

GISB FTTF
August 31 - September 2, 1998
IBM, Calgary, Alberta, Canada

Call To Order

Susan Croley, Chairperson of the Future Technology Task Force (FTTF), called the meeting to order at 9:05 AM, on August 31, 1998 at IBM offices in Calgary.

Antitrust

Susan Croley read the GISB antitrust statement.

Welcome

George Heal welcomed the FTTF to Calgary and IBM.

Minutes

Mike Shahan, from CNG, volunteered to take the minutes of the meeting.

Agenda

With no objections, the printed agenda was adopted with the noted change on item #3 to read 'Customer Activities' site.

Introductions

The participants in the room introduced themselves. See attached attendance list.

Minutes From Previous Meetings

The minutes from the following meetings were reviewed

June 8, 1998 conference call

Minutes were adopted as presented.

June 15 conference call

June 15, 1998 minutes were updated per TransCapacity's e-mail to clarify their position on the XML document. Minutes were adopted as amended.

August 10, 1998 conference call

Minutes were adopted as presented.

August 17, 1998 conference call

Minutes were adopted as presented.

August 18, 1998 conference call

Steve Hinton proposed a slight wording change to two sentences.

Minutes were adopted as amended.

August 19, 1998 morning conference call

Minutes were adopted with minor grammar changes, wording changes to be consistent with other GISB documents and clarification on who made the motion to adjourn.

August 19, 1998 afternoon conference call

Minutes were adopted with wording changes to be consistent with other GISB documents and corrections to the attendance list.

Working Principles

Richard Hamilton recommended that we use the following guidelines when developing technical requirements:

- Allow a single client configuration for access to all 'Customer Activities sites'. (Discussion: our goal is to eliminate the current problem of multiple PCs being necessary to access multiple TSPs due to conflicts between the applications) This will require a minimum workable base configuration be established so that users acquire adequate hardware and software.
- Allow for robust application development.
- Use commonly available software/hardware for client work stations.

ON MOTION, the above principles were unanimously adopted as working principles for the FTTF in developing technical requirements and standards.

Minimum Technical Requirements

There was significant discussion about the use of specific version numbers and the problems caused by using or not using them. There was agreement that the FTTF should investigate the possibility of keeping 'GISB supported versions' in a separate document that is reviewed and updated on an ongoing regular basis using prudent procedures. It was suggested that these version levels be able to be changed by the FTTF, or a technology group so designated by the EC, but due to timing issues, not necessarily be subject to the entire GISB ratification procedure, just an EC procedural vote.

The following standard was moved by Sylvia Munson and seconded by Thomas Eckel: 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 related Standards manual. This appendix, listing examples of hardware and software configurations that providers should meet, 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 in the April meeting of that group. Motion adopted with 23 affirmative votes, 0 negative, and 1 abstention. (Pipelines: 13 in favor, LDC: 1 in favor, End User: 0, Services: 9 in favor, 1 abstention, Producers: 0)

John Tsucalas suggested that we accept the draft document submitted by Andy Sicignano as a working document and develop it into the FTTF's Minimum Technical Requirements document for the client workstation for Customer Activities Web site.

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 (*tabled until 9/1 pending further research, see below*)
- ActiveX (Plug-in for Netscape)
- Independent Computer Architecture v4 (ICA) - Protocol used for remote control access to an application

Discussion about the disclaimer associated with JAVA and its applicability to Customer Activities site ended when we agreed that the disclaimer applied to control systems of critical functions.

Given the technical characteristics, as long as the TSP has designed for the 2 major browsers, and supply the necessary plug-ins to support their functionality, there is no requirement for the TSP to provide other plug-ins.

Discussion ensued concerning making statements about a TSP being able to provide functionality for 'less-capable' browsers. It was determined that this type of statement is not necessary and may cause confusion.

Operating Systems:

Operating systems on a client workstation should be multithreaded and preemptive.

Hardware:

CPU >= 166 MHz - Passed unanimously.

Memory >= 64 MB Physical - Passed unanimously.

Display Resolution >= 800 x 600

NOTE: a vote was taken on the resolution issue with 800 x 600 receiving 15 votes and 1024 x 768 receiving 7 votes. There were comments that we will want to take this issue to EII for their comments and input.

