

To: Rae McQuade
From: Theresa Hess
Subject: Comments on EDM Standards Book (Due September 13, 1999) Date: September 13, 1999

Stated below are the comments of the Enron Gas Pipeline Group on the revisions to the Electronic Delivery Mechanism (EDM) Standards book. As a reminder, the revisions should fall into two categories:

- 1) items ratified by GISB membership, and
- 2) proposed revisions being made pursuant to GISB Request No. R99036. The Executive Committee sent this request to the Future Technology Task Force at their July 15, 1999 meeting. The description of the request, as stated in the July EC minutes, is as follows:

“Review and recommend changes to the existing EDM Standards Manual, version 1.3, to ensure that the text of the manual is supported by existing standards and recommend incorporation of changes in the EDM manual to streamline the manual consistent with existing standards.”

- **Executive Summary**

- p. 2, Year 2000 Compatibility → A section titled ‘Year 2000 Compatibility’ has been added to the book. Based on conversations with the GISB office, it is my understanding that GISB will not make any statement regarding Y2K compliance. This section should be removed from the EDM book.

- **Business Process and Practices**

- The new principles, definitions and standards have not been added to the book. And, revisions to standards which were ratified by GISB have not been made. This includes the work of the EII and Notices Task Forces.
- p. 4, possible approach #1 at top of page → The opening phrase “A high end approach” is not part of the language that was ratified, and it appears to be an opinion. The language adopted by GISB simply lists the three possible approaches. This additional phrase should be removed.
- p. 4, first bullet beneath the full paragraph → The language ratified by GISB included an additional phrase at the end of the statement. The complete language of the bullet should be as follows: “The information provided by each URL should be exactly the same, although trans-ids can be different.” The entire statement should be included, as ratified by GISB.
- p. 17, Standards Cross Reference → Numerous standard numbers are still shown using the temporary numbers that were used in the EII task force (e.g., p17, d13, s10). They should be converted to GISB standard numbers (e.g., 4.1.38, 4.2.19, 4.3.79, respectively).
- p. 17, Standards Cross Reference → In the ‘Applies to’ column, what does ‘common’ refer to? Since the lead-in sentence states that the list cross-references the standards to

the “appropriate section of the EDM Manual”, it would be helpful if the cross-reference used the names of the sections as used in the EDM manual.

- **Technical Implementation – Internet EDI/EDM & Batch FF/EDM**

- p. 2, Data Dictionary For Internet EDM → Under the ‘Format’ column, the information for the ‘from’ and ‘to’ data elements has changed from “Common Code Identifier” to “Alphanumeric 13 bytes maximum identifier code”. This revision does not fall under Request No. R99036 noted above. If someone wants to make this revision, a request should be submitted to GISB so that it can be addressed via the proper GISB process. Other related revisions have been made, and the text should be returned to the current language:
 - p. 3 – The footnote regarding common codes should remain beneath the data dictionary table.
 - p. 33 – The error messages ‘EEDM100’ and EEDM101’ in the table of Internet EDM Standard Error Codes and Messages should be returned to the current language.

Also, the current business practice is to use common codes when available, and proprietary codes when a common code is not available. GISB Principle 1.1.8 states, in part: “The industry should use common codes for location points and legal entities. ...” Common codes is the theme throughout the GISB manuals. To vary from this in the EDM manual will only bring confusion to those who are implementing these processes.

- p. 2, Data Dictionary for Internet EDM → For the data element ‘transaction-set’, the ‘Format’ column was revised as part of Request R98060. The revisions, which have been ratified, should be reflected in the data dictionary.
- p. 2, Data Dictionary for Internet EDM → Several items in the ‘Condition’ column have been revised. Please explain the rationale and support for these revisions.
- p. 8, HTTP Request Data Elements → The following sentence has been added to several sections of the EDM book: “Processing of all HTTP data elements should be case insensitive.” Please explain the rationale and support for this addition.

This sentence also appears on pages 18, 19 and 27 of this section of the EDM manual.

