Skype for Business client video resolutions

Summary: Review the client video requirements while planning for Skype for Business Server.

This article describes video hardware support for Skype for Business video calls and describes how to determine the expected video quality for various computer, tablet, and mobile device configurations.

IT Professionals will find this information useful in assessing the suitability of laptops already in use in their organization, or under consideration for use. They can also search the Solutions Catalog for information on specific devices.

Windows desktop, Mac and tablet video requirements and capabilities

Skype for Business uses hardware acceleration for video encoding and decoding based on the H.264/MPEG-4 Part 10 Advanced Video Coding standard. This allows computers with lower CPU clock speeds to encode and decode higher resolution video. Video hardware requirements vary depending on the computer configuration and the video resolution wanted.

Also see Windows and Mac hardware requirements.

Video hardware requirements

Video hardware requirements

Feature	Requirement
Hardware accelerated H.264 decoding using DirectX Video Acceleration (DXVA)	• Graphics card must support DirectX 9.0 and must expose the DXVA2_ModeH264_VLD_NoFGT decoding mode and the DirectX 9 API. • The latest graphics card driver must be installed. The following Intel hardware accelerated video encoding solutions are supported:

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Feature	Requirement
Hardware accelerated H.264 encoding: Chipset Requirements	• Second- and third-generation Intel HD Graphics 2000, 2500, 3000, and 4000 chipsets (or later versions) with integrated hardware video encoders. Installation of the Intel HD Graphics driver 15.28.9.2884 or the latest driver containing the following is required: • Display driver 9.17.10.2884 or the latest driver • Hardware media foundation transform (HMFT) version 3.12.10.31 or the latest HMFT The following AMD hardware accelerated video encoding solutions are supported: • AMD Video Codec Engine, which is available in several discrete graphics cards and in integrated accelerated processing units of AMD A-Series Accelerated Processors. The AMD Video Codec Engine driver 9.12.0.0 or higher must be installed.
Hardware accelerated H.264 encoding: Camera Requirements	USB video cameras with integrated H.264 hardware encoder that conforms to the USB Video Class (UVC) specification version 1.5. **Note:** Skype for Business supports UVC 1.5 cameras with Windows 8 or Windows 8.1, which includes support for UVC 1.5. Because Windows 7 does not include support for UVC 1.5, Skype for Business treats UVC 1.5 cameras as regular cameras with no hardware encoding support.

Determining H.264 video encoding and decoding capabilities

Generally, there are four major factors that determine the maximum encoding and decoding capability of a particular computer configuration:

- Support for hardware accelerated decoding by using DXVA

- Support for hardware accelerated encoding

- Number of physical cores

- Windows Experience Index (WEI)

The Windows System Assessment Tool (WinSAT) determines the WEI. When you run the WinSAT tool, it generates a Formal.Assessment XML document on the computer in the %windir%\Performance\WinSAT\DataStore directory. This XML file contains the following two scores that are of particular importance for determining encoding and decoding capabilities:

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- The VideoEncodeScore indicates the software-based video encoding capability of the computer.

- The GraphicsScore value indicates the hardware accelerated encoding capability of the computer.

The following three tables explain the maximum encoding and decoding capability for different PC types depending on what hardware acceleration they support. For resolutions of 640x360 and higher, the maximum supported frame rate is 30 frames per second (fps). For resolutions lower than 640x360, the maximum supported frame rate is 15 fps.

Computer Without DXVA And Without Hardware Accelerated Encoder

Table 2

Capable Encoder Resolution	Capable Decoder Resolution	Requirement
424x240	424x240 (640x360 at 15fps for receive only scenarios)	1 Core and VideoEncodeScore ≥ 4.0
640x360	640x360	2 Cores and VideoEncodeScore ≥ 4.5
640x360	1280x720	2 Cores and VideoEncodeScore ≥ 4.5
640x360	1920x1080	4 Cores and VideoEncodeScore ≥ 4.5
1280x720	1280x720	4 Cores and VideoEncodeScore ≥ 7.3
1280x720	1920x1080	4 Cores and VideoEncodeScore ≥ 7.3
1920x1080	1920x1080	N/A

Computer With DXVA But Without Hardware Accelerated Encoder

Table 3

Capable Encoder Resolution	Capable Decoder Resolution	Requirement
424x240	1920x1080	1 Core and VideoEncodeScore ≥ 3.0
640x360	1920x1080	2 Cores and VideoEncodeScore ≥ 4.5

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Capable Encoder Resolution	Capable Decoder Resolution	Requirement
960x540	1920x1080	2 Cores and VideoEncodeScore ≥ 6.0
1280x720	1920x1080	4 Cores and VideoEncodeScore ≥ 6.7
1920x1080	1920x1080	4 Cores and VideoEncodeScore ≥ 8.2

Note

The WinSAT score on Windows 7 is limited to a maximum of 7.9. Therefore, the encoding capability for a computer without a hardware accelerated encoder can only be achieved on Windows 8 or Windows 8.1, where the maximum WinSAT score is 9.9.

Computer With DXVA And With Intel HD Graphics Hardware Accelerated Encoder

Table 4

Capable Encoder Resolution	Capable Decoder Resolution	Requirement
1280x720	1920x1080	All 2nd and 3rd generation Intel HD Graphics
1920x1080	1920x1080	2nd and 3rd generation Intel HD Graphics and GraphicsScore ≥ 5.0

Mobile device video capabilities

The following table describes the maximum video resolutions available on supported mobile devices. For more information about mobile device support, Mobile client feature comparison for Skype for Business.

Mobile device video capabilities

Feature	Windows Phone	iPhone	iPad	Android
H.264 encoding maximum resolution	VGA	QVGA: iPhone 4S VGA: iPhone 5	VGA: iPad 2 and later/iPad mini 1 and later 720p: iPad Air/iPad	Up to VGA depending on device model

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Feature	Windows Phone	iPhone	iPad	Android
H.264 decoding maximum resolution	VGA	720p: iPhone 5S and later QVGA: iPhone 4S VGA: iPhone 5 720p: iPhone 5S and later	mini 2/iPad Pro and later VGA: iPad 2 and later/iPad mini 1 and later 720p: iPad Air/iPad mini 2/iPad Pro and later	Up to VGA depending on device model

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