

Streaming Presentations Across the Network

Windows Media Publish to ASF for Microsoft PowerPoint 97 lets you publish audiovisual PowerPoint presentations for playback on the Internet or a corporate intranet. Using a unique method of packaging multimedia information (.asf format), Windows Media Publish to ASF compresses your presentation and streams it across the network. When a user goes to a Web page and clicks on your presentation's URL, the .asf file's time-synchronized images and audio play back as soon as the computer begins receiving the data. You engage your audience without the long delays typical of downloaded multimedia files.

Converting your PowerPoint presentation to .asf format widens its availability, making it possible for users to conveniently access your presentation from any network location. Once you convert your presentation to .asf format, you can play it from:

- An Internet HTTP server
- A corporate intranet
- A Windows Media server
- A local computer

If you intend to stream your presentation from a Web page, you'll need to create an .asx file. This text file transfers control of the data stream from the HTTP browser to the Microsoft Windows Media Player, so that the data can stream. Consult with your system administrator for placing your ASF presentation on an Internet or intranet server.

If you intend to stream your presentation from a Windows Media server, you have several options for how to do it. See the Windows Media Documentation installed with Windows Media Services or your Windows Media system administrator for information on how to store and stream the presentation.

Since ASF is extensible, you can embed your ASF presentations in applications written in Microsoft Visual Basic, Visual C++, or C, and link your presentation to ActiveX controls. This lets you activate ASF streaming presentations from custom Web pages in a variety of ways.

Related Topics

[Playing an ASF File](#)

[Creating an ASX File](#)

Using Windows Media Publish to ASF

With Windows Media Publish to ASF for Microsoft PowerPoint 97 you can publish audio-visual PowerPoint presentations on the Internet or a corporate intranet. It converts and compresses your presentation, preparing it for streaming across a network.

▶ **Before using Windows Media Publish to ASF, make sure you have:**

- Created a set of PowerPoint slides.
- Used the PowerPoint Record Narration tool to record a .wav audio file for each slide if you want audio.

▶ **Windows Media Publish to ASF prepares your PowerPoint presentation for streaming by:**

- Converting your PowerPoint slides to JPEG images.
- Repackaging the JPEG images and associated .wav files into .asf file format.

▶ **Windows Media Publish to ASF contains the following features:**

- An easy-to-use wizard that guides you through the process of creating a multimedia streaming file and publishing it on the network.
- Preconfigured or customizable bandwidth, image compression, and audio compression settings.
- A record of each slide, the length of its associated audio segment, and the number of seconds needed for each image to appear.
- The ability to test the presentation, rebuild it, and adjust the audio and video compression values if necessary.

▣ Related Topics

[Streaming Presentations Across the Network](#)

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Network Selections

Windows Media Publish to ASF offers the following target bandwidths for your .asf file. The choice of bandwidth must reflect the network bandwidth available to the prospective users of the .asf file

- [Internet \(28.8 kilobits per second \[Kbps\]\)](#)
- [Intranet \(100 Kbps\)](#)
- [Custom](#)

If you select **Internet** or **Intranet**, Windows Media Publish to ASF pre-configures the network bandwidth, audio compression, and image compression values for you. For either of those selections, you do not have to enter any bandwidth or compression values.

Use the **Internet** or **Intranet** selections only if you plan to publish your .asf files on an Internet at a bandwidth of 28.8 kilobits per second (Kbps), or on an intranet with a bandwidth of 100 Kbps.

Use **Custom** to choose from a selection of bandwidths, and to set your own audio and image compression parameters.

- [How to customize the **Internet** and **Intranet** selections](#)
- [Related Topics](#)

Compression Issues

File Size and Bandwidth

Image Considerations

Audio Considerations

Internet Settings

The following are the default values that Windows Media Publish to ASF uses to compress your presentation into an .asf file when you select the Internet bandwidth setting. These values are provided for informational use and cannot be changed. If you need different values, use the custom setting.

- **Bandwidth.** 28.8 Kbps.
- **Image Size.** 448 x 336 pixels.
- **Quality (1-100%).** 70 percent. The higher this value, the lower the amount of image compression.
- **Audio Compression.** Sipro Labs ACELP.net codec, 5 Kbps, 8,000 Hz, mono audio format.