- p. 17, Server Specifications → The last sentence of the first paragraph refers parties to the GISB home page for references on public sites for synchronization. During the August 30 FTTF meeting, it was noted that parties should be referred to Appendix A of the EDM manual, instead of the GISB home page. This revision was not incorporated into the final draft.
- p. 32, List of EDI/EDM and Batch FF/EDM Standards → Several standard numbers are still shown using the temporary numbers that were used in the EII task force (e.g., p17, d13, s10). They should be converted to GISB standard numbers (e.g., 4.1.38, 4.2.19, 4.3.79, respectively).
- p. 34, Internet EDM Standard Error Codes and Messages → The three error codes ‘EEDM701’, ‘EEDM702’ and ‘EEDM703’ were added per Request No. R97126. However, the language in the ‘Require vs. Mutually Agreed’ column has been changed from what was ratified by GISB. The language that was ratified should be reflected in this table.

Also, three additional error codes and one additional warning code have been added to the table. What is the origin of these additions?

- **Informational Postings/EDM** →
 - The first sentence quotes a portion of GISB Standard No. 4.3.6. It should be noted that this is a partial quote and is not the entire language of the standard.
 - Second from the last sentence in the full paragraph → This doesn't appear to be a sentence. The phrase "... could expect to require to access ..." is unclear.
 - Related GISB Standards → The standards apply to "Informational Postings". This is probably a typo.
- **Technical Implementation – EBB/EDM** →
 - All revisions to the EDM manual should be red-lined except two sections which are NEW. These new sections were to include a note at the top of the first page of each section to notify readers that, although they are not red-lined, these are revisions to the previous version. The '**Technical Implementation – EBB/EDM**' (pages 95 – 107 in the .pdf file) is new, but is NOT flagged as such.
 - Many standard numbers are still shown using the temporary numbers that were used in the EII task force (e.g., p17, d13, s10). They should be converted to GISB standard numbers (e.g., 4.1.38, 4.2.19, 4.3.79, respectively).
 - p. 4, 'Navigation' → The last word in the second sentence should have an initial cap. 'Content Area' is a defined GISB term.
 - p. 5, diagram → The term 'Content Area' should have initial caps. It is a defined GISB term.
 - p. 6, 3rd figure → The first two indented items under "Invoicing" should be deleted. This conforms to GISB Standard No. 4.3.79 (s10).
 - p. 7, Navigational Links → This title was revised to 'Navigational Area' during the August 30 FTTF meeting.
 - p. 9, text at bottom of page → The last two paragraphs were deleted during the August 30th FTTF meeting. The paragraph that begins "This sort of redundancy allows ..." describes an implementation that is not addressed in the GISB standards. The paragraph that begins "The following list shows ..." was deleted along with the table listing the processing functions. FTTF decided that it was not necessary to re-state this entire table, which is included in GISB Standard No. 4.3.69.
 - p. 10, The Form → The GISB defined terms "Form" and "Matrix" should have initial caps. "Form" is used twice, and "Matrix" is used three times.
 - p. 10, The Matrix → The second sentence states that the Matrix contains "retrieved" nominations. This language was revised during the August 30 FTTF meeting because the Matrix also contains nominations that have just been entered. The EDM manual should be revised to incorporate FTTF's revised language.
 - p. 12, Encryption → The 'Security for Customer Activities Sites' that was ratified included a disclaimer paragraph and a note informing parties that products should be reviewed prior to implementation for Year 2000 compliance. This language should be incorporated into the EDM manual. Also, the registered marks are missing from the listed "techniques", and the two footnotes are missing.

- **Interactive FF/EDM** →
 - Numerous standard numbers are still shown using the temporary numbers that were used in the EII task force (e.g., p17, d13, s10). They should be converted to GISB standard numbers (e.g., 4.1.38, 4.2.19, 4.3.79, respectively).
 - p. 5, File Creation → In the last line, ‘s27’ should be converted to a GISB standard number.
 - p. 6 → In the first line of this page, ‘s28’ should be converted to a GISB standard number. Also, in the last line of the third paragraph, ‘s25’ should be converted to a GISB standard number.
 - p. 7 → In the first line of this page, ‘s27’ should be converted to a GISB standard number.
 - p. 9, Authentication → In the first sentence, ‘s54’ should be converted to a GISB standard number.
 - p. 9, Encryption → In the first sentence, ‘s53’ should be converted to a GISB standard number.

