

NewsBrowse XRE Conformance Server Distribution

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Revision	Date	Description
0.0	02/28/2003	Original draft
0.1	03/10/2003	Added Version Tag to build the package
0.2	03/11/2003	Fixed file version
1.0	09/22/2003	OS now is Win 2000 server Add Section on how to build XRE
1.1	10/16/2003	Added step to configure XRE server in section 4
2.0	09/07/2004	Added 2.0 features
2.0.1	09/07/2004	Added section on initial testing

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Introduction

This document describes the components that need to be assembled together to create a NewsBrowse XRE Conformance Server. The XRE server conforms an EDL created by the NewsBrowse Advanced Edit to High Resolution movies on the Profile XP server. The hardware components are listed in the next section, followed by the software modules.

Features new in 2.0

- **Audio Voice-overs.** NewsEdit AdvancedEdit 2.0 supports audio voice-overs. These voice-over clips can be conformed and sent to a Profile.
- **Rendering of selected Video Transitions.** NewsEdit AE 2.0 supports the following transitions: Dissolve, Push, Slide. Video Compression types supported by XRE ConformanceServer 2.0 are: DV25, DVCPro25, DV50, MPEG2 (I-frame only).

Hardware Components

The XRE server is designed to run on a Windows 2000 Server platform. The minimum hardware configuration is as follows:

- 1.0 GHz Pentium 4 processor
- 512 Mbytes of RAM
- Ethernet card (On-board Gigabit Ethernet in the case of DELL 1650 or 2650)
- Fiber Channel Card (Qlogic or Emulex)
- 40 Gbytes hard disk (longer movies require larger drives)

The current hardware platform tested in Engineering is Dell 2650. The XRE server is connected to two separate IP subnets. The first subnet, connected via the Ethernet card, is shared with all the NewsBrowse Advanced Edit work stations. The second subnet is connected via the Fiber Channel card to communicate with the Profile XP servers.

Software Components

The following software components are required to run the XRE server:

- Microsoft Windows 2000 Server Service Pack 4
- Microsoft IIS 5.0
- Microsoft .NET Framework Redistributable
- Microsoft SQL Server 2000 Desktop Engine (MSDE 2000)
- GrassValley Profile Client software
- GrassValley Vibrant DLLs:
 - CDRip.dll
 - ProfileObject.dll

- tstream.dll
- vbrAudioImport.dll
- vbrDataObject.dll
- vbrDataSource.dll
- vbrEDLReader.dll
- vbrFileInfo.dll
- vbrFileStream.dll
- vbrFileTransfer.dll
- vbrRenderList.dll
- vbrSurfObject.dll
- vbrXBoxConform.dll
- **New for 2.0:** DV1000.dll, vbrMPISrcFilter.ax, vbrVideoSwitch.ax, vbrAudioMixer.ax, vbrVideoFxFilter.ax, vbrVideoResizer.ax, vbrVMRGrabber.ax, vbr1394Stream.dll, vbrDVRender.dll, MainConcept DVCPPro and MPEG codec.
- XRE DLLs

XRE Folder Structure

XRE is a .NET module that is called by the IIS service. Therefore, it has to reside under the *wwwroot* IIS folder. The following is a suggested directory structure for the XRE components

C:\InetPub\wwwroot\xre\

Services.asmx (Web Service entry point file)

_vti_cnf \ (leave empty, used by IIS)

_vti_pvt \ (leave empty, used by IIS)

_vti_script \ (leave empty, used by IIS)

_vti_ctxt \ (leave empty, used by IIS)

bin\ (XRE DLLs)

xBox.dll

Interop.VBRINFILESTREAMLib.dll

Interop.VBRXBOXCONFORMLib.dll

Interop.VBRFILETRANSFERLib.dll

DLLs\ (Vibrint DLLs)

vbrAudioImport.dll, ..., vbrXBoxConform.dll

Configuration Files

Web.Config

The XRE contains a configuration file called Web.config that resides in the `\InetPub\wwwroot\xre` folder. This configuration file is in the form of XML. Most of the settings in this file are used by IIS. The XRE adds several parameters in the appSettings section as in the following example:

```
<appSettings>
  <add key="resolverURL" value="http://10.16.57.161/AMUI/AM_ResolverService.aspx" />
  <add key="resolverUserId" value="nbadmin"/>
  <add key="resolverPwd" value="news@10"/>
  <add key="xBoxAVFiles" value="V:\XreAVFiles" />
  <add key="DefaultVideoCompression" value="mpeg2"/>
</appSettings>
```

resolverURL. This parameter tells the XRE the URL address of the ResolverService. The XRE uses this service to locate the High Resolution media described in the EDL.