▶ [Related Topics](#)

Changing the Default Values

Custom Settings

Intranet Settings

The following are the default values that Windows Media Publish to ASF uses to compress a presentation into an .asf file when you select the intranet bandwidth setting. These values are provided for informational use and cannot be changed. If you need different values, use the **Custom** setting.

- **Bandwidth.** 100 Kbps.
- **Image Size.** 448 x 336 pixels.
- **Quality (1-100%).** 95 percent. The higher this value, the lower the amount of image compression.
- **Audio Compression.** Sipro Labs ACELP.net audio codec, 16 Kbps, 16,000 Hz, mono audio format.

▶ [Related Topics](#)

Changing the Default Values

Choosing Custom Settings

To use Custom Settings

Choosing Custom Settings

When you select the Target Bandwidth of your network you are provided the following customizable options. Click the option for more information.

- **Target Bitrate**
- **JPEG Image Options**
- **Audio Compression**

Target Bitrate

28.8 Kbps. This setting is suitable for most Internet users. If you select this setting, you must use a reduced image size to conserve bandwidth and maintain the quality of your video content.

50 Kbps. This setting can be used over the Internet, provided that the users have a high-capacity modem or an Integrated Services Digital Network (ISDN) connection. It is also useful for a busy intranet that does not have much extra bandwidth. This bandwidth supports a larger image size, and provides better audio quality.

100 Kbps. This setting is recommended for intranet use only. This bandwidth supports good video quality at larger image sizes, and high-quality audio content.

250 Kbps. This setting is recommended for intranet use only. Slides can be viewed in full-screen mode with high-quality audio content.

JPEG Image Options

Images consume more bandwidth than does audio content, and compression has a greater impact on their quality. You must balance the size of the image against its quality. Each bandwidth has associated default values for image and audio compression, but if your presentation contains very intricate images or high-definition sound, some adjustments to these settings often can improve the quality of your .asf file. Test the .asf file before providing it to your users.

The following are the options available to customize your image and audio compression:

Width. The width of the image measured in pixels. This number must be divisible by 16.

Height. The height of the image measured in pixels. This number must be divisible by 16.

Quality. The amount of image compression measured as a percent relative to the original size. The lower the value, the greater the amount of image compression.

Setting the image size determines the size of the slide show images that appear on the user's screen. The default setting is **448 x 336** pixels for all bandwidths.

Recommendations:

Use a 4:3 ratio between the width and height values.

For narrow bandwidth networks, such as those on the Internet, keep the image size small for the presentation to stream successfully.

Use a 640-x-480-pixel image only on an intranet with a **Target Bitrate** setting of 100 Kbps or 250 Kbps.

Audio Compression

The default audio codec for Windows Media Publish to ASF is MPEG Layer-3. The default bit rate settings for audio compression at each available bandwidth are as follows:

Target bit rate	Audio compression
28.8 Kbps	8 Kbps
50 Kbps	16 Kbps
100 Kbps	24 Kbps
250 Kbps	24 Kbps

If you want to use a custom audio codec, any user attempting to stream your presentation must have that same codec installed to play back the presentation.

▶ [Related Topics](#)

Compression Issues

File Size and Bandwidth

Image Quality Setting

Audio Compression Setting

Image Considerations

Audio Considerations

Image Quality Setting

This value sets the amount of JPEG image compression. The lower the value, the greater the amount of image compression.

The default values are as follows:

Target Bitrate	Image Quality
28.8 kilobits per second (Kbps)	70%
50 Kbps	90%
100 Kbps	95%
250 Kbps	95%

▶ **To increase the amount of image compression:**

- Enter a lower value in the **Quality** box.

▶ **To decrease the amount of image compression:**

- Enter a higher value in the **Quality** box.

Recommendation:

- Do not set a value less than **30** percent, as this usually reduces the image quality to unacceptable levels.

▶ [Related Topics](#)

Compression Issues

File Size and Bandwidth

Image Considerations

Audio Compression Setting

The default audio codec is Sipro Labs ACELP.net. The default audio compression bit rate settings at each available bandwidth are as follows:

Target Bitrate	Audio Compression (Kbps)	
	Voice	Music
28.8 kilobits per second (Kbps)	5	8
50 Kbps	8.5	10
100 Kbps	16	16
250 Kbps	16	24

If you want to use a custom audio codec, any user attempting to stream your presentation must have that same codec installed to play back the presentation.