- **Appendix C**
 - The title of the appendix states that it contains information regarding Informational Postings Web Site and Customer Activities Web Site. The information that follows should appear in the same order as in the title – Informational Postings and then Customer Activities. Or, change the title.
 - **Minimal Technical Characteristics and Guidelines for the User of the Customer Activities Web Site** →
 - The characteristics and guidelines in this appendix **do not correspond to those that were ratified on March 1, 1999**. Parties have made their hardware and software decisions based on the work done by the EII Task Force and it is premature to make changes to the minimum characteristics. Granted, one of the tasks of the Future Technology Task Force is to make recommendations once a year (at a minimum) to the existing minimum characteristics, but the industry needs to be concerned with rapid technical changes. The original minimum characteristics were guidelines for the industry to use while building their transactional web sites, and parties have worked within that framework to build robust systems that meet the needs of customers. Version 1.4 should support the work of the EII Task Force and should include the material that was ratified March 1, 1999.
 - A footnote has been added to the appendix which states that the display resolution will be raised in June 2000. This statement is premature. GISB Standard No. 4.3.59 states that this appendix should be reviewed and updated in the spring of each year and presented to the GISB Executive Committee for adoption by the June meeting of that committee. Parties should be given the opportunity to use the guidelines and then, after the industry has gained some experience, the FTTF can review them next year.

- Administrative items →
 - The registered marks and their related footnotes are missing.
 - The footnote that states that these are minimum configurations has been included, but the reference to the footnote has been omitted from body of the page.
 - There is a note under 'Plug-ins' which states "(tabled until 9/1 pending further research, see below)". What is this?
 - Bottom line – This portion of Appendix C should be deleted and replaced with the appendix as it was ratified on March 1. (see attached)

- **Example Configurations of Client for Accessing Customer Activities Sites** → This appendix was ratified on March 1, but has not been incorporated into the EDM manual. (see attached)



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Standard	EII Ref #	Language
NEW DEFINITIONS		
4.2.16	d9	"Form" is the term used to describe the portion of the Content Area of the browser display on Customer Activities Web sites used for single transaction entry or display as well as, optionally, data selection. The Form should be either in the upper portion of the Content Area or, alternatively, a single page linked to the Matrix.
NEW STANDARDS		
4.3.75	s9	The sub-categories and the labels for the category of Flowing Gas should appear, if applicable, in the Navigational Area as follows: Pre-determined Allocation Allocation Imbalance Measurement Links supporting additional sub-categories will follow these links. This does not preclude a further breakdown within each sub-category from being listed in the Navigational Area.



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Standard	EII Ref #	Language
1.3.54	s46	<p>On the nominations data entry screen, fields in the data groups on the Form should appear in the following order:</p> <p>Business Entity Data Group:</p> <ul style="list-style-type: none"> Transportation Service Provider Service Requester <p>Contracts Data Group:</p> <ul style="list-style-type: none"> Service Requester Contract Model Type <p>Dates Data Group:</p> <ul style="list-style-type: none"> Beginning Date Beginning Time Ending Date Ending Time <p>Receipt Data Group:</p> <ul style="list-style-type: none"> Receipt Location Upstream Identifier Code Upstream Contract Identifier Receipt Quantity Receipt Rank (Priority) Upstream Rank (Priority) Upstream Package ID <p>Delivery Data Group:</p> <ul style="list-style-type: none"> Delivery Location Downstream Identifier Code Downstream Contract Identifier Delivered Quantity Delivery Rank (Priority) Downstream Rank (Priority) Downstream Package ID <p>Transaction Specific Data Group:</p> <ul style="list-style-type: none"> Service Provider's Activity Code Transaction Type Package ID Associated Contract Bid Transportation Rate Capacity Type Indicator Deal Type Nominator's Tracking ID



