

GISB FTF
Work Paper Detailing FTF Actions
Pertaining to Informational Postings Websites
or Customer Activities Websites
Since August, 1998

Items from August 31, 1998 FTF Meeting

- Providers of Customer Activities sites should ensure that the site operates on the 'Technical Characteristics of the Client Workstation' described in the appendix of the Electronic Delivery Mechanism relates Standards manual. This appendix, listing examples of hardware and software configurations that providers should meet, will be reviewed by the Future Technology Task Force, at a minimum, by the spring of each year and presented to the GISB Executive Committee for adoption in the April meeting of that group.
- Minimum Technical Requirements
Browser Characteristics:
 - Features as supported by both Netscape v4.06 and Internet Explorer v4.0 Service Pack 1
 - including -
 - Frames & Nested Frames
 - Tables & Nested Tables
 - HTML
 - Cookies
 - Javascript
 - Secure Socket Layer (SSL) (40 Bit RSA)
 - Style Sheets
- Plug-ins
 - Java 1.1.6 Sun JDK
 - ActiveX (Plug-in for Netscape)
 - Independent Computer Architecture v4 (ICA)
- Operating Systems:
 - Operating systems on a client workstation should be multithreaded and preemptive.
- Hardware:
 - CPU >= 166 MHz
 - Memory >= 64 MB Physical
 - Display Resolution >= 800 x 600
 - Connection >= 56 KB
- The following footnote will be included in the implementation guide in the Minimum Technical Requirements section:
 - * configuration shown indicates a minimum except where a specific level is established.
 - 'Minimum' implies a level where a reasonable experience for the user may be achieved. These levels also indicate the level that a user may expect that a client has been tested. Results may be less than satisfactory, or may prelude use of a site, if the user chooses to use anything less than those levels shown.
- Private network connections to access GISB EDM sites may be at any point on the TSP's fire wall boundary at the TSP's discretion on a nondiscriminatory basis. The specific type and speed of this connection should be mutually agreed. It is at the discretion of the TSP on how multiple

private network connections should be managed. TSPs are not responsible for any additional security exposures when using private network connections.

- Example Configurations for Minimum Technical Requirements

Hardware:

CPU: P166 MHz or higher
Memory >= 64 MB
Display Resolution >= 800 x 600
Mouse with left/right button

Operating System:

Windows 95
Windows 98
Windows NT 4.0 service pack 3

Connection:

>= 56KB (V90) modem
ISDN
Direct Connect (T1, Fractional T1, etc.)

Browser:

Netscape Communicator 4.06
Microsoft Internet Explorer 4.0 service pack 1

- Access to the 'Customer Activities' site should be protected by HTTP Basic Authentication or similar logon/password mechanism(s) using 40-bit SSL. A 'Customer Activities' site should require a single logon/password pair for each user session.
- At a minimum, data communications for a 'Customer Activities' site should utilize 40-Bit encryption. Where possible, 128-Bit encryption is strongly recommended.
- All custom downloadable modules presented by a 'Customer Activities' site should be signed by the author. The signatures on these modules should be communicated in advance to site users.
- Although non-repudiation is a very important feature, it is impractical to implement on 'Customer Activities' sites using currently available nonproprietary technology. GISB should continue to evaluate potential tools, and create standards and guidelines for its implementation as soon as the technology will support it. This issue should be reviewed by FTTF annually during the annual 'version' review.
- Although the Camel Model specifies that client-side certificates should not be required, they may prove necessary for non-repudiation. Topics such as certificate authorities remain to be researched. GISB should not require client-side certificates at this time, but will probably be necessary in the future. FTTF will review this on an annual basis during the version check cycle.
- Trading partners should maintain redundant connections to the public Internet for both EDM and 'Customer Activities' sites. These redundant connections should be topographically diverse (duality of) paths to minimize the probability of a single point of failure.

The following is to be used in the Implementation Guide

- Users and providers should consider, but not be limited to the following possibilities to achieve redundant connectivity:
 - 1) Multiple dial-up connections
 - 2) Multiple leased line connections

- 3) Multiple Internet service providers
- 4) Combinations of the above
- 5) Geographically diverse connections
- 6) Topographically diverse connections (connections which result in Internet pathways that do not pass through a single point/service/router.
Items 1 - 5 are potential means of achieving the defining characteristic of item 6. The intent is to eliminate the possibility of a single point of failure.