▶ To choose a different type of audio compression:

1. Click **Change** to display a list of the audio codecs supplied with Microsoft Windows 95 or Microsoft Windows NT, as well as any custom codecs installed on your computer.
2. Select the audio compression setting you want.

▶ [Related Topics](#)

Compression Issues

File Size and Bandwidth

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Customizing the Internet and Intranet Settings

If you want to set your own compression values, do not select **Internet** or **Intranet** on the network configuration screen.

▶ **To change the default settings:**

1. From the list of Target Bandwidth options, select **Custom** and then click **Next**.
2. Select your network's **Target Bitrate**. For the **Internet** setting, select **28.8 Kbps**. For the **Intranet** setting, select either **50 Kbps**, **100 Kbps**, or **250 Kbps**.
3. Enter the image and audio compression values you want.
4. Click **Next** to save the results.

▶ [Related Topics](#)

Custom Settings

Windows Media Publish to ASF Details

This screen displays the rendering times for each slide and its associated audio file.

By inspecting the time values on this screen, you can get a clear picture of how well your presentation is being streamed.

If the intervals between **Slide Start Times** seem reasonable, along with the **Audio Length** associated with each slide, this indicates that the .asf file will stream well across the network.

Since the slides contain different amounts of information, their rendering times will vary. Given the same audio segment, the slide with the greater amount of information takes longer to render. Because of this, you should expect to see some variation in how long the slides take to render.

If you notice long delays, this indicates that the file size was too large for the bandwidth. You may need to make adjustments to the compression values in order to successfully stream the file.

▶ Related Topics

Image Considerations

Audio Considerations

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File Size and Bandwidth

Building Your ASF File

At this point, you have either accepted a default network configuration, or selected a bandwidth and customized the compression settings.

▶ **Use this screen to:**

- Specify a location to build your .asf file. The default directory is the location of the Microsoft PowerPoint file that is being converted. Click **Change** to search for a directory location other than the default.
- Enter the name of the .asf file (the file suffix must be .asf).
- Create the .asf file. Click **Next** to do so. Publish to ASF notifies you about the progress of the build.
- View time sequencing information on each image and associated audio information in the .asf file. To get that information, click **Details** to jump to the **Publish to ASF Details** screen.

Playing an ASF File

Playing an [.asf](#) file requires the following:

- [Microsoft Windows Media Player](#) program

– OR –

A Web page or application with Windows Media Player control embedded.

Users who want to access the ASF-converted presentation do not need PowerPoint on their computers to play the .asf file.

Playing an .asf file may also require an [.asx file](#)

In most cases, you'll need to create an .asx file to allow your .asf file to stream to an [HTTP](#) browser. HTTP browsers do not permit data to stream—they use a [URL](#) to locate a file, and then download the entire file to the player client. If you access an .asf file directly from an client, and the .asf file is not referenced in an embedded .ocx control, the .asf file will be downloaded into the browser cache rather than streamed. Using an .asx file ensures that control is passed from the browser to the player and that the .asf file is streamed.

▶ [How to create an .asx file](#)

▶ **To set up and play an .asf file from a Web page:**

1. Place the .asx file in the World Wide Web host directory tree you want.
2. Embed a link to the .asx file in your Web page HTML code.
3. When clicked, Windows Media Player opens and the .asf file begins playing.

Creating an ASX File

Note The following procedure creates a simple .asx file for use with an internet server. See the Windows Media Documentation installed with Windows Media Services or your Windows Media system administrator for more information.

▶ To create an .asx file:

1. Open Notepad and type the following:

```
<ASX version = "3.0">
<Entry>
<Ref href = "http://servername/filename.asf" />
</entry>
</ASX>
```

where servername is the name of the server on which the .asf file is located and filename.asf is the .asf file you want to stream. Make sure you specify the full path of the .asf file.