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Standard	EII Ref #	Language
1.3.61	s69	<p>On the scheduled quantity Web page, fields in the data groups on the Form should appear in the following order:</p> <p>Business Entity Data Group:</p> <ul style="list-style-type: none"> Transportation Service Provider Service Requester Statement Date/Time <p>Contracts Data Group:</p> <ul style="list-style-type: none"> Service Requester Contract Model Type <p>Dates Data Group:</p> <ul style="list-style-type: none"> Beginning Date Beginning Time Ending Date Ending Time <p>Receipt Data Group:</p> <ul style="list-style-type: none"> Receipt Location Upstream Identifier Upstream Contract Identifier Receipt Quantity Receipt Rank (Priority) Upstream Package ID <p>Delivery Data Group:</p> <ul style="list-style-type: none"> Delivery Location Downstream Identifier Downstream Contract Identifier Delivery Quantity Delivery Rank (Priority) Downstream Package ID <p>Transaction Specific Data Group:</p> <ul style="list-style-type: none"> Reduction Reason Service Provider's Activity Code Transaction Type Package ID Associated Contract Bid Transportation Rate Capacity Type Indicator Deal Type Nominator's Tracking ID
2.3.32	s73	<p>On the Web pages for the following datasets, data should be organized in logical groupings. The logical groupings of data are specified in the related Data Dictionary.</p> <p>Flowing Gas Related Data Sets:</p> <ul style="list-style-type: none"> 2.4.1 Pre-determined Allocation 2.4.3 Allocation 2.4.4 Shipper Imbalance 2.4.5 Measurement Information <p>Note: GISB Standard No. 2.4.6, 'Measured Volume Audit Statement', is very data intensive and lends itself well to EDI. It may be too intensive for a visual display which is why at this time it is not addressed in the above motion.</p>



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Standard	EII Ref #	Language
4.3.76	s75	On a Customer Activities Web page, where the Form and the Matrix are combined, any data groupings and ordering for the corresponding Form should apply.
4.3.77	s76	Where a Transportation Service Provider populates the Upstream/Downstream Identifier via its EBB/EDM implementation based upon provision of an upstream or downstream contract identifier at pooling and logical points, an EDI nomination should be provided the same capability.
4.3.78	s77	When a Form and a Matrix exist for a Customer Activities Web page, a mechanism should exist to populate the Form with data from a selected item in the Matrix.
1.3.79	s78	On the Scheduled Quantity Web page, a mechanism should exist to allow the display of those line items that result in nomination reductions before all other line items are displayed, or to allow the selection of only those line items that have been reduced
2.2.33	s79	<p>On the Allocation Web page, fields in the data groups should appear in the following order:</p> <p>Business Entity Data Group:</p> <ul style="list-style-type: none"> Preparer ID Contact Person Statement Recipient ID Statement Date/Time <p>Dates Data Group:</p> <ul style="list-style-type: none"> Accounting Period Beginning Flow Date Beginning Flow Time Ending Flow Date Ending Flow Time <p>Location Data Group:</p> <ul style="list-style-type: none"> Location Code <p>Flowing Gas Data Group:</p> <ul style="list-style-type: none"> Ending Imbalance Quantity Ending Imbalance Value <p>Transaction Specific Data Group:</p> <ul style="list-style-type: none"> Direction of Flow Upstream Identifier Code Upstream Contract Identifier Service Requester ID Service Requester Contract Downstream Identifier Code Downstream Contract Identifier Statement Basis Adjustment Type Scheduled Quantity Operational Quantity Allocated Quantity Penalty Variance Quantity Service Provider Activity Code Package ID Associated Contract



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Standard	EII Ref #	Language
2.3.34	s80	<p>On the Shipper Imbalance Web page, fields in the data groups should appear in the following order:</p> <p>Business Entity Data Group:</p> <ul style="list-style-type: none">Preparer IDContact PersonStatement Recipient IDStatement Date/Time <p>Contracts Data Group:</p> <ul style="list-style-type: none">Service Requester Contract <p>Dates Data Group:</p> <ul style="list-style-type: none">Accounting PeriodBeginning Flow DateBeginning Flow TimeEnding Flow DateEnding Flow Time <p>Flowing Gas Data Group:</p> <ul style="list-style-type: none">Ending Imbalance QuantityEnding Imbalance Value <p>Receipt Data Group:</p> <ul style="list-style-type: none">Receipt LocationUpstream Identifier CodeUpstream Contract IdentifierScheduled Receipt QuantityOperational Receipt QuantityAllocated Receipt Quantity <p>Delivery Data Group:</p> <ul style="list-style-type: none">Delivery LocationDownstream Identifier CodeDownstream Contract IdentifierScheduled Delivery QuantityOperational Delivery QuantityAllocated Delivery Quantity <p>Transaction Specific Data Group:</p> <ul style="list-style-type: none">Service Provider's Activity CodeTransaction TypePackage IDBid Transportation RateCapacity Type IndicatorFuel QuantityStatement BasisAdjustment TypeAdjustment QuantityAdjustment ValueImbalance ValueZone Identifier



