

## IT Considerations for Deploying the GlobalEnglish Product Suite

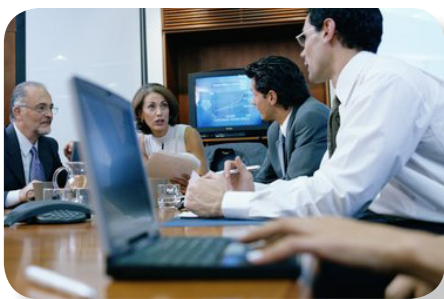
### System Requirements for the GlobalEnglish Product Suite

	GlobalEnglish Edge™	GlobalEnglish STEP™	GlobalEnglish STEP+™	GlobalEnglish Coach™	GlobalEnglish Bloom™	GlobalEnglish Lingo™
<b>Processor (CPU)</b>	1 GHz Pentium or faster	1 GHz Pentium or faster	1 GHz Pentium or faster	1 GHz Pentium or faster	1 GHz Pentium or faster	1 GHz Pentium or faster
<b>Memory (RAM)</b>	1 GB or more	1 GB or more	1 GB or more	1 GB or more	1 GB or more	1 GB or more
<b>Disk Space</b>	10 MB total	Not Applicable	Not Applicable	10 MB total	Not Applicable	4 MB for installation
<b>Internet Connection</b>	For courseware: 256 Kbps or higher required  For Vocabulary Center, Talk with the Teacher and Mobile Learning Network: 512 Kbps or higher required; 1.5 Mbps or higher recommended for podcast downloads from Mobile Learning Network	256 Kbps or higher required	256 Kbps or higher required	256 Kbps or higher required	256 Kbps or higher required	256 Kbps or higher required
<b>Operating System/Browser Support</b>	Internet Explorer 7.x or higher, Firefox 3.x or higher and Chrome on Windows XP, Windows Vista and Windows 7.  Safari 5 or higher, Firefox 7 or higher and Chrome on Mac OS 10.6 or higher	Internet Explorer 7.x or higher, Firefox 3.x or higher and Chrome on Windows XP, Windows Vista and Windows 7.  Safari 5 or higher, Firefox 7 or higher and Chrome on Mac OS 10.6 or higher	Internet Explorer 7.x or higher, Firefox 3.x or higher and Chrome on Windows XP, Windows Vista and Windows 7.  Safari 5 or higher, Firefox 7 or higher and Chrome on Mac OS 10.6 or higher	Internet Explorer 7.x or higher, Firefox 3.x or higher and Chrome on Windows XP, Windows Vista and Windows 7.  Safari 5 or higher, Firefox 7 or higher and Chrome on Mac OS 10.6 or higher	Internet Explorer 7.x or higher, Firefox 3.x or higher and Chrome on Windows XP, Windows Vista and Windows 7.  Safari 5 or higher, Firefox 7 or higher and Chrome on Mac OS 10.6 or higher	Internet Explorer 7.x or higher, Firefox 3.x or higher and Chrome on Windows XP, Windows Vista and Windows 7.  Firefox 7 or higher and Chrome on Mac OS 10.6 or higher



	GlobalEnglish Edge™	GlobalEnglish STEP™	GlobalEnglish STEP+™	GlobalEnglish Coach™	GlobalEnglish Bloom™	GlobalEnglish Lingo™
<b>Email</b>	Optional; email clients should be configured to allow HTML emails from globalenglish.com	Optional; email clients should be configured to allow HTML emails from globalenglish.com	Optional; email clients should be configured to allow HTML emails from globalenglish.com	Optional; email clients should be configured to allow HTML emails from globalenglish.com  Required; allow HTML emails from GlobalEnglish-Coach@ispeaku-speak.com	Optional; email clients should be configured to allow HTML emails from globalenglish.com	Optional; email clients should be configured to allow HTML emails from globalenglish.com
<b>Video Display</b>	1024 x 768 or higher resolution	1024 x 768 or higher resolution	1024 x 768 or higher resolution	1024 x 768 or higher resolution	1024 x 768 or higher resolution	1024 x 768 or higher resolution
<b>Sound Card</b>	16-bit Sound-Blaster-compatible (ESS not recommended)	16-bit Sound-Blaster-compatible (ESS not recommended)	16-bit Sound-Blaster-compatible (ESS not recommended)	16-bit Sound-Blaster-compatible (ESS not recommended)	16-bit Sound-Blaster-compatible (ESS not recommended)	16-bit Sound-Blaster-compatible (ESS not recommended)
<b>Speakers</b>	Required (can be a headset)	Required (can be a headset)	Required (can be a headset)	Required (can be a headset)	Required (can be a headset)	Required (can be a headset)
<b>Microphone</b>	Microphone required (headset with integrated close-talk microphone recommended)	Not Applicable	Microphone required (headset with integrated close-talk microphone recommended)	Microphone required (headset with integrated close-talk microphone recommended)	Microphone required (headset with integrated close-talk microphone recommended)	Microphone required (headset with integrated close-talk microphone recommended)
<b>Adobe Flash Player</b>	Flash Player 10.1.102 or higher with Adobe Flash Player permissions enabled	Flash Player 10.1.102 or higher with Adobe Flash Player permissions enabled	Flash Player 10.1.102 or higher with Adobe Flash Player permissions enabled	Flash Player 10.1.102 or higher with Adobe Flash Player permissions enabled	Flash Player 10.1.102 or higher with Adobe Flash Player permissions enabled	Flash Player 10.1.102 or higher with Adobe Flash Player permissions enabled
<b>Mobile Platforms</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Android: Touch-screen mobiles with display size 3.7 inches and above  iPhone: iOS 3.3 to 4.0  Blackberry: OS 7 Only BlackBerry Torch 9850/9860 are supported at this time.  (Connection with cellular data or Wi-Fi recommended)

