



Global Engineering

RTVOD Encoding Application

User Manual

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Revision History

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B	2015-12-08	Revised page 30 regarding default locations for metadata folders and disallowed locations, simplified "Configuring the File Transfer Manager Application"
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Introduction

Audience

The audience for this manual includes station engineers or technicians working for content creators or third-party providers.

Note Media distributors are required to actively encode using the Nielsen encoding methodology per their service agreements with Nielsen.

Customer Support

Nielsen Support	Location
Nielsen Encoder Support	800-537-4872 option 2 Encoders@nielsen.com
Support Request (form)	http://nielsen-encoder-forum.com/public/documentation/
Nielsen Encoder Forum	www.nielsen-encoder-forum.com/public/
Nielsen Global Technology Center	Nielsen 501 Brooker Creek Blvd Oldsmar, FL 34677 www.nielsen.com

Conventions Used in this Document

The following items appear in this document:

Note This paragraph flags a key point, indicates a tip, or identifies an alternate way of performing a task.

Important This paragraph emphasizes one or more actions that must be followed to avoid a catastrophic failure.

Related Documents

CableLabs VOD Content Encoding Profiles Specification—specification for encoding AC-3 files

CableLabs VOD Metadata Specification Version 1.1—specification for providing metadata for AC-3 files

RTVOD Encoder Installation Quick Start—procedures for installing the encoder applications products

Understanding RTVOD Encoding and Transferring Metadata

This guide describes concepts and usage of the Nielsen® Watermark RTVOD Encoding Application.

The Nielsen Watermark RTVOD Encoding Application provides a set of software tools to watermark specific types of audio content with RTVOD (Recent Telecast Video On Demand) Nielsen codes.

Note Throughout this document, NAES II watermarks are referred to as N2 codes and Nielsen watermarks are referred to as NW codes or NAES VI codes.

The RTVOD flag is a final distributor Nielsen watermark, for example, “NW FD” codes with a fixed SID (32755 or 32756) that indicates live telecast plus 3 days (C3) or live telecast plus 7 days (C7). It is used by the Nielsen backend system.

RTVOD flags (C3 or C7) are applied only to the pre-watermarked (encoded for linear TV) asset in the second or third slots. RTVOD flags cannot be applied to clean content or fully encoded content. For file based content, RTVOD metadata (feedpoint) should be sent to the TIC CF – Metadata. RTVOD flag encoding will apply only to NW FD codes. It will not insert N2, N2HF, NWCC, or InfoSID codes, moreover, SID and checkdigit are not required for RTVOD watermarking since they are already embedded in the library.

The RTVOD Encoding Application is applied to MPEG-2 video files with AC3 audio content which are already processed by the VOD Content Encoder. RTVOD Encoding Application supports ONLY the AC3 audio transport stream. The AC3 audio transport stream file extensions are *.mpg, *.m2t, *.trp, and *.ts.

Important The length of the filename of the video asset (e.g. MPEG video file) to be encoded must not exceed 100 characters. Exceeding 100 characters in the filename of the video asset can result in failure to encode or failure to properly generate metadata (needed for proper crediting). This is due to a combination of limitations imposed by the Windows environment and the way filenames are used during video asset processing.

Significant Features of the RTVOD Encoding Application

The significant features of the RTVOD Encoding Application are:

- Applied to MPEG-2 video files with AC3 audio content
- Uses designated RTVOD SID's
- Supports only File Based (Off-line)encoding
- Does Not use SID TIC encoding
- Does Not use distribution source field in the UI profile set up
- Allows the user to enter the Client Name in the UI profile set up

- Encode RTVOD flag only as a FD. Does not encode as PC.
- RTVOD applies only to NW—Nielsen Watermarks (NAES VI). N2 will not be encoded by the RTVOD Encoder.
- RTVOD SID (flag) encodes into the next available slot, which will be either the 2nd or 3rd slot, in the watermark
- Generates ZIP files that include XML, decoder, and signature logs
- Sends ZIP file containing the decoder, signature logs and XML log files to TCF
- Provide the ability for the user to enter the Asset info for the encoded asset

Components of the RTVOD Encoder Application

The RTVOD Encoder Application consists of the following the components:

