controllers	16 devices; 160 zones	100 devices; 1, 000 zones
	Emgergency Phone Towers	256 devices; 256 channels	1, 000 devices; 1, 000 channels
	EAS Alarm Channels	1, 000 channels	2, 000 channels
Security Screening Devices	Security Screening Machine	10 devices	20 devices
	Walk-through Metal Detector	10 devices	60 devices
	Parking Space Detectors	100 devices; 300 parking spaces	500 devices; 1, 500 parking spaces
	Parking Space Available Displays	50	150
Radars	Radar Devices	4	20
Intelligent Analysis	People Counting Channels	16 channels	100 channels
	Heat Map Channels	16 channels	100 channels
Multi-site	Sites	100 sites	
	Total Devices in Multi-site	10, 000 devices; 20, 000 channels	
Media Transmission Server	Video Input per Server	350 Mbps	600 Mbps
	Video Output per Server	350 Mbps	600 Mbps
Playback, Storage and Download	Storage Bandwidth per Server	350 Mbps	600 Mbps
	Prerecording Bandwidth for Alarm Recordings	150 Mbps	400 Mbps
	Maximum Capacity per Storage Server	100 TB	400 TB

Contents		Minimum	Recommended
Pictures	Picture Bandwidth *Including event/alarm pictures, face	100 Mbps	200 Mbps
Events	Storage of Events or Alarms without Pictures	60 per second	300 per second
	Access Control Events	60 per second	300 per second
	Number of Combined Events	20 per second	100 per second
Multi-Servers			
Number of sub servers per system	Sub Server	NA	Up to 10
Total Devices	Devices	NA	20, 000 devices
	Auto-Registred Devices	NA	10, 000 devices
Video Devices and Channels	Total Video Devices and Channels	NA	10, 000 devices; 20, 000 channels
	Devices Added by Hikivision Protocol	NA	5, 000 devices; 50, 000 channels
	P2P Video Devices	NA	32 devices
	ANPR Channels	NA	5, 000 channels
	Face Recognition Channels	NA	1, 000 devices; 5, 000 channels
	Video Metadata Channels	NA	5, 000 channels
	People Counting Channels	NA	300 channels
	Heat Map Channels	NA	300 channels
	POS Channels	NA	300 channels

Contents		Minimum	Recommended
Multi-Servers			
Video Devices and Channels	MPT Devices	300 devices; 300 channels	
	EEC Devices	64 devices	
	MDVR/MNVR	NA	1, 000 devices; 8, 000 channels
ACS Devices	Access Control	NA	2, 000 devices
	VDP	NA	500 devices
Alarm Devices	Alarm Controller	NA	200 devices
Security Screening Devices	Security Screening Machine	NA	600 devices
	Walk-through Metal Detector	NA	500 devices; 1, 000 zones
Alarm Devices	Alarm Controllers	NA	10, 000 devices; 2, 000 channels
	Emgergency Phone Towers	NA	20
	EAS Alarm Channels	NA	20, 000 channels
Radar Devices	Radar Devices	NA	2, 000 Mbps
Pictures	Picture Bandwidth *Including event/alarm pictures, face	NA	600 per second
Events	Storage of Events or Alarms without Pictures	NA	600 per second
	Access Control Events	NA	100 per second
	Number of Combined Events	NA	100 per second

3 Decoding Performance

3.1 Hardware for DSS PC Client

Feature	Minumun	High
CPU	Intel® Core™ i5-9500 CPU @3.00GHz	Intel® Core™ i7-11700 CPU @2.50GHz
Memory	16.0GB	16.0GB
Graphic Card	Intel® UHD Graphics 630	NVIDIA® GeForce® RTX 3060
OS	Win10 64bit	Win10 64bit

3.2 Performance in Software Decoding

Encoding Format	Frame Rate (fps)	Bit Rate (Mbps)	Resolution		
				Minumun	High
H.264H	30	0.5	CIF (352 × 288)	128	138
	30	1	D1 (704 × 576)	56	78
	30	4	720p (1280 × 720)	44	40
	30	1	1080p (1920 × 1080)	22	23
	30	4	4 MP (2688 × 1520)	10	11
	30	8	8 MP (3840 × 2160)	5	5
H.265	30	0.25	CIF (352 × 288)	128	112
	30	1	720p (1280 × 720)	30	28
	30	2	1080p (1920 × 1080)	15	13
	30	2	4 MP (2688 × 1520)	7	6
	30	4	8 MP (3840 × 2160)	3	3
Smart H.265+	30	1	720p (1280 × 720)	30	25
	30	2	1080p (1920 × 1080)	14	13
	30	2	4 MP (2688 × 1520)	7	6
	30	4	8 MP (3840 × 2160)	4	3

3.3 Performance in Hardware Decoding

Encoding Format	Frame Rate (fps)	Bit Rate (Mbps)	Resolution		
				Minumun	High
H.264H	30	0.5	CIF (352 × 288)	109	156
	30	1	D1 (704 × 576)	109	94
	30	4	720p (1280 × 720)	62	51
	30	1	1080p (1920 × 1080)	28	25
	30	4	4 MP (2688 × 1520)	14	13
	30	8	8 MP (3840 × 2160)	7	5
H.265	30	0.25	CIF (352 × 288)	109	150
	30	1	720p (1280 × 720)	64	72
	30	2	1080p (1920 × 1080)	24	46
	30	2	4 MP (2688 × 1520)	16	25
	30	4	8 MP (3840 × 2160)	8	12
Smart H.265+	30	1	720p (1280 × 720)	64	76
	30	2	1080p (1920 × 1080)	31	46
	30	2	4 MP (2688 × 1520)	16	26
	30	4	8 MP (3840 × 2160)	8	7

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