ResolverUserId. The resolver service is configured to allow access only for requests that is accompanied by certain credentials. This parameter sets the UserId part of that credential.

ResolverPwd. This parameter sets the Password part of the above credential.

XBoxAVFiles. This parameter tells the XRE service the location in the file system the Root bin of the temporary workspace. It uses this area in disk for downloading High Resolution material from the Profile.

DefaultVideoCompression. When conforming audio-only clips (e.g. from voice-over), the server needs to know what the default video compression setting is.

Machine.Config

The XRE Conform server need to access files in the NewsBrowse NAS server. Therefore, it needs to run under a user with SYSTEM privileges. To do that, you need to edit the machine.config file.

This configuration file is located in the dotNet installation folder which depends on the version of dotNet framework that is installed in the server. E.g.
C:\WINNT\Microsoft.NET\Framework\v1.1.4322\CONFIG

Find the section `<processModel />`. In this section, change the UserName from "machine" to "SYSTEM".

Permissions

With NewsEdit, the DLL COM objects are loaded by the NewsEdit executable, usually under the Administrator account. The XRE module, on the other hand, is executed in the context of a .NET executable called aspnet_wp.exe under the aspnet_wp user account. Therefore, certain registry settings must be configured such that the XRE modules can manipulate them. For example, we need to give aspnet_wp user full R/W access to the [HKLM]\SOFTWARE\Vibrint registry tree.

Installation Procedure

This section contains general installation procedure using the Dell 1650 server with the on-board Gigabit Ethernet.

1. Install Windows 2000 Server with SP4 (or later) and IIS 5.0
2. Install FiberChannel card
3. Install CVFS. Make sure FC IP MTU is same as other NewsEdit Clients
4. Install GVG Profile Client Software
5. When using Gigabit Ethernet, turn off TOE processing. On Property page of the adapter, hit the Configure button. Then select the Advanced tab. Make sure the following are OFF:
 - Offload Receive TCP Checksum
 - Offload Transmit IP Checksum
 - Offload Transmit TCP Checksum
6. Install MSDE 2000 client
7. Install XRE distribution software
8. Create an XRE Application:
 - In Admin Tools, invoke the Internet Services Manager
 - Expand the Default Web Site node
 - Right-click and open the Properties of the xre folder
 - Press the *Create* xre Application button
9. Open the Computer Management dialog. Under System Tools, find the Local Users and Groups icon. Add the ASPNET user to the Administrators Group.
10. To test the install, use IE and type in the following url `http://<servername>/ xre/ Services.asmx` . You should get a web page showing the different entry points to the Conform web services.
11. Configure the XRE server using the *ConformWebConfig.exe* utility which can be found in *C:\Program Files\Vibrint 3.0\Utilities*:
 - **News Browse IP** (Name or IP address of the News Browse server. e.g. nbnas, nbnas.acme.com, 192.168.1.3, etc.)
 - **Username** (UserId for the XRE to use to login to the NewsBrowse Server)
 - **Password** (Password for the XRE to use to login to the NewsBrowse Server)
 - **AVFiles** (path to the XRE tmp work folder. e.g. D:\VibrintAVFiles (*for local mode. Note: the drive letter depends on where the media drive is*), V:\XreAVFiles (*for MAN shared mode*), etc.). Note that in a shared environment, you need to use a folder other than the standard VibrintAVFiles.
 - **Video Compression** (mpeg2, DV25, or DV50. This setting specifies the Video Compression type to tag audio-only files that are generated e.g. by voice-overs).

12. Change the username from “machine” to “System” in the machine.config file. See [“Machine.Config” on page 4](#).
13. To stop and restart the XRE server, go to task manager and find the process aspnet_wp.exe. Select this process and hit the *End Process* button. The process will be automatically re-spawned by IIS.

NOTE: *With 2.0, sometimes the standard Windows Task Manager is not able to kill the aspnet_wp process. However, a free Process Explorer from www.sysinternals.com can kill the aspnet_wp process.*

Initial Testing

You can do a quick test on the XRE machine to verify that the Conform server has been installed correctly.