2. Save the .asx file as *filename.asx*.
3. Place the .asx file on the World Wide Web host directory tree you want.

To use custom bandwidth settings

1. In PowerPoint, from the **Tools** menu, select **Publish to ASF**. Your slides and narrations are exported and the Publish to ASF wizard starts.
2. From the list of **Target Bandwidth** options, select **Custom**, and then click **Next**.
3. Choose the **Target Bitrate** for your network.
To transmit over the Internet, select **28.8 Kbps** or **50 Kbps**.
To transmit over an intranet, select either **50 Kbps**, **100 Kbps**, or **250 Kbps**, whichever your network can support while still leaving enough bandwidth available for other uses.
4. In the **JPEG Image Options** panel, type the values you want for image **width**, **height**, and **quality**.
5. In the **Audio Compression** panel, click **Change** to select a different audio compression type than the default. The default audio compression differs depending on the **Target Bitrate** selected.
Select the codec you want from the list, and then click **OK**.
6. Click **Next**.
7. To specify an output location different from the default, in the **Location of output file** panel, click **Change**. The **Save as** dialog box appears.
8. In the **File Name** box, type a name for your .asf file, and then click **Save**.
9. Click **Next**. First the images are compressed, then the audio files. To cancel the compression process, click **Cancel**. Compressing images and audio files sometimes can take a great deal of time.
10. When the compression is completed, a dialog box appears that displays the path to the .asf file.
To play the .asf file on your local computer, click **Play**.
To see the slide synchronization details, click **Details**.
To change your configuration, click **Back**. (If you click **Back**, you must recompress your .asf file to finish Windows Media Publish to ASF.)
11. To return to PowerPoint and close Publish to ASF, click **Finish**.

Compression Issues

To successfully stream an .asf file requires the following:

- A network bandwidth that can accommodate the .asf file's time-synchronized audio and video data.
- Compression settings that reduce the size of images and audio in an .asf file enough for it to stream across the network without noticeable loss of quality or gaps in the delivery of images and sound.
- A client that can decompress the .asf file and play it back.

Compression reduces the size of a multimedia file by subtracting audio and image information. At high bandwidths, you need less compression than at low bandwidths, since more data can travel across high bandwidth networks per unit of time.

At low levels of compression, the difference between the compressed and decompressed versions of the file may be indistinguishable. That is because the audio and video information subtracted during compression may consist entirely of redundant information. Those types of data are easily reconstructed when the file is decompressed without any overall loss in quality.

At high levels of compression, the audio and video information is more likely to show a loss of quality. When compression is high, the amount of data subtracted is proportionally high. The audio and video information may be difficult to reconstruct after the file is decompressed.

▶ [Related Topics](#)

File Size and Bandwidth

Image Considerations

Audio Considerations

File Size and Bandwidth

Many problems in publishing .asf files on the network are caused by the file being too large for the network bandwidth.

If the presentation is extremely rich in graphics and color, it may contain too much data for streaming across narrow-bandwidth networks such as the Internet.

When you attempt to stream files such as these, the real-time quality of the presentation may be lost. There may be long gaps between the appearance of images.

Too large a file size is usually the problem if the **Slide Start Time** on the **Publish to ASF Details** panel contain long intervals from one slide to the next.

To solve such problems, you need to make trade-offs between file size, network bandwidth, audio and image quality, and the amount of compression. Keep in mind, however, that some presentations may contain so much information that no amount of compression or size reduction will produce an acceptable result.

▶ [Related Topics](#)

Compression Issues

Image Considerations

Audio Considerations

Custom Settings

Image Considerations

Following are problems you might encounter with the streaming of images, and suggestions for fixing them.

▶ **If the time between the appearance of images is too long:**

- Click **Custom** from the **Target Bandwidth** list . Then, decrease the image **Quality** or reduce the image **Width** and **Height**.
- If the above method produces unsatisfactory results, make a copy of the original presentation in Microsoft PowerPoint. Try deleting some of the graphic content, or reducing the color depth, before using Windows Media Publish to ASF.

▶ **To improve the overall quality of the images:**

1. Click **Custom** from the **Target Bandwidth** list.
2. On the following panel, increase the image **Quality** value.
3. Recreate the .asf file, and play it back to see if the image quality improved.
4. If the quality is still unsatisfactory, try making a copy of the presentation in PowerPoint. Delete some of the graphics or reduce the color depth before using Windows Media Publish to ASF.

▶ **To improve the quality of text on the slides:**

1. Make a copy of the presentation in PowerPoint.
2. Try increasing the font size.
3. Check for the presence of any italic text and change it to normal.
4. Use Windows Media Publish to ASF and check for improvement.

