



## Playback Computer Technical Requirements

The following table describes the minimum system requirements necessary for a playback computer to access FMG On Demand streaming media and make use of the built-in features and functions.

PC Users	MAC Users
<p><b>Hardware Requirements</b></p> <ul style="list-style-type: none"> <li>• <b>System:</b> Intel Pentium 3 or compatible processor.</li> <li>• <b>Memory:</b> Minimum 256 MB RAM; 512 MB of RAM or higher recommended.</li> </ul>	<p><b>Hardware Requirements</b></p> <ul style="list-style-type: none"> <li>• <b>System:</b> PowerPC, G3 or G4 CPU.</li> <li>• <b>Memory:</b> Minimum 256 MB RAM; 512 MB of RAM or higher recommended.</li> </ul>
<p><b>Software Configuration</b></p> <ul style="list-style-type: none"> <li>• <b>OS:</b> Windows 98, Windows Me, Windows NT, Windows 2000, Windows XP or later versions.</li> <li>• <b>Browser:</b> IE 5.5, Netscape Navigator 6 or higher, Mozilla, Firefox 1.0+.</li> <li>• <b>Media Player:</b> Windows Media Player version 9.0 or higher; QuickTime player version 6.0 or higher.</li> </ul> <p><i>Notes: Windows NT4 (SP4 or greater) (SP6 recommended): WMP 7 or higher does NOT install on Windows NT 4. Windows NT supports ONLY Windows Media Player 6.4, which plays FMG On Demand video at reduced quality. Window ME &amp; 2000: WMP 7 is pre-installed on Windows ME / 2000 systems. Windows XP: Windows XP (pre-installed with WMP Version 8.0) does not support WMP versions earlier than 8.0. Windows (All Versions): Users should ensure that their OS is current with the latest updates available.</i></p>	<p><b>Software Configuration</b></p> <ul style="list-style-type: none"> <li>• <b>OS:</b> MacOS version 8.1 or higher, and Open Transport version 1.2 or higher.</li> <li>• <b>Browser:</b> IE 5.5+, Netscape Navigator 6 or higher, Mozilla, Safari.</li> <li>• <b>Media Player:</b> Windows Media Player version 9.0 or higher; QuickTime player version 6.0 or higher.</li> </ul> <p><i>Notes: Mac OS 8.6 (or later): Version 7.1 for OS 8.1 and QuickTime Player Version 5.0.9 or higher, recommended. Mac OS X v10.1.3 (or later): Version 9 for OS X, recommended.</i></p>
All Users	
<ul style="list-style-type: none"> <li>• <b>Internet connectivity:</b> 380 kbps DSL, 500 kbps Cable Modem or faster connectivity. <i>Notes: If you have a LAN/WAN connection to the Internet, your IT department may have installed a Firewall, which may be configured to prevent the reception of all rich media on your computer. Your network may also be prohibited from upgrading the media software on your computer. Contact your IT department to correct these configurations.</i></li> <li>• <b>Free hard drive space:</b> Minimum: 100 MB. Recommended: 10 GB.</li> <li>• <b>Screen resolution:</b> Minimum: 800x600. Recommended: 1024x768</li> <li>• <b>Video:</b> 16-bit Video display card.</li> <li>• <b>Monitor:</b> minimum color depth of thousands of colors, millions of colors recommended.</li> <li>• <b>Audio:</b> 16-bit Sound Card and Speakers</li> <li>• <b>Adobe's Acrobat Reader:</b> (Required to view documentation and resources) Version 5.0 or higher, available for free from <a href="http://www.adobe.com/products/acrobat/readstep2.html">http://www.adobe.com/products/acrobat/readstep2.html</a>.</li> <li>• <b>Macromedia Flash:</b> (Required to view interactive tutorials) Version 6.0 or higher, available for free from <a href="http://www.macromedia.com/downloads/">http://www.macromedia.com/downloads/</a></li> <li>• <b>Cookies:</b> Your browser must allow session cookies. <b>Javascript:</b> Must be enabled.</li> <li>• To improve download times and allow for faster and more concurrent streams from FMG's On Demand Content Server, configure your network firewall to allow a higher bit rate to pass through the following ports: <b>Windows Media Player: Port 1755; QuickTime: Port 554.</b></li> </ul>	



## Custom Server Technical Requirements

The following tables (on this and the following page) describe the minimum system requirements and recommendations necessary for a Custom Server to store and stream downloaded content. For more detailed information, please refer to the [Defining a Custom Server](#) topic of [Chapter 10](#), as well as the entire chapter of [Chapter 11](#).