Testing IIS installation

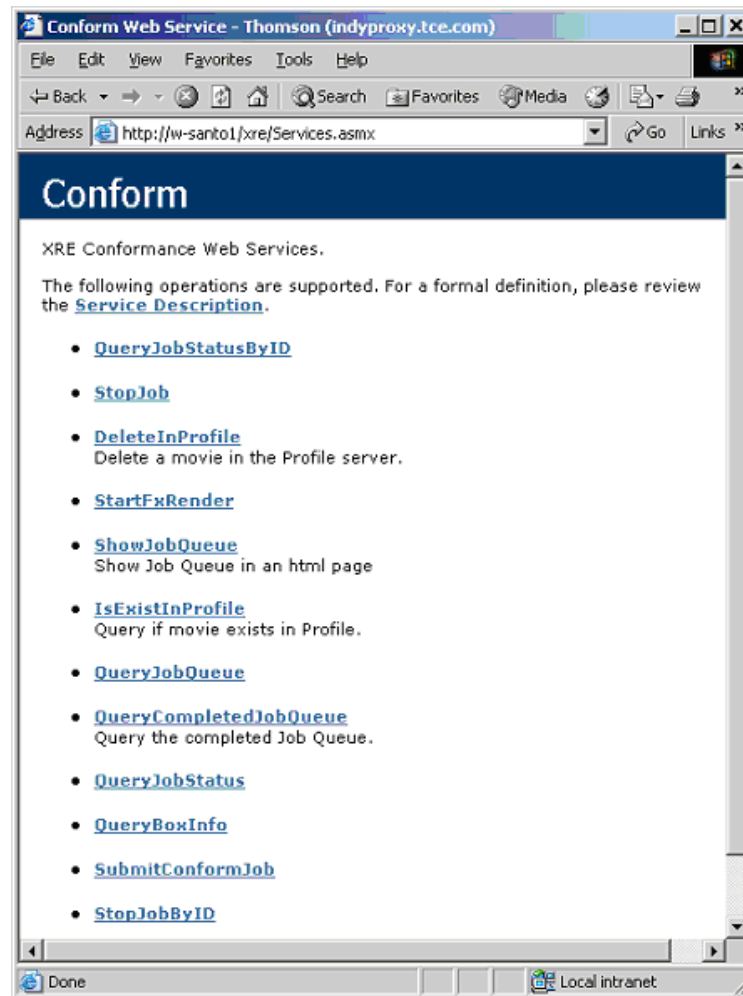
On the XRE Conform Server machine, do the following:

1. Launch Internet Explorer
2. Go to the following URL: `http://<XreServerName>`
3. You should get an IIS 5.1 page that says something like “Your Web Service is Now Running”
4. If not, you should check the IIS installation procedure
(Please replace `<XreServerName>` with the actual IP name of your server).

Testing Conform Service Installation

On the XRE Conform Server machine, do the following:

1. Using IE, go to the following URL: `http://<XreServerName>/xre/Services.asmx`
2. You should get a screen similar to the one shown.



3. Select the “QueryBoxInfo” link and you should get a page describing what the QueryBoxInfo command does.
4. Under the Test section, press the “Invoke” button. You should get an XML page with information about the XRE server including the Software Revision number, number of jobs in the queues, the length of time the service had been UP, etc..
5. This gives some level of confidence that the Conform Server is up and running.
6. You can then go to a NewsEdit Advanced Edit 2.0 (NBAE) client and open the Conform Manager tool. It should be able to see the server and tell you how many jobs are in the queue (which is probably 0) at this point.
7. From the NBAE client, submit a conform Job via the Send command and examine the progress bar.

If there is any error, inspect the log file that can be found in `C:\inetpub\wwwroot\xre\log\log.txt` using Notepad or similar text viewer. You can also look at the log file remotely via the following URL: `http://<XreServerName>/xre/log/log.txt`.

Notes on Shared Environments

- **CVFS hard-link.** In a SAN environment, the XRE server does a fast media import using hard-links in the CVFS file system. A naming convention is in place for systems that share the same SAN storage. All machines on the same SAN have the same prefix, e.g. MANX_foo, MANX_bar, and so on. Therefore, if the XRE is installed as part of a SAN system, it too needs to have the same prefix, e.g. MANX_xre.
- **MDI name mapping.** During a Conform operation, the XRE server receives a path of the HiRes media. This path is generated by the NewsBrowse Resolver from the MDI names. Currently, the only way to make this name mapping to work is to set the MDI name identical to the Profile name that it represents.
- **Working with UIMs.** A UIM is a device that provides 100BaseT connection to a Profile. In order to make the XRE work with a Profile behind a UIM, you need to add an ETH0 entry in the etc\Hosts file. For example, if the Profile name is Foo, you need to add an entry of Foo_eth0 and give it the Ethernet IP address of the UIM.