Connection >= 56 KB - Passed unanimously

ON MOTION: The minimum technical requirements were unanimously adopted as developed. Motion was made by Chris Phillips.

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.

Adjourn

ON MOTION, the FTTF was adjourned at 6:00 PM to be reconvened tomorrow at 9:00 am

Meeting Reconvened

The FTTF was reconvened at 9:00 am by Susan Croley.

Antitrust

Susan Croley read the GISB antitrust statement

Minutes

Copies of minutes from yesterday's meeting were distributed for comments.

3rd Party Connections

Copies of diagrams were distributed.

John Smith, from CNG, explained the CNG diagram which was submitted to demonstrate how CNG currently allows external connections into their network.

Steve Hinton also introduced a diagram/proposal for 3rd party network connections.

Susan Croley presented a document from Duke Energy on proposed guidelines for providing connectivity to 3rd party communication networks. Susan also recapped the previous week's teleconference meeting on this topic.

Richard Hamilton made the following motion, which was seconded by Mike Shahan:

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.

This motion passed unanimously with 23 votes.

Since there was some confusion (std vs. policy), Steve Hinton asked that we vote on the issue of the above item being a standard.

Segment	Yes	No	Abstain
Pipes	11	0	1
LDCs	1	0	0
Services	8	0	1
End Users	0	0	0
Producers	0	0	0
TOTAL	20	0	2

Pete Whatley made a motion to notify the EII that "Cost of implementing these private connections is recognized as an issue but was determined to be outside the scope of FTTF". Motion was seconded by Jim Keisler. Yes-18 No-0 Abstain-3.

Items left from Yesterday

Channels

Terry Lehn reported that there are differences between Netscape and Microsoft but that W3C is reportedly working on the issue. Terry recommends that Channels be removed from the list of features for browsers.

JAVA JDK

CNG reported that the version of JAVA JDK should be 1.1.6 and that CNG will deal with any issues with HP UX.

Example Configurations for Minimum Technical Requirements

It was suggested that any pilot testing use machines configured to these specifications.

Hardware:

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

Lengthy discussions about operating systems were held. There was consensus that our requirements eliminated non-Microsoft operating systems and GISB may have a problem with this. We may need to be prepared to explain to other groups that this

requirement is necessary to accomplish the higher goals of providing common look and feel and access to all Customer Activities Sites from a single user work station.

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

John Tsucalas moved that we accept the examples as presented. The motion was seconded by Jim Keisler. Yes - 20 No - 0 Abstain - 2.

Customer Activities Site Security

Mike Shahan moved, and George Heal seconded a motion for forward John Tsucalas's document on 'Site Visibility Issues' to EII as our response to their request for information regarding 'site visibility' issues (Camel Model Item #18). In favor - 8 Opposed - 11 Abstain - 2.

Steve Hinton moved, and Joe Kardas seconded a motion that we include site visibility as part of our security issues. In Favor - 20 Opposed - 0 Abstain - 1.

It was suggested that we use the minutes from last week's teleconference on security as a working guide for our discussions on security. Terry Lehn moved that we use the following for our topics for our discussion and answers forwarded to EII, seconded by Richard Hamilton: Access, Privacy, Integrity, Non-repudiation. Unanimously passed.

Access - "Can an authorized party get to the site?"

Authentication

Terry Lehn moved the following which was seconded by Joe Kardas: 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. In Favor - 23 Opposed - 0 Abstain - 0.

Note: it was clarified that the above standard does not prohibit functions such as password aging.

Site Visibility

Ron Szuba made a motion that we use the explanatory paragraphs from John Tsucalas's document along with the four options listed below. The EII must weigh the risks of showing the link against the inconvenience of not showing the link. Motion was seconded by Pete Whatley.

Risk Discussion

It has been suggested that the 'Informational Postings' site include a link to the 'Customer Activities' site. Additionally, a link to the 'Informational Postings' site would be included in the menu of the 'Customer Activities' site. These reciprocal links would add a natural navigation between the transactional and non-transactional areas of a site provider. Thus, a user who is working on a transaction would easily be able to transition to viewing a posting or other content provided in the non-transactional area or site. This transition is without question a good idea and poses no technical risk.