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Standard	EII Ref #	Language
2.3.35	s81	<p>On the Pre-determined Allocation Web page, fields in the data groups should appear in the following order:</p> <p>Business Entity Data Group:</p> <ul style="list-style-type: none">Preparer IDContact PersonStatement Recipient IDStatement Date/Time <p>Dates Data Group:</p> <ul style="list-style-type: none">Beginning Flow DateBeginning Flow TimeEnding Flow DateEnding Flow Time <p>Location Data Group:</p> <ul style="list-style-type: none">Location Code <p>Flowing Gas Data Group:</p> <ul style="list-style-type: none">Allocation MethodAllocation Rank IndicatorAllocation Rank LevelLimit Value <p>Transaction Specific Data Group:</p> <ul style="list-style-type: none">Direction of FlowUpstream Identifier CodeUpstream Contract IdentifierService Requester IDService Requester ContractDownstream Identifier CodeDownstream Contract IdentifierBid Transportation RateService Provider Activity CodePackage IDAssociated Contract



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Appendix

Abbreviation Table for Recommended Standard s50

Processing Function	Nomenclature
Create a new line item for data entry in the Matrix.	New
Copy existing data on a screen or window.	Copy
Delete the current line item from the Matrix, the screen or the window prior to Submit.	Delete
Back out of a screen or window without executing the process, which will cause the loss of all updates since the last Submit.	Cancel
Print application data.	Print
Send record/records from the Matrix to the TSP for processing.	Submit
Sort displayed records based on specified criteria.	Sort
Retrieve information from the TSP based on specified criteria.	Retrieve
Post a line item from the Form to the Matrix as a change to the current line item in the Matrix prior to Submit.	Change
Clear fields on the Form.	Clear
Post a line item from the Form to the Matrix as a new record.	Add
Provide information regarding the current page or function.	Help
Filter displayed records based on specified criteria.	Filter



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Appendix

Implementation Guide Recommendations

Implementation Guide Content under Customer Activities Sites

Minimum Technical Characteristics of the Client Workstation

Configuration* Description:

Hardware:

CPU >= 166 MHz
Memory >= 64 MB Physical
Display Resolution >= 800 x 600

Operating Systems:

Multi-threaded and preemptive

Connection:

>=56KB (V90)

Browser Characteristics (includes defined GISB current versions):

Features as supported by both Netscape®¹ v4.06 and Internet Explorer®² v4.0 sp1 including:

- Frames and nested frames
 - Tables and nested tables
 - Style Sheets
 - HTML
 - Cookies
 - JavaScript
 - SSL®³ (40 Bit RSA)
-
- JAVA®⁴ 1.1.6 Sun®⁴ JDK (plug-in)
 - ActiveX®² (Plug-in for Netscape®¹)
 - ICA®⁵ v4 (Plug-in)

*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 preclude use of a site if the user chooses to use anything less than those levels shown.

¹ Netscape® is a registered trademark of Netscape Communications Corp.

² Internet Explorer® and ActiveX® are registered trademarks of Microsoft Corporation.

³ SSL® is a registered trademark of Solid State Logic Limited.

⁴ JAVA® and Sun® are registered trademarks of Sun Microsystems, Inc.

⁵ ICA® is a registered trademark of Citrix Systems, Inc.



