

Introduction

The Future Technology Task Force (FTTF) of the Gas Industry Standards Board (GISB) has developed standards for electronic commerce using the Internet. This document serves as a guide for implementation for all gas industry trading parties participating in electronic commerce.

The standards adopted by the FTTF have been approved by the GISB Executive Committee and should be adhered to by the trading parties as minimum standards. A trading party may offer additional functions or features as options but should not require their use. The Trading Partner Agreement between two parties defines variable parameters required for electronic commerce, the optional features that will be used by the parties, and the data format within the electronic communication.

The standards adopted by the FTTF may or may not be established as Federal Energy Regulatory Commission (FERC) regulations to pipelines. The standards were developed as voluntary minimum standards to provide consistency and certainty in electronic commerce among all segments of the gas industry. Voluntary minimum standards support a seamless and efficient marketplace for natural gas, its transportation and other related services.

Technical Infrastructure

The Internet is recognized by the FTTF as a relatively new and fast-growing technology but also one that has become established as an widely-accepted means of communication.

Each company who elects to conduct commerce across the Internet is advised of the technical infrastructure which must be put in place. The investment in Internet technology will involve hardware, software, and technical expertise. Each company may implement the infrastructure through internal or outsourced means.

Hardware investments will include:

- a server to receive incoming EDI files,
- a firewall processor to block intruder access,
- a proxy server to

Software investments will include:

- operating software for the servers, including the firewall and proxy servers
- programming languages which support Internet technologies
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Technical expertise investments will include:

- development and maintenance of server applications to process incoming EDI files as well as applications to initiate communication with the server of your trading partner
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The FTTF has demonstrated through a Pilot Test that electronic commerce using the Internet can work. However, the FTTF strongly encourages all parties to fully investigate the ramifications of introducing electronic commerce using the Internet. This includes ensuring that all customer data, internal data, and applications are secure from intruders or other parties not authorized for access.

Technical Implementation

The FTTF has identified the HyperText Transfer Protocol (HTTP) as the minimum standard for electronic commerce using the Internet.

Both trading parties who have identified Internet communication as the means of electronic communication in their Trading Partner Agreement must provide an HTTP server to handle incoming requests. The HTTP server should be synchronized to _____ (need the correct name for NTP, given at the last meeting). The trading party initiating the communication is termed the "client" or "requestor" while the trading party accepting the communication is termed the "server" or "receiver".

The Trading Partner Agreement will specify the Universal Resource Locator (URL) to be used when each party is initiating communication. The URL will identify a Common Gateway Interface (CGI) program to accommodate the incoming requests. Each trading party is responsible for providing the CGI program. The CGI may be written in any programming language but must operate within the GISB FTTF standards.

Each trading party client will issue an HTTP post, referred to as the "HTTP request", using either the standard post format or the multi-part form format. Each trading party server will accept both the standard post and multi-part form formats at the defined URL. Once a data transfer is complete, the server will send a receipt confirmation to the client, referred to as the "HTTP response". Once the response is returned to the client, the server connection for that client is dropped.

[Should we include a paragraph defining standard post versus multi-part form and the differences?]

All data elements defined as required in the FTTF standards will be placed in the form content of the HTTP request. Trading parties may agree to inclusion of additional data elements, termed "mutually agreed upon", which will be placed in the query string of the HTTP request. Refer to the FTTF Standards for constraints on mutually agreed upon fields.

HTTP Request Required Data Elements

user	user id assigned by the server trading party
pw	password assigned to the user id
input-format	descriptor of the data format within the input dataset. At this time, the only defined value of this element is "x12".
input-data	the properly-formatted file of electronic commerce data transactions

HTTP Request Mutually Agreed Upon Data Elements

transaction-set descriptor of the transaction types included in the input-data. The values used must be from the unique 8-character names defined by the GISB _____ Committee. See _____ for the list. When data is of mixed transaction types, use value _____.

HTTP Response Required Data Elements

time-c the time of transfer completion at the server. The format will be *yyyymmddhhmmss*.

request-status a text status indicator by the server. The only defined value at this time is "ok" for a successful transfer. The server should supply a descriptive indication of the error detected when the transfer was not successful.

General Rules

- All data element names will be in lower case.
- Carriage returns and line feeds will be ignored in all files.
- A field delimiter of "&" will be used in the HTTP post.
- A field delimiter of "*" will be used in the HTTP response.
- No spaces should surround the equal sign or the field delimiter.

[A section here with more specific instructions on creating the standard post and multi-part form post]

Samples

Sample HTTP Post:

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<HTML>user=xxxxxxx&pw=xxxxxxx&input-format=x12&input-data=xxxxxxxxx..
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Sample HTTP Response:

<HTML>request-status=ok*time-c=19960619082855*

<HTML>request-status=fail:invalid user id*time-c=19960619082855*

Security

[This section needs to be written.]

Reference Guide

[This section will contain a list of suggested books, home pages, RFCs, etc.]