The converse link, showing the 'Customer Activities' link on the 'Informational Postings' is the one that raises concern. If the link to 'Customer Activities' is displayed on a public site (which the Informational Postings site is) there is concern that it advertises the existence of a transactional system to hackers, vandals, or possibly parties wishing to attack the energy infrastructure from abroad. This concern focuses on the fact that the first step in attacking a site is to know that such a site exists. If this 'Customer Activities' site is not visible as a link from the 'Informational Postings' site, it would be possible to conceal the very existence of the transactional site. The argument that opposes this is that the risk in showing a site is not significant compared to the convenience provided in the reciprocal links described above.

The technical ramifications of this debate are actually quite simple. The assertion that 'a site that is not directly visible on a companies public sites is safer' is only partially true. For the 'casual hacker' looking for an entry point to attack a company, this would likely be an effective first layer of security. For a concerted attack from skilled 'hackers' or even countries, this would probably present little protection. Obviously, this could be argued at some length and neither type of event as been prevalent in our industry thus far. But the fact remains that a site not seen is safer to a degree. With this in mind the following possible answers could be applied:

Standardize the location and wording of a link that would be present if a company chooses to make their 'Customer Activities' site visible on the

'Informational Postings' site. However, do not standardize whether that link is provided.

Standardize the location and wording of a link that would be present, but only require that it appear on the 'Informational Postings' menu after a user has been authenticated into the 'Customer Activities' site. This would mean that a site when viewed by anyone who has not 'logged in' to the 'Customer Activities' site would not see a link to that area. Obviously this would mean that a user would have to know the URL for the site or have a bookmark saved for the URL. This answer would add a degree of complexity to the 'Informational Postings' site. Accept the risk involved with displaying the link, and standardize its presence.

Visibility Options

1. Provide a link to the 'Customer Activities' site from the 'Informational Postings' site.
2. Provide a link to the 'Customer Activities' site from the 'Informational Postings' site at the option of the TSP.
3. Provide a link to the 'Customer Activities' site from the 'Informational Postings' site after only authentication into 'Customer Activities' site.
4. Do not allow a link to the 'Customer Activities' site from the 'Informational Postings' site

In favor - 22 Opposed - 0 Abstain - 0.

Privacy & Integrity - 'How can I ensure that only authorized parties can 'read' my message and ensure that the message I sent is the one received?'

Use of Secure Sockets Layer (SSL). 128-Bit for USA and Canada, 40-Bit for others.

Chris Phillips made the following motion, which was seconded by Bill Fortney: At a minimum, data communications for a 'Customer Activities' site should utilize 40-Bit encryption. Where possible, 128-Bit encryption is strongly recommended. Motion passed unanimously.

We agreed to note that this standard should be one of those revisited annually during the 'versions' review. The implementation guide will also reference 40-bit SSL, 40-bit RSA Java communications, and 40-bit Secure ICA

A discussion ensued about concerns with security and ActiveX. It was noted that requiring ActiveX modules to be signed could address this issue.

John Tsucalas moved the following standard, and Pete Whatley seconded the motion. 'All custom downloadable models 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. In favor - 15 Opposed - 1 Abstained - 5.

Integrity

John Tsucalas made a motion that 'integrity' be combined with 'privacy' and addressed together and also accept the implementation guide notes referenced above. The motion was seconded by Chris Phillips. Motion passed unanimously with 1 abstention.

Non-repudiation - 'How can I ensure that a party cannot deny sending information that I have received?'

Richard Hamilton moved that we send the following statement to EII. The motion was seconded by Joe Kardas.

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. Motion was passed unanimously.

Client-side certificates

Joe Kardas moved, and Carol Gaas seconded a motion that we do not recommend a standard here but that we make the following statement to EII:

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. Motion passed unanimously.

Changes to Minimum Technical Requirements

Chris Phillips moved, and Pete Hollger seconded a motion that we make the following changes to the minimum technical requirements and specify the following plug-in examples:

Browser features:
remove Public key certificates
remove Channels

Plug-ins:
Java 1.1.6 Sun JDK (Activator)
ActiveX (plug-in for Netscape)
ICA v4 (plug-in)

The motion was passed unanimously with 1 abstention.

Adjournment

On motion, the meeting was adjourned at 5:05 PM to reconvene tomorrow morning at 8:00 AM.

Reconvened

The FTTF reconvened on Wednesday, September 2, 1998 at 8:10 AM.

Antitrust

Susan Croley read the GISB antitrust statement.