- RTVOD Encoder software—an application that encodes, decodes, and can send ZIP files directly to the CF or to another computer in your facility for forwarding to the CF. The application can be run from a graphical user interface, a command-line tool, (ContentCodeCmd), or a file trigger service.
- File Transfer Manager—optional software used to send ZIP files to the CF from a system without the Encoder installed. At scheduled times, the File Transfer Manager Service transfers data to the CF. If the connection is disrupted, the manager or service automatically retries to send the data. For batch file encoding, you must install the File Transfer Manager.
- ServicesMonitorTool—an application that monitors all services. If a metadata file transfer to the CF fails, the tool displays a notification message and restarts stopped services. ServicesMonitorTool is automatically installed with the RTVOD Encoder Application software and File Transfer Manager Software. The user can configure which services are monitored and whether or not the notification message appears. For details, see “RTVOD Services Monitor Tool” on page 47.

Important Both the RTVOD Encoder software component and the File Transfer Manager component must be installed together on the Encoding computer. The Encoding computer is the only computer in the single-computer workflow #1, and it is “computer #1” in the workflow #2. The Service Monitor Tool is installed together with either component.

Transferring Metadata to the Nielsen Collection Facility

Overview of the File Transfer Options

To receive credited viewing, the feed-point metadata files that correspond with the encoded files must be sent to the CF. You can send these files directly or indirectly to the CF using one of two workflows.

- Workflow 1: Directly transfer to data collection facility—the Nielsen File Transfer Manager Service, running on the same computer as the encoding software, uses SFTP (Secure File Transfer Protocol) to directly send files to the CF.
- Workflow 2: Indirect transfer to data collection facility—the File Transfer Service running on the encoder PC (configured for and using the FTP function) transfers files to a transfer server. Then the transfer server (separate PC from the encoder PC) also running the File Transfer Service (configured for and using the SFTP function) sends the files to the CF.

Important Install or enable only one FTP application on a computer.

In addition to these transfer flows, there are different configurations that you can use:

- Manually sending the metadata files
- Using the File Transfer Service to automatically send the metadata files at a scheduled interval, which defaults to 15 minutes

The RTVOD Encoding Application sends the metadata in Table 1 in a file to the CF:

Table 1 – Feed-Point Metadata File Contents

Field	Description	Comment
ADIFilename	Name of the CableLabs file (if any) that is transferred to the CF with the Feed-Point Metadata file.	Optional Note ADI files are created by applications not under the control of Nielsen, therefore, we cannot guarantee that the ADI file is well formed.
ClientName	Client Network Name	Max acceptable length for ClientName input is 50 characters
AssetId	ID of the encoded content	Max acceptable length for AssetId input is 20 characters
AssetName	Name of the encoded content	Max acceptable length for AssetName input is 50 characters
EpisodeId	Unique identifier given to each episode of a given series	Max acceptable length for EpisodeId input is 20 characters

Field	Description	Comment
WatermarkTime	The actual system time that the watermarking process started, expressed as UTC (Coordinated Universal Time).	
SID	Value of the SID that was inserted into this asset corresponding to C3 or C7 RTVOD flag	
FirstTimeStamp	The value of the first TimeStamp encoded	
LastTimeStamp	The value of the last TimeStamp encoded	
ApplicationName	RTVOD Content Encoder GUI	
ApplicationVersion	RTVOD Content Encoder GUI Version Number	
EncoderEngineName	NielsenWatermarkEngine	
EncoderEngineVersion	NielsenWatermarkEngine Version Number	
FileSizeBytes	Size of the encoded file in bytes	
FileSizeSeconds	Approximate duration (in seconds) of the encoded file	

Methods of Transferring Metadata

There are a few different methods for transferring metadata files to the CF (Collection Facility).

- RTVOD Content Encoder application—if you are directly transferring files from the computer that does the encoding to the Nielsen CF, you configure the File Transfer Manager from within the RTVOD Content Encoder application itself. The File Transfer Manager will automatically upload the metadata files to the Nielsen CF according to the configured time interval.
- File Transfer Manager application (FTM)—if a separate server is being used to upload metadata files to Nielsen, you configure the File Transfer Manager on the upload server using the RTVODFTMConfigApp application. The File Transfer Manager on the upload server will automatically upload the metadata files to the Nielsen CF according to the configured time interval. You need to configure the File Transfer Manager on the encoder PC to use FTP to transfer the metadata files from the encoder PC to the upload server. The File Transfer Manager on the encoder PC will automatically transfer the metadata files to the upload server according to the configured time interval. You can also use the RTVODFTMConfigApp application to upload files to the CF manually. See “Transferring Files to CF Using the File Transfer Manager” on page on page 53.