The following is to be used in the Implementation Guide

- Redundancy Guidelines for 'Customer Activity' and EDM Sites (Batch)

Three possible approaches are:

- 1) A high end approach involving two ISPs and two points of connectivity, each of which was identified by the same URL making the process of redundancy transparent to the sender.
- 2) Maintain different Internet connectivity URLs (presumably on topographically different ISPs). For this to result in communication redundancy, the sender should know of the existence of the secondary URL and have programming in place that will automatically switch batch-browser transmissions to the secondary URL when the primary URL is unavailable.
- 3) Maintain multiple connections to the same ISP. This involves only one URL but the presumption would be that the ISP would provide alternate diverse paths for the URL.

Receivers may maintain multiple URLs and, if such have been disclosed, the sender should attempt to use these during primary URL outages. The redundant public Internet connections can be through a single ISP or multiple ISPs.

If multiple URLs are provided for EDM access, the following conditions should be met:

- The information provided by each URL should be exactly the same
- The trading partners should be informed of both URLs and their availability by system wide notice or by Trading Partner Agreement.
- The URLs should be identified as primary and secondary if either:
 - There is a TSP connection speed difference between the URLs (The faster connection listed as primary)
 - or
 - One URL is only available when the other is down (primary URL being the most available)
- The URLs should be listed as primary and alternate if:
- The URLs have the same TSP connection speed
and
- The URLs are customarily available simultaneously

Note: A URL is considered available (in the context of communication redundancy) if all the IP facilities are properly functioning up to and including the HTTP service. This would include any TSP provided facilities including firewalls, DNS servers, routers, hubs, LANs, etc. that are between the TSP's HTTP server and the ISP's point of presence.

- It was agreed that we add a statement to the Implementation Guide to clarify that our recommendations on redundancy cover normal operations as opposed to disaster recovery issues. This does not preclude using a disaster recovery site to provide redundancy for normal operations. The following wording was suggested as a note in the redundancy section “* In this context redundancy refers to normal operations redundancy (as opposed to disaster recovery contingencies).

- Outbound Ports on Clients

HTTP	EDM ports 80, 5713, 6112, 6304, 8674, 7403
SSL	443
ICA	1494
RMI (Java)	defaults to 1099 - 1100

Items from October 9, 1998 FTTF Meeting

- Principle

Transportation Service Provider EDM* implementations should minimize the number of ports required to be opened on the client side firewall.

*All GISB standard Internet communications

- Standard

TSPs should be limited to the GISB approved list of available TCP ports for EDM* implementations included in the appendix in the Electronic Delivery Mechanism Related Standards manual under Client Firewall Requirements for Service Provider EDM Implementations.

*All GISB standard Internet communications

- Guidelines

Client Firewall Requirements for Service Provider EDM Implementations.

FTTF recommendations include the potential modifications needed in the client-side firewall to allow for communications with the various service providers' EDM* implementations.

The following is a list of allowable TCP ports available for use by a Service Provider. Upon request, the TSP should indicate to their trading partners which specific ports they will require to be opened to conduct electronic communication.

Allowable TCP Ports (not UDP ports)
 HTTP 80, 5713, 6112, 6304, 8674, 7403
 SSL 443
 ICA 1494
 RMI(Java) 1099-1100
 Java Telnet 31415
 TCP Optional 8001-8020**

There are other technologies available that will require additional ports to be opened, such as FTP, Telnet, and SMTP. If and when GISB approves such technologies, FTTF will modify this list of allowable ports accordingly.

The client-side firewall implementation and client browser settings should permit the downloading and installation of GISB approved plug-ins and modules. Please refer to the GISB defined Minimum Technical Characteristics for Accessing Customer Activities Web Sites for the listing of plug-ins and modules.

These guidelines will be reviewed and updated by the Future Technology Task Force, at a minimum, by the spring of each year and presented to the GISB Executive Committee for adoption by the June meeting of that group.

*All GISB standard Internet communications

**The reservation of 20 optional ports was to provide room for implementations such as DCE, IIOp, and load balancing implementations. TSPs should endeavor to minimize the usage of these ports.

Items from October 19 & 20, 1998 FTTF Meeting

- Definitions:

For GISB FF/EDM, "Batch Flat File" is the term used to describe the automated computer to computer transfer of flat files. For GISB FF/EDM, "Interactive Flat File" is the term used to describe the transfer of flat files using an interactive browser.

