



# Latitude 8.0 Server Specifications

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1.1	August 15, 2017	Update Windows edition
1.2	February 28, 2019	Update Supported Operating Systems, Update to SQL Express max storage size

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# 1. Introduction

Latitude NVMS 8.0 is a distributed software system. It provides various installation options to meet with variable system considerations such as cost, topology and performance requirements. This document provides information about the hardware requirements as well as related operating systems.

Any Latitude System is comprised of server components and client applications that interact with the server side. This document covers the specifications for the server side. You can find information on the Client Workstation Specifications in the [FLIR\\_United\\_VMS\\_8.0\\_Client\\_Workstation\\_Specification](#) document

# 2. Supported Operating Systems

FLIR Latitude supports the following Microsoft Windows® operating systems for server-side installation:

Operating System	Client	Server
<b>Microsoft Windows®</b>		
Windows 7 Professional SP1 - 64 bit	upgrade only	upgrade only
Windows 8 Pro / Enterprise - 64 bit	upgrade only	upgrade only
Windows 8.1 Pro / Enterprise - 64 bit	✓	✓
Windows 10 Pro / Enterprise - 64 bit	✓	✓
Server 2008 R2 SP1 - 64 bit		upgrade only
Server 2012 - 64 bit		✓
Server 2012 R2 - 64 bit		✓
Server 2016 – 64 bit		✓

## 3. Hardware Requirements

### 3.1 Virtual Machine Support

Latitude services may be installed on a virtual machine (VM) using VMware software. VMware ESXi 5.1 was officially tested and approved, but similar versions such as VMware ESXi 6.x, work as well.

The system requirements for a VM are the same as for dedicated physical machines, but a certain performance overhead of the virtualization layer must be taken into consideration when designing a virtualized HW solution. Comparing physical hardware with a VM (configured with the same resource allocation) will result in a decreased performance, regardless of the VMS software. Different VM setups will provide different performance schemes.

**Optimal performance** can be achieved by the following **recommended settings**:

1. Resource allocation reservation according to system requirements.
2. VMware ESXi version 6.x and up
3. RAID 0 settings
4. Local hard drive
5. Following the FLIR's VMware setup guidelines document.

Estimated decrease in performance of the virtualization layer for the above optimal VM settings is **25%**.

#### **Important Notes:**

1. It is highly recommended to set up the VM by a certified VMware technician.
2. Using non-recommended VM setup may cause major decrease in performance.
3. For a Directory with more than 5000 cameras or more than 100 concurrent connections, a physical server is **required**. Since system loading is not linear, setting up such system on a VM will most likely not provide the same performance as a corresponding physical machine.

## 3.2 Directory / EDB / Web Server

The Directory is the pivot of the Latitude system. Every Latitude system has a single primary Directory and can optionally have additional Failover Directories. As best practice, the Directory server should also host the EDB service, and the Failover Directory server should host the failover EDB server. The Directory server can optionally host the Web server.

Name	Minimum	Recommended	High Performance	Very High Performance
<b>System Size</b>	Up to 100 cameras and 10 concurrent connections	Up to 500 cameras and 25 concurrent connections	Up to 1,000 cameras and 75 concurrent connections	Up to 10,000 cameras and 150 concurrent connections
<b>Processor</b>	Intel Quad Core Xeon 2.0 GHz	Intel E5-2620 v4	Intel E5-2640 v4	2 X Intel E5-2667 v4
<b>RAM</b>	4GB	8GB	16GB	32GB
<b>Hard Drive</b>	7200 RPM 60 GB for OS+SW 20 GB for DB	7200 RPM 80 GB for OS+SW 50 GB for DB	7200 RPM or better 80 GB for OS+SW 50 GB for DB	SSD 80 GB for OS+SW 50 GB for DB
<b>Network Interface</b>	1 X 1Gbps	1 X 1Gbps	2 X 1Gbps	2 X 1Gbps
<b>Operating System</b>	<u>Any supported OS</u> (Section2)	Windows Server 2012 R2 64-bit	Windows Server 2012 R2 64-bit	Windows Server 2012 R2 64-bit

- Concurrent connection: A connection to the Directory from any service or client application at a single time - for example, from Archiver, Transcoder, EDB, Gateway, Control Center, Admin Center, Application Server and SDK applications.
- For systems with more than 2000 cameras it is required to consult FLIR Technical Center of Excellence at [TCX@flir.com](mailto:TCX@flir.com) in order to arrive at a proper system design and hardware selection.