▶ Related Topics

Compression Issues

File Size and Bandwidth

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Audio Considerations

An .asf file works by repackaging and synchronizing the .wav files associated with each slide in your presentation.

For effective streaming and playback across the Internet (28.8 kilobits per second [Kbps], each audio segment should be about 10 to 15 seconds. That is the amount of time it takes for a typical compressed slide to stream across the Internet and render at the destination (generally, 1 kilobyte [Kbps] per second at a 28.8 Kbps bandwidth). By creating audio segments of this length, you will match the length of your .wav files to the streaming times of the individual slides.

- ▶ [Related Topics](#)

Compression Issues

File Size and Bandwidth

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Custom Settings

Working with Narrations

To get the best audio content with your PowerPoint presentation do the following:

1. From the PowerPoint SlideShow menu, select Record Narration
2. In the Record Narration box, click Settings.
3. In the Sound Selection dialog box, set the Attributes field to 8,000 kHz, 16 bit, Mono for best results if you plan to use the default bandwidth settings for Internet (28.8 Kbps) presentations. Set the Attributes field to 16,000 kHz, 16 bit, Mono if you plan to use the default bandwidth settings for Intranet (100 Kbps) presentations. Click OK.
4. Select the Link narrations in check box and then click Browse, select a directory to save your narrations in.
5. Record your narrations
6. Save the slide timings
7. Review the timings in sorter view
8. Each slide will have a .wav file associate with it, the name of the .wave file is composed of slideshownameslidenummer.wav. For example, if your presentation is named CEOSpeech, then the narration recorded with the first slide in the presentation would be CEOSpeech001.wav.
9. Once the narrations are the way you want them, select Publish to ASF from the Tools menu, to convert the presentation to an .asf file.

Note: You can replace these .wav files with other .wav files by placing the new .wav file in the directory that your PowerPoint narrations are saved in, deleting the .wav file you want to replace, and then renaming the new .wav file to the exact same name as the file you deleted. This is a good way to add in custom sound bites, music, or just fix a stutter on one narration.

Microsoft Windows Media Player

A player for streaming .asf files. It can be run as a stand-alone .exe (mplayer2.exe) or embedded in a Web page or application (mplayer2.ocx).

Advanced Streaming Format (ASF)

A data format specification for efficient storing and streaming of synchronized multimedia content. The format is able to stream multimedia content by synchronizing the audio and video components of your Microsoft PowerPoint presentation to a timeline in a single .asf file. The .asf file does not replace existing files such as .avi, .wav, .ppt, .mov, and .jpg, but rather repackages them for more generalized storage and transport.

ASX File

An ASF Stream Redirector (.asx) file is quickly loaded by the client and contains information for the following purposes:

- Transfer control from the HTTP browser to the Microsoft Windows Media Player control, so that streams can be directed to the player.
- Represent an announcement of information necessary to access a program on a Windows Media Services station.
- Provide a reference to a stored .asf stream (such as a converted Microsoft PowerPoint presentation).

Hypertext Transfer Protocol (HTTP)

A protocol used to access information over intranets and the Internet. Other common protocols are FTP and Gopher.

JPEG

The Joint Photographic Experts Group (JPEG) standard, a popular method for compressing photographic and still images, is supported by most applications. JPEG is especially efficient in packaging compressed image data for transmission over networks prone to data packet loss.

Windows Media Services

The Windows Media Services comprise a system designed to efficiently stream data either from a live source or from stored .asf files. A Windows 2000 Server with Windows Media Services installed is commonly referred to as a Windows Media server.

Streaming

A method of sending time-synchronized multimedia content across a network. A streaming file plays as it is received. This contrasts with a downloaded file, in which the entire file must be received before it can be played.

Uniform Resource Locator (URL)

A pointer to information on the Internet. A URL provides the address of a particular piece of data, and consists of the following:

- A protocol identifier, such as http:
- The host name, such as msn.com
- The directory and/or file name

For example, this URL is the address of Microsoft's corporate Web page:

<http://www.microsoft.com>

Publish to ASF (Tools menu)

Save your presentation slides and narrations as an Advanced Streaming Format (.asf) file. Once saved, your file is ready to be published on a Windows Media server.

