Over the years as the minimum technical requirements have been updated, the new ones have been added to the bottom of the lists. In checking with the current and past co-chairmen of the EDM Subcommittee, for the most part, there is no meaningful reason for the lists to appear in this random order. Therefore, with one exception, I am proposing that the lists be put in alphabetical order for ease in reading. The one exception is the order of the Windows products as they are in the order of release (XP Pro, XP Home, Vista and 7). Additionally, in the course of reviewing this further, I noticed a discrepancy in formatting – some areas are in table format and others are not. For ease in editing/alphabetizing in the future, I propose that tables be used where appropriate. These comments are merely form over substance. Finally, I inserted a couple of spaces and ‘®’ where needed. Following is a copy of Attachment 2 to the recommendation form - clean version - with my suggested edits in redline. The latter part of this document reflects the work product in its entirety in clean version (incorporating the suggested redlines from the EDM Subcommittee as well as my suggested changes).

**Appendix B - Minimum Technical Characteristics and Guidelines for the Developer and User of the Customer Activities Web Site**[[1]](#footnote-1)

Browser:

The latest Generally Available (GA) versions of both Firefox® **[[2]](#footnote-2)** Extended Support Release version and Internet Explorer® **[[3]](#footnote-3)3** within 9 months of such GA version becoming available, characteristics including –

|  |
| --- |
|  |
|  |
|  |
| JavaScript |
|  |
|  |
|  |

Plug‑ins (GA versions within 9 months of such GA versions becoming available)

|  |
| --- |
| ActiveX® **4** |
|  |
|  |
|  |
|  |
|  |
|  |

Operating Systems:

Operating systems on a client workstation should be multithreaded, pre-emptive and should be the latest, stable version and service pack available as allowed in NAESB WGQ QEDM Appendices B and C.

Hardware:

|  |  |
| --- | --- |
| CPU | ≥ 2 GHz |
| Connection | ≥ Broadband |
| Display Resolution | ≥ 1280 x 768, 16K colors |
|  | ≥ 2 GB Physical |

Example Configuration for Client Workstation**[[4]](#footnote-4)1**

|  |  |
| --- | --- |
| Hardware: | CPU: 2 GHz or higher |
|  | Display Resolution: 1280 x 768, 16K colors |
|  | Memory: 2 GB Physical |
|  | Pointing Device with left and right click capability |
| Operating Systems: | Windows® XP Pro |
|  | Windows® XP Home |
|  | Windows® Vista |
|  | Windows® 7 |
| Connection: | Broadband (T1, Fractional T1, etc.) |
|  | Cable-Modem |
|  | DSL |
|  | ISDN |
| Browser: | Firefox® Extended Support Release |
|  | Microsoft® Internet Explorer® |
| Plug-ins: | ActiveX® |
|  | Adobe Acrobat Reader® |
|  | Adobe Flash Player® |
|  | ICA® |
|  | JAVA® |

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.

**Appendix C - 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: | Broadband | Broadband |
|  |  |  |
| Operating System: | Multi-threaded & Preemptive |  |
|  |  |  |
| RAM: | 1 GB | ≥ 2 GB |
|  |  |  |
| Browser Capabilities: | Adobe Acrobat Reader® |  |
|  | Adobe Flash Player® |  |
|  | Client Print Control® |  |
|  | Cookies & JavaScript |  |
|  | Frames & Nested Frames |  |
|  | HTML 4.0 |  |
|  | Microsoft Reporting Services |  |
|  | Microsoft Silverlight® |  |
|  | Tables & Nested Tables |  |
| Display Resolution: | 1024x768, 16k colors | ≥ 1280x768, 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**1

|  | Minimum | Suggested |
| --- | --- | --- |
| Hardware: | 1 GHz or equivalent | ≥ 2 GHz or greater |
|  |  |  |
| RAM: | 1 GB | ≥ 2 GB |
|  |  |  |
| Communication Device: | Broadband | Broadband |
|  |  |  |
| Monitor: | 12" Laptop 17" Desktop | ≥ 14" Laptop ≥ 19" Desktop |
|  |  |  |
| Display Capabilities: | 1024x768 16k colors | ≥ 1280x768 ≥ 16k colors |
|  |  |  |
| Operating System: |  |  |
|  |  |  |
|  |  |  |
|  |  | Windows® 3 7 |
|  |  |  |
| Browser: | 3 | 3 |
|  | Internet Explorer® 4 | Internet Explorer® 4 |

**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 that are not specified in Appendix D, 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.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. 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.

2. Mac® OS X® is a registered trademark of Apple Computers, Inc.

3. Firefox® is a registered trademark of Mozilla.

4. Internet Explorer® and Windows® are registered trademarks of Microsoft Corporation.

**Appendix D -** Minimum Technical Characteristics for EDM Communications

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

Allowable TCP Ports (not UDP ports):

|  |
| --- |
|  |
| ICA® 1 1494 |
| Java® 2 Telnet 31415 |
| RMI (Java®) 1099-1100 |
| SMTP 25 |

Trading partners may mutually agree to use ports other than those specified above. Only ports necessary to transaction-related traffic should be opened, and they should be protected by network and system security controls. All other ports should be closed. 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, this list will be modified 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.

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1 ICA® is a registered trademark of Citrix Systems Inc.