### 3.3 Archiver

The Archiver server manages edge devices and operates the recording and playback of video, audio and meta-data. The specification for the Archiver server depends on the required performance in terms of number of cameras and resolution needed.

Name	Minimum	Recommended	High Performance
<b>Processor</b>	Intel Quad Core Xeon 2.0 GHz	Intel E3-1220 v6	Intel E5-2620 v4
<b>RAM</b>	4GB	8GB	16GB
<b>System Storage</b>	7200 RPM 60 GB for OS+SW 20 GB for DB	7200 RPM 80 GB for OS+SW 50 GB for DB	7200 RPM or better 80 GB for OS+SW 50 GB for DB
<b>Video Storage</b>	7200 RPM Standalone configured as independent physical and logical drive(s)	7200 RPM RAID5 Array(s) Global Hot Spare(s)	7200 RPM RAID5 Array(s) Global Hot Spare(s)
<b>Network Interface</b>	1 X 1Gbps	2 X 1Gbps	2 X 1Gbps
<b>Operating System</b>	<u>Any supported OS</u> (Section2)	Windows Server 2012 R2 64-bit	Windows Server 2012 R2 64-bit

- Maximum storage capacity up to 500TB per Archiver.
- For storage sizes above 200TB, please contact FLIR Sales Engineering, as SQL Standard edition may be required.
- Storage retention calculations are specific to each systems configuration, such as: number of cameras, resolution, frame rate, retention settings, etc. For more information about storage, please contact FLIR Sales Engineer in your region.

### 3.3.1 Archiver Performance

The Archiver Server can manage and record multiple video-streams. The table below describes the maximum bandwidth and maximum number of cameras for live and recording and for viewing playback.

Name	Minimum	Recommended	High Performance
<b>System Size</b>	Up to 100 cameras or 100 Mbps	Up to 300 cameras or 300 Mbps	Up to 500 cameras or 500 Mbps
<b>Total Viewing Streams (playbacks and live proxy)</b>	Up to 15 streams and 30 Mbps	Up to 30 streams and 60 Mbps	Up to 40 streams and 80 Mbps

- If System Size is smaller than the maximum, the Total Viewing Streams can be higher, as long as the total throughput (system size + viewing) does not exceed the numbers above. For example, a dedicated Archiver machine with 'High Performance' spec, and managing 300 cameras of 1Mbps, can support up to 240 Total Viewing Streams or 280 Mbps.
- The numbers above refer to a dedicated physical machine for the Archiver. For all-in-one machine (Directory + Archiver + Transcoder + EDB) – the archiver limit is reduced to 66% of numbers above.
- Proxy Video: A live video stream that is transmitted from a Latitude Archiver (video source) to a client on behalf of a camera unit. This is the default configuration of a Latitude system. A client in this case can be defined as a Control Center, Admin Center, or Transcoder service (source for Web Client and mobile application/user). To configure a Latitude Archiver to not proxy video will require multicast support on the network between camera units and the clients. Additional configuration within the Latitude Archiver might also be necessary depending on the network design



### 3.3.2 Mass Export Performance

The Mass Export feature allows users to export a large amount of data from the Archiver storage to a different hard drive, normally faster than any other method of export. The target hard drive can be a local drive, an external drive, direct attached storage, NAS or SAN (Tape drives are not supported). Mass Export jobs are processed by the Archiver service.