Redundancy Issues

Richard Hamilton distributed a document of recommendations for redundant Internet connections. Discussion on the topic included the following:

- It was suggested that redundant Internet connection is a level of service issue for TSPs and the number of required connections nor type should not be standardized. However; issues and recommendations should be included in the Implementation Guide.
- There are other ways to provide 'backup' including fax, should we be as detailed about all methods?
- With the number of alternatives available and the diverse needs of various TSPs, could one size fit all?
- There was concern about statements about primary versus alternative and recommendations about speed of one versus the other.
- Some voiced concern that if we did not have a standard stating that an alternative URL was allowed, that customers may not be inclined to use the alternate when requested by the TSP.

A motion was made by Richard Hamilton, and seconded by Ron Payne that the document present by Richard, with the bullets removed referring to primary and alternate URLs, be adopted as a standard. MOTION WITHDRAWN.

A motion was made by Richard Hamilton proposed the following standard, which was seconded by Joe Kardas. 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.

Segment	Yes	No	Abstain
Pipes	11	1	1
LDCs	1	0	0
Services	6	1	1
End Users	0	0	0
Producers	0	0	0
TOTAL	18	2	2

Guidelines for Implementation Manual

Customer Activities Sites

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.

John Tsucalas moved, and Pete Whatley seconded a motion that we use the above in the Implementation Guide.

Segment	Yes	No	Abstain
Pipes	12	0	0
LDCs	1	0	0
Services	8	0	0
End Users	0	0	0
Producers	0	0	0
TOTAL	21	0	0

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.

Mike Shahan made a motion, which was seconded by Richard Hamilton that the above redundancy guidelines for 'Customer Activity' and EDM sites be approved for inclusion in the Implementation Guide. Motion passed unanimously.

Clarification of Redundancy

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).

Review Current Implementations of Flat File EDM

It was noted that Florida Gas Transmission has an implementation using flat files. Terry Lehn proceeded to explain that implementation. Contact Terry Lehn for copy of presentation.

Several other TSPs reported that they also currently offer flat file options.

Outbound Ports on Clients

There is a need to identify which outbound ports will be needed. A partial list was compiled:

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

John Tsucalas made a motion, which was seconded by Mike Shahan that the above list be the strawman list to be considered available as outbound ports for the client and that this issue be an agenda item for our next meeting. Motion passed unanimously.

Meeting Adjoined

On motion, the FTTF was adjointed at 2:25 PM. A tentative date for our next meeting is September 21, 1998 at a location to be determined.

Attendance List

Name	Company	PL	EU	LDC	Svc	Pro	8/31	9/1	9/2
George Heal	IBM				X		X	X	X
Pete Whatley	Dynegy				X		X	X	X
Carol Gaas	Midwestern Gas	X					X	X	X
Bill Fortney	Tennessee Pipeline	X					X	X	X
Michael Manos	Ole Systems				X		X		
Sylva Munson	Altra Streamline				X		X		
Peter Hollger	Altra				X		X	X	X
Matthew Stickler	PG&E Gas Trans-NW	X					X	X	X
Terry Lehn	EDS				X		X	X	X
John Tsucalas	EDS				X		X	X	X
Stan Thomas	KN Energy	X					X	X	X
Jon Keeler	Great Lakes Gas	X					X	X	
Rob Greene	Great Lakes Gas	X					X	X	
Ron Szuba	ANR Pipeline	X					X	X	X
Thomas Eckel	Sabre Energy Network				X		X	X	X
Joe Kardas	NFGSC	X					X	X	X
Jim Keisler	Transco	X					X	X	X
Richard Hamilton	Williams Natural Gas	X					X	X	X
Ron Payne	SONAT	X					X	X	X
Andy Sicignano	Enron Capital & Trade				X		X	X	X
John Smith	CNG	X					X	X	X
Mike Shahan	CNG LDC Group			X			X	X	X
Chris Phillips	Columbia Gas Trans	X					X	X	X
Susan Croley	Duke Energy	X					X	X	X
Steve Hinton (via phone)	Transcapacity				X		X	X	X
Gary Pitcher	NrG Info Services				X			X	
Grant Genereny	NrG Info Services				X			X	
Chris Davy	NrG Info Services				X				X
TOTAL PRESENT							25	25	22