### Custom Server Requirements & Recommendations

#### Custom Server FTP Requirements

- **Anonymous FTP access to your server:** Disabled.
- **Minimum:** The hardware on which your FTP package runs must meet the minimum requirements specified by the package vendor.  
*Example: IIS: Windows Server 2003 Standard Edition, Minimum: 133 MHz processor, 128 MB RAM; Recommended: 550 MHz processor, 256 MB RAM.*  
*Note: Additional processor speed or RAM may be required for very high-speed Internet connections, as well as for servers that perform other tasks (e.g., if the same server is both receiving files and delivering them to playback computers).*

#### Storage Requirements

- The video files used by the FMG On Demand download configuration are Windows Media files with Digital Rights Management (DRM) encryption. There are two available bit rates for these files: 300 Kbps and 1.2 Mbps (1200 Kbps).
- For a bit rate of 300 Kbps, 2.25 MB per minute of playback video is required on the playback hard drive; for a bit rate of 1.2 Mbps, 9.0 MB per minute of playback video is required on the playback hard drive.  
*Example: If you have purchased the FMG On Demand title Global Climate Regions, its running time is 24 minutes. This means that to download both the 300 Kbps and 1.2 Mbps files for this title, you need approximately 54 MB for the 300 Kbps file and 216 MB for the 1.2 Mbps file, for a total of 270 MB on your playback hard drive.*

#### Server Configuration for Delivering Content to Playback Computers

- **Windows Media Player web browser plug-in:** The Windows Media Player web browser plug-in is the software that retrieves content from your server, by using the appropriate URL that you have specified in your configuration of the FMG On Demand Custom Server.
- **Windows Media Streaming component:** It is recommended that your server be configured to deliver content using the Windows Media Streaming component available on Windows 2000 Server and Windows Server 2003.
- **mms:// protocol:** It is recommended that the URL in your Custom Server be configured using the mms:// protocol.

#### Firewall Issues and Port Settings

- Depending on the sophistication of your firewall, you may only need to specify that FTP traffic be allowed to the host on which you're running your FTP server software. To allow this traffic, you must do both of the following:
  - **Incoming:** Allow incoming connections on source port > 1024, destination port 21
  - **Outgoing:** Allow outgoing connections on source port 20, destination port > 1024

## Playback Computers Accessing Files Streamed From a Custom Server

**Windows OS Recommendation:** Windows XP

**Windows Browser Recommendation:** IE 6.0 or later

### Windows Media Player Requirements

- **Windows computers:** Version 10.0 or higher;
- **Macintosh computers running OS 9:** Version 7.1 or higher;
- **Macintosh computers running OS X:** Version 9.0 or higher.
- **Plug-in:** The computer must allow Windows Media Player to run as a plug-in inside the web browser to be used.
- **Security:** It is also possible that it will be necessary to upgrade the security components in the User's Windows Media Player to support the playback of our DRM-encrypted content.

### CPU Recommendations

- Although there are no minimum requirements for playback computers other than those for Windows Media Player, playing encrypted and/or high-resolution video can place a high demand on the CPU.
- **Recommended:** FMG recommends the following or better to avoid choppy or irregular video playback or re-buffering of content:

Video File Type (Bit Rate)	Windows CPU	Macintosh CPU
300 Kbps	733 MHz	300 MHz
1.2 Mbps	1.4 GHz	600 MHz

### Bandwidth Recommendation

- **Network switches:** Network switches should be used (rather than hubs) to ensure that the network bandwidth needed for playback is available to the playback computers.