- Correct standard 4.3.2 to replace the word "designed" with "designated".
- Modify standard 4.3.9 to read "For EDI/EDM and FF/EDM ..."
- For Interactive Flat File uploads, one or more hyperlinks should be provided that allow the sender to determine the status of received transmissions and transactions.
- For Interactive Flat File EDM, 40-bit Secure Sockets Layer (SSL) encryption should be used. Where possible, 128-bit SSL encryption is strongly recommended.
- For Interactive Flat File EDM, access should be protected by HTTP Basic Authentication.
- Protocol and security standards for Batch Flat File EDM include the following:
 - Batch flat file EDM will follow 4.3.2, 4.3.3, 4.3.7, 4.3.8, 4.3.9, 4.3.10, 4.2.11, 4.3.12, 4.3.13, 4.3.14, 4.3.15

Items from November 13, 1998 FTTF Meeting

- Addition to implementation guidelines (to be inserted right after browser characteristics): Any implemented browser feature should be compatible and usable on all browsers and versions indicated in the Appendix Minimal Technical Characteristics of the Client Workstation. In the previous statement, 'compatible and usable' means that the feature is reasonably functional in all browser implementations. For example, a scripting function that is only supported in one browser implementation would not be acceptable.
- In Minimal Technical Characteristics of the Client Workstation: make following change: In section with: Features as supported by both... insert 'and partially supported' by both Navigator and Netscape.

Items from April 19 - 20, 1999 FTTF Meeting

- Minimum Versions for EDM (for July publication)
 - Raise the CPU speed from 166 to 300 MHz.
 - Raise the minimum display resolution to 1024 x 768 in June, 2000 and this be footnoted in the current standard.
 - Leave the minimum memory requirement at 64 MB with a footnote to recommend more memory for users who want to have multiple applications or EBBs open simultaneously.

- Change the implementation guide to remove references to SSL and replace it with 40-bit encryption to be consistent with the standard.
- Move the browser levels to Netscape v4.51 and Internet Explorer v5.0
- Leave the JDK version at 1.1.6 for now but reviewed for movement to a higher release, by June 1, 2000.

- Minimum Technical Requirements (as revised)

	Current	Change
Hardware		
CPU	166 MHz	300 MHz
Memory	64 MB	no change
Display resolution	800 x 600	no change 1024 x 768 in 6/2000
Operating System	same as specification for IP/EDM	no change
Connection	56 KB	no change
Browser Characteristics		
Netscape	v4.06	v4.51
Internet Explorer	v4.0 sp1	v5.0
JDK	1.1.6	no change reviewed for a higher level (Java 2) by June 1, 2000

- Corresponding changes need to be made on the Example's page. Windows NT 4.0 needs to go to service pack 4 to be Y2K compliant.
- The following footnotes were adopted to go with the Minimum Technical Requirements
 - Display Resolution - The minimum display resolution will be raised to 1024 x 768 in June, 2000.
 - Memory - Users who want to have multiple applications or EBBs open simultaneously should consider more memory.
- It was noted that S53 from the EII document still references SSL (should just reference 'or equivalent encryption').
- These minutes were to be completed by Susan Croley, who was FTTF Chairperson at the time. However, Susan has never submitted any additions to the existing documents. The FTTF needs to approve the minutes without any additions.

Items from May 17 - 18, 1999 FTTF Meeting

- In reviewing FF/EDM, it was questioned whether or not we have one or two minimum client configurations: one for FF/EDM and Informational Postings/EDM and another for EBB/EDM. It was agreed that there should only be one minimum configuration.

Items from June 30, 1999 FTTF Meeting

- Remove from the list of acceptable plug-ins in the browser characteristics of the minimum technical requirements 'Sun JDK 1.1.6 plug-in'. And add to the list of acceptable plug-ins in the browser characteristics of the minimum technical requirements 'Sun JAVA Plug-in 1.1.2 (or another vendor's compatible product) which is supported by Sun JDK 1.1.7b (or another vendor's compatible product)'. (NOTE: the JDK level is also referenced in the examples and needs to be changed there also)

Minimum Technical Requirements (with all revisions)

	Current	Upcoming Change
Hardware		
CPU	300 MHz	
Memory ¹	64 MB	
Display resolution ²	800 x 600	1024 x 768 by June 1, 2000
Operating System	multithreaded and preemptive	
Connection	56 KB	
Browser Characteristics		
Netscape	v4.51	
Internet Explorer	v5.0	
JDK ³	1.1.7b	Java 2 (1.2) by June 1, 2000
Plug-ins		
Java 1.1.2 to support Sun JDK 1.1.7b		
ActiveX (Plug-in for Netscape)		
Independent Computer Architecture v4 (ICA)		

¹ Memory - Users who want to have multiple applications or EBBs open simultaneously should consider more memory

² Display Resolution - The minimum display resolution will be raised to 1024 x 768 in June, 2000.

³ JDK - The version of JAVA will be changed to 1.2 (JAVA 2) in June, 2000.