

**TAB 6 Technical Implementation - Internet EDI/EDM and BATCH FF/EDM**

Provides an overview of the business process for Internet EDI/EDM and Batch FF/EDM.

**Data Dictionary**

Provides definition of the standard data elements and the usage requirements for each element.

**Batch Flow Diagram**

**Sending Transactions**

Provides instructions to develop mechanisms for sending of GISB standard format data files.

**Receiving Transactions**

Provides instructions to develop mechanisms for receiving of GISB standard format data files.

**Security**

Provides guidelines for data privacy, data integrity, authentication and non-repudiation of inbound and outbound transactions.

**Other Considerations**

Provides information regarding error notification and testing. Includes a reference guide and examples for repudiation and validation.

**TAB 7 Technical Implementation - Informational Postings Web Site**

Provides an overview of the business process for IP/EDM.

**TAB 8 TECHNICAL IMPLEMENTATION - EBB/EDM**

Provides an overview of the business process for EBB/EDM.

**TAB 9 TECHNICAL IMPLEMENTATION - INTERACTIVE FF/EDM**

Provides an overview of the business process for Interactive FF/EDM.

**TAB 10 Appendix**

- Appendix A - Reference Guide
- Appendix B - Repudiation and Validation Examples
- Appendix C - Minimum Technical Characteristics and Guidelines for the Developer and User of the Customer Activities Web Site
- Appendix D - Minimum and Suggested Technical Characteristics and Guidelines for the Developer and User of the Informational Postings Web Site
- Appendix E - Minimum Technical Characteristics for [an EDM Communications Server+](#)

## APPENDIX C - Minimum Technical Characteristics and Guidelines for the Developer and User of the Customer Activities Web Site<sup>1</sup>

Browser Characteristics (includes defined NAESB WGQ current versions):

Features as supported by the latest [g](#)enerally [a](#)vailable (GA) versions of both Netscape®<sup>2</sup> and Internet Explorer®<sup>3</sup> within 9 months of such GA version becoming available, including -

- Frames & Nested Frames
- Tables & Nested Tables
- HTML
- Cookies
- JavaScript
- SSL 128-bit RSA Encryption
- Style Sheets

Plug-ins ([Generally Available](#) (GA) versions within 9 months of such GA versions becoming available)

- JAVA®
- ActiveX®<sup>4</sup> (Plug-in for Netscape®)
- Adobe Acrobat [PDF](#) Reader®<sup>5</sup>
- Systems Incorporated
- Independent Computer Architecture (ICA®)<sup>6</sup> - Protocol used for remote control access to an application

Operating Systems:

Operating systems on a client workstation should be multithreaded and pre-emptive.

Hardware:

CPU	>=500 MHz
Memory	>=256 MB Physical
Display Resolution	>=1024 x 768, 16K colors
Connection	>=56 KB ( <del>v.90</del> )

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<sup>1</sup> 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.

<sup>2</sup> Netscape® is a registered trademark of Netscape Communications Corp.

<sup>3</sup> Internet® Explorer is a registered trademark of Microsoft Corporation.

<sup>4</sup> ActiveX® is a registered trademark of Microsoft Corporation.

<sup>5</sup> [Adobe®](#), [Acrobat®](#), and [Reader®](#) are a registered trademarks of Adobe.

<sup>6</sup> [ICA®](#) is a registered trademark of Citrix Systems Inc.

### Example Configuration<sup>1</sup>

Hardware:	CPU: P500 MHz or higher Memory: 256MB Physical Display Resolution: 1024 x 768, 16K colors Pointing Device with left and right click capability
Operating Systems:	Windows® <sup>2</sup> 98 Windows® NT 4.0 Windows® 2000
Connection:	56KB (v.90) modem ISDN Direct Connect (T1, Fractional T1, etc.) DSL Cable-Modem
Browser:	Netscape® Communicator/Navigator Microsoft® Internet Explorer
Plug-ins:	JAVA® ActiveX® (Plug-in for Netscape®) Adobe Acrobat Reader® ICA®

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

CPU Speed - Users should be aware that higher CPU speeds may result in better performance.

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<sup>1</sup> Specific products should be reviewed prior to implementation for Year 2000 compliance. Examples provided represent a non-comprehensive set of configurations that a client may use. This example list in no way should be construed as an endorsement by NAESB WGQ of any specific products. Other products meeting the minimum technical characteristics of the client workstation may be used.