File Trigger Service

Overview

The File Trigger Service (*the Trigger Service*) performs content-based encoding according to parameters defined in a standard XML file (see Table 2 for the parameters and the Appendix for the format).

1. The File Trigger Service opens C:\Nielsen\RTVOD_Encoder\etc\EncoderConfig.txt file, from which it reads the PATH of the folder to watch for input XML files. See **Configuring the File Trigger Service** on page 32 for details on setting these parameters.
2. The Trigger Service validates all encoder parameter settings in the xml file.
3. The Trigger Service repeatedly checks (once every 15 seconds) for all files that have the extension “xml.”
4. The Trigger Service makes a list of those xml files and processes the xml files, one at a time (oldest file first), as follows:
 - a. Opens the xml file
 - b. Reads the file
 - c. Validates all encoder parameter settings in the file
 - d. Closes the file. See Table 2 for a complete listing of settings that may be extracted from the xml file.
5. It encodes the specified video source file, using the settings extracted from the xml file as its encoding parameters. It uses the same encoding process, creating and naming metadata files, and logging status and errors.
6. When the source file has been encoded successfully, the File Trigger Service deletes the corresponding xml file from the drive.



7. The File Trigger Service generates metadata files in the configured metadata folder. The File Transfer Manager Service detects the metadata files in the metadata folder and sends the files to the Nielsen CF according to the configured time interval.
8. When all files in the xml list are fully encoded, the File Trigger Service repeats steps 3 and 4.
9. The File Trigger Service runs until it is manually stopped.

Note While the file trigger service is running you should not attempt to use the GUI Encoder nor the Command Line Encoder. This could cause XML data conflict. If you must use the GUI or Command Line Encoder on the same machine as File Trigger Service, then use the File Trigger Manager to disable the File Trigger Service before using either encoder.

Standard XML File Parameters

Table 2 – Parameters Defined for Standard XML File-Encoding

XML Label	Parameter Data Type	Parameter Usage
AdiFileName	char *	(Optional) full path name of the folder that holds CableLabs ADI Asset Distribution Interface files.
ClientName	char *	The name of the client related to the asset. If the clientname is not found in the trigger file default value is used. Max length 50 characters.
AssetId	char *	The asset ID to be reported in the metadata file for the clip that is about to be encoded.. If the asset ID is not found in the trigger file default value is used. Max length 20 characters.
AssetName	char *	The asset name to be reported in the metadata file for the clip that is about to be encoded. If the asset name is not found in the trigger file default value is used. Max Length 50 characters.
EpisodeId	char *	The optional episode ID to be written to the feed-point metadata file. If the episode ID is not found in the trigger file An XML file whose appearance in a specific folder triggers the start of a RTVOD-content encode. The path where these trigger files are located is identified by the "EncoderParamFolder" setting in the EncoderConfig.txt file in the RTVOD ROOT / etc folder. It may be read from the ADI XML file. Max length 20 characters.



Requirements

Environment

- One or more computers, depending on workflow.
 - Dedicate all computers used to perform RTVOD Encoding **solely** to encoding.
- Important** To permit the encoding software to run without interference, disable antivirus and firewall programs. If this is not possible, add the *.exe files to the “exclude” or “trust” list in your antivirus software. For details, see “Encoder Services Are Not Running or Repeatedly Fail” on page 61.
- Do **not** install any USB drives on any computer used in performing encoding or encoding-related functions.
- Do **not** install software that does not relate to encoding such as email, word processing, spreadsheets, etc.
- Platforms—one of the following Microsoft® Windows® operating systems:
 - Windows 7 Operating System (32 bit and 64 bit)
 - Windows Server 2008 R2
 - Windows Server 2008, 32-bit Operating System
 - Windows Server 2008, 64-bit Operating System
 - Windows Server 2012 Operating System
- Preferred screen resolution of 1024 x 768 pixels, although 800 x 600 is acceptable
- TCP/IP connectivity with Internet access
- Intel Xeon E5 2640 processor (with 8 cores) and 3GB ram is configuration tested for better RTVOD encoding performance.