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

**Appendix B - Minimum Technical Characteristics and Guidelines for the Developer and User of the Customer Activities Web Site**[[5]](#footnote-7)

Browser:

The latest Generally Available (GA) versions of both Firefox® **[[6]](#footnote-8)** Extended Support Release version and Internet Explorer® **[[7]](#footnote-9)3** within 9 months of such GA version becoming available, characteristics including –

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

Plug‑ins (GA versions within 9 months of such GA versions becoming available)

|  |
| --- |
| ActiveX® **4** |
| Adobe Acrobat Reader® **5** |
| Adobe Flash Player® **5** |
| Independent Computer Architecture (ICA®) **6** ‑ Protocol used for remote control access to an application |
| JAVA® |
| Microsoft Reporting Services Client Print Control® **3** |
| Microsoft Silverlight® **3** |

Operating Systems:

Operating systems on a client workstation should be multi-threaded, pre-emptive and should be the latest, stable version and service pack available as allowed in NAESB WGQ QEDM Appendices B and C.

Hardware:

|  |  |
| --- | --- |
| CPU | ≥ 2 GHz |
| Connection | ≥ Broadband |
| Display Resolution | ≥ 1280 x 768, 16K colors |
| Memory | ≥ 2 GB Physical |

Example Configuration for Client Workstation**[[8]](#footnote-10)1**

|  |  |
| --- | --- |
| Hardware: | CPU: 2 GHz or higher |
|  | Display Resolution: 1280 x 768, 16K colors |
|  | Memory: 2 GB Physical |
|  | Pointing Device with left and right click capability |
| Operating Systems: | Windows® XP Pro |
|  | Windows® XP Home |
|  | Windows® Vista |
|  | Windows® 7 |
| Connection: | Broadband (T1, Fractional T1, etc.) |
|  | Cable-Modem |
|  | DSL |
|  | ISDN |
| Browser: | Firefox® Extended Support Release |
|  | Microsoft® Internet Explorer® |
| Plug-ins: | ActiveX® |
|  | Adobe Acrobat Reader® |
|  | Adobe Flash Player® |
|  | ICA® |
|  | JAVA® |

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.

**Appendix C - 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: | Broadband | Broadband |
|  |  |  |
| Operating System: | Multi-threaded & Preemptive |  |
|  |  |  |
| RAM: | 1 GB | ≥ 2 GB |
|  |  |  |
| Browser Capabilities: | Adobe Acrobat Reader® |  |
|  | Adobe Flash Player® |  |
|  | Client Print Control® |  |
|  | Cookies & JavaScript |  |
|  | Frames & Nested Frames |  |
|  | HTML 4.0 |  |
|  | Microsoft Reporting Services |  |
|  | Microsoft Silverlight® |  |
|  | Tables & Nested Tables |  |
| Display Resolution: | 1024x768, 16k colors | ≥ 1280x768, 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**1

|  | Minimum | Suggested |
| --- | --- | --- |
| Hardware: | 1 GHz or equivalent | ≥ 2 GHz or greater |
|  |  |  |
| RAM: | 1 GB | ≥ 2 GB |
|  |  |  |
| Communication Device: | Broadband | Broadband |
|  |  |  |
| Monitor: | 12" Laptop 17" Desktop | ≥ 14" Laptop ≥ 19" Desktop |
|  |  |  |
| Display Capabilities: | 1024x768 16k colors | ≥ 1280x768 ≥ 16k colors |
|  |  |  |
| Operating System: | Mac® 2 OS X | Mac® 2 OS X |
|  | Windows® 3 XP | Windows® 3 XP Pro |
|  |  | Windows® 3 XP Home |
|  |  | Windows® 3 7 |
|  |  |  |
| Browser: | Firefox® Extended Support Release3 | Firefox® Extended Support Release3 |
|  | Internet Explorer® 4 | Internet Explorer® 4 |

**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 that are not specified in Appendix D, 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.

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1. 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.

2. Mac® OS X® is a registered trademark of Apple Computers, Inc.

3. Firefox® is a registered trademark of Mozilla.

4. Internet Explorer® and Windows® are registered trademarks of Microsoft Corporation.

**Appendix D -** Minimum Technical Characteristics for EDM Communications

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® 1 1494 |
| Java® 2 Telnet 31415 |
| RMI (Java®) 1099-1100 |
| SMTP 25 |

Trading partners may mutually agree to use ports other than those specified above. Only ports necessary to transaction-related traffic should be opened, and they should be protected by network and system security controls. All other ports should be closed. 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, this list will be modified 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.

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1 ICA® is a registered trademark of Citrix Systems Inc.

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

1. 1. 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. [↑](#footnote-ref-1)
2. 2. Firefox® is a registered trademark of Mozilla. [↑](#footnote-ref-2)
3. 3. Internet Explorer®, Microsoft Reporting Services Client Print Control®, and Silverlight® are registered trademark of Microsoft Corporation.

   4. ActiveX® is a registered trademark of Microsoft Corporation.

   5. Adobe®, Acrobat®, Flash Player®, and Reader® are registered trademarks of Adobe Systems Incorporated.

   6. ICA® is a registered trademark of Citrix Systems Inc. [↑](#footnote-ref-3)
4. 1. 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. [↑](#footnote-ref-4)
5. 1. 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. [↑](#footnote-ref-7)
6. 2. Firefox® is a registered trademark of Mozilla. [↑](#footnote-ref-8)
7. 3. Internet Explorer®, Microsoft Reporting Services Client Print Control®, and Silverlight® are registered trademark of Microsoft Corporation.

   4. ActiveX® is a registered trademark of Microsoft Corporation.

   5. Adobe®, Acrobat®, Flash Player®, and Reader® are registered trademarks of Adobe Systems Incorporated.

   6. ICA® is a registered trademark of Citrix Systems Inc. [↑](#footnote-ref-9)
8. 1. 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. [↑](#footnote-ref-10)