<sup>2</sup> Windows® is a registered trademark of Microsoft Corporation.

## APPENDIX D - Minimum and Suggested Technical Characteristics and Guidelines for the Developer and User of the Informational Postings Web Site

User technical characteristics provide specifications to the developer on the user environment for which the application will be designed and tested. Likewise, they will serve as guidelines to the user when purchasing the appropriate hardware and software to enable him/her to use the application.

### Informational Postings Web Site User Technical Characteristics

	Minimum	Suggested
Connection Device:	<del>28.8</del> <a href="#">33.3 KBKbs</a>	Direct Connect
Operating System:	Multi-threaded & Preemptive	
RAM:	128 MB	>128 MB
Browser Capabilities:	Cookies & JavaScript Frames & Nested Frames Tables & Nested Tables HTML 3.2 <a href="#">Abode Acrobat Reader®</a>	
Display Resolution:	1024x768, 16k colors	>1024x768, 16k colors

#### Definitions:

##### *Minimum user technical characteristics -*

The environment and components for which the Web site application is designed and tested. This should include:

- a client environment comprised only of characteristics listed above, and,
- support for all mandated functions in accessing Informational Postings.

##### *Suggested user technical characteristics -*

Environment or components not required to perform all mandated functions in accessing Informational Postings, but could provide an enhanced user experience.

## Examples of User Workstations Meeting Criteria of Informational Postings Web Site User Characteristics<sup>1</sup>

	<u>Minimum</u>	<u>Suggested</u>
Hardware:	Pentium® <sup>2</sup> 200MHz or equivalent	Pentium® 500MHz or greater
RAM:	128 MB	> 128 MB
Communication Device:	<a href="#">28.833.3 Kbs</a>	Direct Connect ISDN Satellite 56 KB modem DSL Cable-Modem
Monitor:	12" Laptop 15" Desktop	> 12" Laptop > 15" Desktop
Display Capabilities:	1024x768 16k colors	> 1024x768 > 16k colors
Operating System:	Windows® 95 System <a href="#">87</a> ® <sup>3</sup> Solaris® <sup>4</sup> <a href="#">2.65</a>	Windows® XP Windows® 98 Windows® NT 4.0 Solaris® <a href="#">2.68</a> System <a href="#">89</a> ® Windows® 2000 Windows® ME Linux
Browser:	Microsoft Internet Explorer® Netscape® Communicator	Microsoft Internet Explorer® Netscape® Communicator

<sup>1</sup> Technical implementations above represent a non-comprehensive set of choices which an implementer may use. This list in no way should be construed as an endorsement by NAESB WGQ of any specific products. Other products supporting technical implementation may be used.

<sup>2</sup> Pentium® is a registered trademark of Intel Corporation.

<sup>3</sup> System [78](#)® and System [89](#)® are registered trademarks of Apple Computers, Inc.

<sup>4</sup> Solaris® is a registered trademark of Sun Microsystems, Inc.

## Informational Postings Web Site Developer Technical Characteristics

User's environment supporting the above minimum characteristics should be able to access all NAESB WGQ standardized features of Informational Postings Web Sites.

Any other Web technologies may be considered for use by the developer as long as they can be used by the client without requiring special actions including firewall rule changes, use of a specific browser, logons and downloads of special helper applications such as plug-ins, viewers or readers, [except as specifically identified in this Appendix.](#)



## APPENDIX E - MINIMUM TECHNICAL CHARACTERISTICS FOR AN EDM COMMUNICATIONS SERVER

The following ports may be used by EDM developers and should be made available in user environments.

Allowable TCP Ports (not UDP ports)

HTTP HTTPS 80, 443, 5713, 6112, 6304, 6874, 7403

ICA® 1494

RMI(Java® ) 1099-1100

Java® Telnet 31415

TCP Optional 8001-8020\*\*

SMTP 25

Allowable UDP Ports (not TCP ports)

Secure ICA® 1604

There are other technologies available that would require additional ports to be opened, such as FTP and Telnet. If and when NAESB WGQ approves such technologies, FTF will modify this list of allowable ports accordingly. The client-side firewall implementation and client browser settings should permit the downloading and installation of NAESB WGQ approved plug-ins and modules. Please refer to the NAESB WGQ defined Minimum Technical Characteristics for Accessing Customer Activities Web Sites for the listing of NAESB WGQ approved plug-ins and modules.

\*\*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.

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