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## System Check

To verify that you are ready to access GlobalEnglish services, you can run a quick system check here: <http://corp2.globalenglish.com/systemcheck>

## Adobe Flash Player

The Flash player is available from Adobe Systems Incorporated at [www.adobe.com](http://www.adobe.com).

Since many components of GlobalEnglish services help develop speaking skills, use of a microphone is required. In cases where Flash Player permissions are managed administratively using `mms.cfg`, the setting for 'Capabilities.avHardwareDisable' should be set to '0' to allow users to allow Flash to access the microphone.

## GlobalEnglish LinGo Pro

Windows registry write permissions are required to install GlobalEnglish LinGo Pro for Internet Explorer. An msi format installer can be made available on request to manage a network install of GlobalEnglish LinGo Pro. Please write to `en-en.support@globalenglish.com` with your request.

## Firewall Settings

The following requirements pertain to GlobalEnglish Edge and GlobalEnglish Coach.

### GlobalEnglish Edge

#### \*.globalenglish.com

Required for all users. By opening \*.globalenglish.com you enable access to **corp.globalenglish.com** (the primary server) and **akcorp.globalenglish.com** (Content Delivery Network [CDN] or caching server) and other current and future elements of GlobalEnglish Corporation's service offerings. Firewall opening should be made by name, not IP address.

In addition to port 80(HTTP) and port 443(HTTP over SSL), GlobalEnglish Edge and GlobalEnglish STEP+ make use of port 1935 to transmit audio data between the server and the client. To ensure optimal performance of speech-related activities in GlobalEnglish Edge and GlobalEnglish STEP+, it is recommended that two-way traffic is allowed over port 1935 to \*.globalenglish.com. If this port is not open, the application automatically downgrades the traffic to use port 80 and functionality is preserved, although this could result in sub-optimal performance for users. (For more details about port 1935: [http://en.wikipedia.org/wiki/Real\\_Time\\_Messaging\\_Protocol](http://en.wikipedia.org/wiki/Real_Time_Messaging_Protocol))

## Bandwidth Consumption: GlobalEnglish Edge

The **GlobalEnglish Edge Service** has been optimized to deliver high-quality, media-rich content in a low-bandwidth environment. The components have been tested in a number of corporate IT environments and have not been shown to significantly affect network traffic. Although sound files—which are at the center of the listening and speaking aspects of the service—are much larger than most other content, GlobalEnglish still performs well in a low-bandwidth environment and **at least 256 Kbps** per concurrent user is recommended.

GlobalEnglish uses the Adobe Flash technology to play sound and animations, which can also contain embedded sound and video. The Adobe Flash technology was specifically designed for the Web and also chosen by GlobalEnglish for its low bandwidth consumption.



**Talk with the Teacher** is an optional feature in which users participate in a real-time, online conversation class with a teacher and other learners. While this feature is delivered over Adobe Connect® Meeting technology, users access the class using Adobe Flash® player and do not need to install any additional software. Each concurrent user in a **Talk with the Teacher** session consumes approximately 18 Kbps of bandwidth, with occasional spikes up to 30 Kbps when new visual content is shared by the teacher on the Adobe Connect Meeting application.

## Bandwidth Consumption and Firewall Settings: GlobalEnglish STEP+

GlobalEnglish STEP+ has special bandwidth requirements since it includes a speaking section where audio from the users is captured and stored on the server. To ensure the highest-quality experience, the following bandwidth requirements are enforced when a user tries to access the GlobalEnglish STEP+ assessment:

### Bandwidth<sup>1</sup>

- Minimum 30 Kbps Upstream: Subscribers who have less than 30 Kbps of upstream bandwidth are not allowed to proceed with the assessment.
- Minimum 40 Kbps Downstream: Subscribers who have less than 40 Kbps of downstream bandwidth are not allowed to proceed with the assessment.

### Latency

The latency parameter is used for calculating the round trip of data from the client to the server and back from the server to the client. For GlobalEnglish STEP+, the latency requirement is as follows:

- Latency 1500 ms: Users who have more than 1500 milliseconds of latency are not allowed to proceed with the assessment.

### Supported Port/Protocols

- 1935 RTMP\*
- 80 RTMPT (RTMP Tunnelled)

\* Adobe recommends opening TCP port 1935 for optimum Flash Media server performance.

<sup>1</sup> Bandwidth test is conducted over port 1935 if the port is open; otherwise port 80 is tested.

**If you have any questions about the requirements detailed in this document, we would be happy to arrange an in-depth discussion with our technical team.**