**Note:** The following examples of Mass Export configurations only provide general recommendations and estimated performance. Due to the many variable factors that constitute a working system these are just estimations and do not guarantee performance.

#### 3.3.2.1 Performance example # 1

- Archiving Storage: 10TB RAID 5, 20 Disks, Direct Attached Storage
- Export Storage: 10TB RAID 5, 20 Disks, Direct Attached Storage

Recording Throughput	Estimated Mass Export Throughput	Estimated Time to Export 100 GB	Estimated Time to Export 1 TB
200Mbps	50Mbps	4 Hours 25 Min	1 Day 20 Hours
150Mbps	120Mbps	1 Hour 50 Min	18 Hours 20 Min
100Mbps	180Mbps	1 Hour 15 Min	12 Hours 30 Min
0 (Emergency mode)	350Mbps	40 Min	6 Hours 40 Min

#### 3.3.2.2 Performance example # 2

- Archiving Storage: 10TB RAID 5, 20 Disks, Direct Attached Storage
- Export Storage: a single 145GB external hard drive, USB connection

Recording Throughput	Estimated Mass Export Throughput	Estimated Time to Export 100 GB	Estimated Time to Export 1 TB
200Mbps	40Mbps	5 Hours 40 Min	2 Day 9 Hours
150Mbps	100Mbps	2 Hour 15 Min	22 Hours 30 Min
100Mbps	150Mbps	1 Hour 30 Min	15 Hours
0 (Emergency mode)	180Mbps	1 Hour 15 Min	12 Hours 30 Min

### 3.4 Global Admin Server

Global Admin Server is optional and can be added to user with multiple systems to allow user credentials of selected Users and User Groups to be shared and managed across all the organization's systems.

Name	Minimum	Recommended	High Performance
<b>Number of Systems</b>	5	50	100
<b>Processor</b>	Intel Quad Core Xeon 2.0 GHz	Intel E5-2620 v4	Intel E5-2640 v4
<b>RAM</b>	4GB	8GB	16GB
<b>Hard Drive</b>	7200 RPM 60 GB for OS+SW 30 GB for DB	7200 RPM 80 GB for OS+SW 50 GB for DB	SSD 80 GB for OS+SW 50 GB for DB
<b>Network Interface</b>	1 X 1Gbps	1 X 1Gbps	2 X 1Gbps
<b>Operating System</b>	<u>Any supported OS</u> (Section2)	Windows Server 2012 R2 64-bit	Windows Server 2012 R2 64-bit

### 3.5 Transcoder / Gateway

The Transcoder server is used to stream video to the web client, to the mobile app and is also used in conjunction with the Gateway to stream video to remote stations. Transcoder and gateway can reside on the same machine.

Name	Minimum	Recommended	High Performance
<b>System Size</b>	Up to 10 Transcoding sessions and 10Mbps input streams	Up to 20 Transcoding sessions and 20Mbps input streams	Up to 40 Transcoding sessions and 40Mbps input streams
<b>Processor</b>	Intel Quad Core Xeon 2.0 GHz	Intel E3-1220 v6	Intel E5-2620 v4
<b>RAM</b>	4GB	8GB	16GB
<b>Hard Drive</b>	7200 RPM or better 60 GB for OS+SW	7200 RPM or better 80 GB for OS+SW	7200 RPM or better 80 GB for OS+SW
<b>Network Interface</b>	1 X 1Gbps	2 X 1Gbps	2 X 1Gbps
<b>Operating System</b>	<u>Any supported OS</u> (Section2)	Windows Server 2012 R2 64-bit	Windows Server 2012 R2 64-bit

### 3.6 Client

For Client Workstation requirements, please see the companion document **United VMS Client Workstation Specification**.

## 4. Additional Information and Resources

For more information about the VMS system, visit [FLIR Security website](#), or contact a FLIR Sales Engineer in your region.

## 5. Disclaimer

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