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Appendix

Implementation Guide Recommendations Example Configurations of Client for Accessing Customer Activities Sites

EXAMPLES BELOW REPRESENT A NON-COMPREHENSIVE SET OF CONFIGURATIONS WHICH A CLIENT MAY USE. THIS EXAMPLE LIST IN NO WAY SHOULD BE CONSTRUED AS AN ENDORSEMENT BY GISB OF ANY SPECIFIC PRODUCTS. OTHER PRODUCTS MEETING THE MINIMUM TECHNICAL CHARACTERISTICS OF THE CLIENT WORKSTATION MAY BE MAY BE USED.

Hardware:

CPU: P166 MHz or higher

Memory >= 64 MB Physical

Display Resolution >= 800 x 600

Pointing Device with left and right click capability

Operating Systems:

Windows®⁶ 95

Windows®⁷ 98

Windows®⁷ NT 4.0 service pack 3

Connection:

56KB (V90) modem

ISDN

Direct Connect (T1, Fractional T1...)

Browser:

Netscape®⁷ Communicator/Navigator v4.06

Microsoft Internet Explorer®⁸ v4.0 service pack 1

Plug-ins:

JAVA®⁹ 1.1.6 Sun JDK (Activator)

ActiveX®⁹ (Plug-in for Netscape)

ICA®¹⁰ v4 (Plug-in)

SPECIFIC PRODUCTS SHOULD BE REVIEWED PRIOR TO IMPLEMENTATION FOR YEAR 2000 COMPLIANCE.

⁶ Windows® is a registered trademark of Microsoft Corporation.

⁷ Netscape® is a registered trademark of Netscape Communications Corp.

⁸ Internet Explorer® and ActiveX® are registered trademarks of Microsoft Corporation.

⁹ JAVA® is a registered trademark of Sun Microsystems. Inc.

¹⁰ ICA® is a registered trademark of Citrix Systems, Inc.



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Appendix

Implementation Guide Recommendations

Implementation Guide Content under Security for Customer Activities Sites

THE LIST OF PRODUCTS BELOW REPRESENT A NON-COMPREHENSIVE SET WHICH A CLIENT MAY USE. THIS LIST IN NO WAY SHOULD BE CONSTRUED AS AN ENDORSEMENT BY GISB OF ANY SPECIFIC PRODUCTS. OTHER PRODUCTS MEETING THE MINIMUM TECHNICAL CHARACTERISTICS OF THE CLIENT WORKSTATION MAY BE MAY BE USED.

Minimum

40 bit* SSL® or 40 bit* RSA JAVA®¹¹ communications or 40 bit* Secure ICA®¹²

*128 bit encryption is strongly recommended where possible.

SPECIFIC PRODUCTS SHOULD BE REVIEWED PRIOR TO IMPLEMENTATION FOR YEAR 2000 COMPLIANCE.

¹¹ JAVA® is a registered trademark of Sun Microsystems. Inc.

¹² ICA® is a registered trademark of Citrix Systems, Inc.



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Appendix

Implementation Guide Recommendations

Implementation Guide Content under Redundancy

**In this context redundancy refers to normal operations redundancy (as opposed to disaster recovery contingencies).*

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; i.e., connections which result in Internet pathways that do not pass through a single point/service/router
7. Multiple power sources for network equipment

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.

EDI/EDM Sites

Three possible approaches are:

1. Maintain multiple ISPs and multiple 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:

1. The information provided by each URL should be exactly the same, although trans-ids can be different.
2. The trading partners should be informed of both URLs and their availability by system wide notice or by TPA.



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Implementation Guide Recommendations

Implementation Guide Content under Redundancy (Continued)

The URLs should be identified as primary and secondary if either:

1. There is a TSP connection speed difference between the URLs (The faster connection listed as primary).

or

2. 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:

1. The URLs have the same TSP connection speed.

and

2. 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.



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Appendix

Implementation Guide Recommendations

Client Firewall Requirements for Service Provider EDM Implementations

@Body Single@The following is a list of allowable TCP ports available for use by a Service Provider. Upon request, the Transportation Service Provider (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 ¹³
Allowable UDP Ports (not TCP ports):	
Secure ICA	1604

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, GISB 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 GISB 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.

¹³ The reservation of 20 optional ports was to provide room for implementations such as DCE, IIOIP, and load balancing implementations. TSPs should endeavor to minimize the usage of these ports.