RTVOD Encoder App Package

The installation package for the RTVOD Encoder App includes the following items:

- User Manual
- Installer
- RTVOD Content Encoding
- File Trigger Service
- GUI Encoder Interface
- Command Line Encoder Interface
- File Transfer Manager Service

Digital Assets

Digital Assets with the following conditions will not be encoded and error conditions will be logged by the RTVOD Encoder App:

- Clean Content (content that has no Nielsen watermarks) – Error
- Pre-encoded with RTVOD Flag – Error
- Fully Encoded (content where all Nielsen watermark code slots are already used) - Error

Important The RTVOD Encoder Application WILL NOT encode fully encoded content, clean content, or content pre-encoded with the RTVOD Flag.

Supported Formats

- MPEG-2 transport stream files with audio stream in AC3 format conforming to *CableLabs Content Encoding Specification MD-SP-VOD-CEPT-101-040107*.

Note The RTVOD Content Encoder does not support encoding of MPEG files with PCM.

Installing the Software Applications

Important To permit the encoding software to run without interference, disable antivirus and firewall programs. If this is not possible, add the *.exe files to the “exclude” or “trust” list in your antivirus software. For details, see “Encoder Services Are Not Running or Repeatedly Fail” on page 61.

As you review the procedures in this section, keep in mind that there are two results we want from the process: encoded files to be provided for viewing and transfer of metadata files to the Nielsen CF to enable crediting of viewing.

Installing the RTVOD Encoder Application

1. Insert the installation CD on a computer.
2. Browse to the drive.
3. Right-click and run the setup file autorun.exe as administrator on the computer.

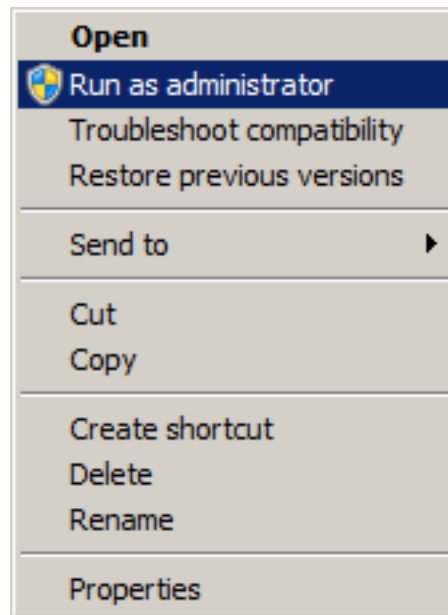


Figure 1 – Running encoder application setup as administrator

4. The Nielsen RTVOD Content Encoder Install CD window appears.

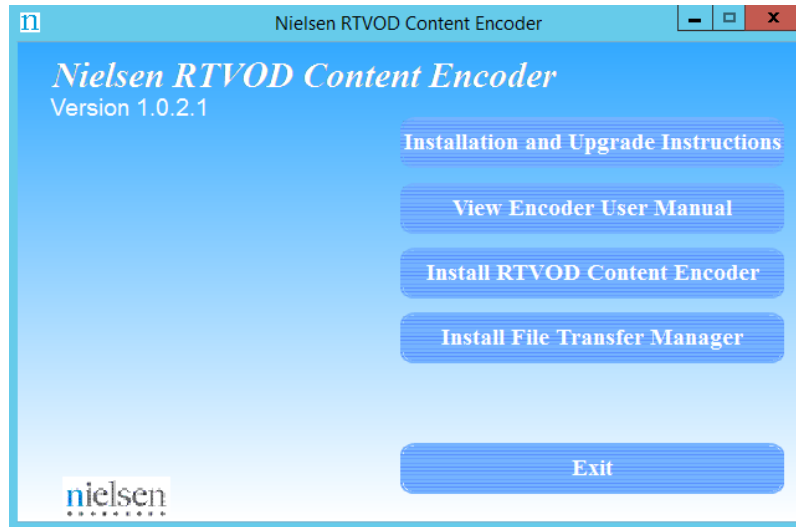


Figure 2 – Encoder Install CD Window

5. Click the button "Install RTVOD Content Encoder."

6. The Nielsen RTVOD Content Encoder InstallShield windows appear.

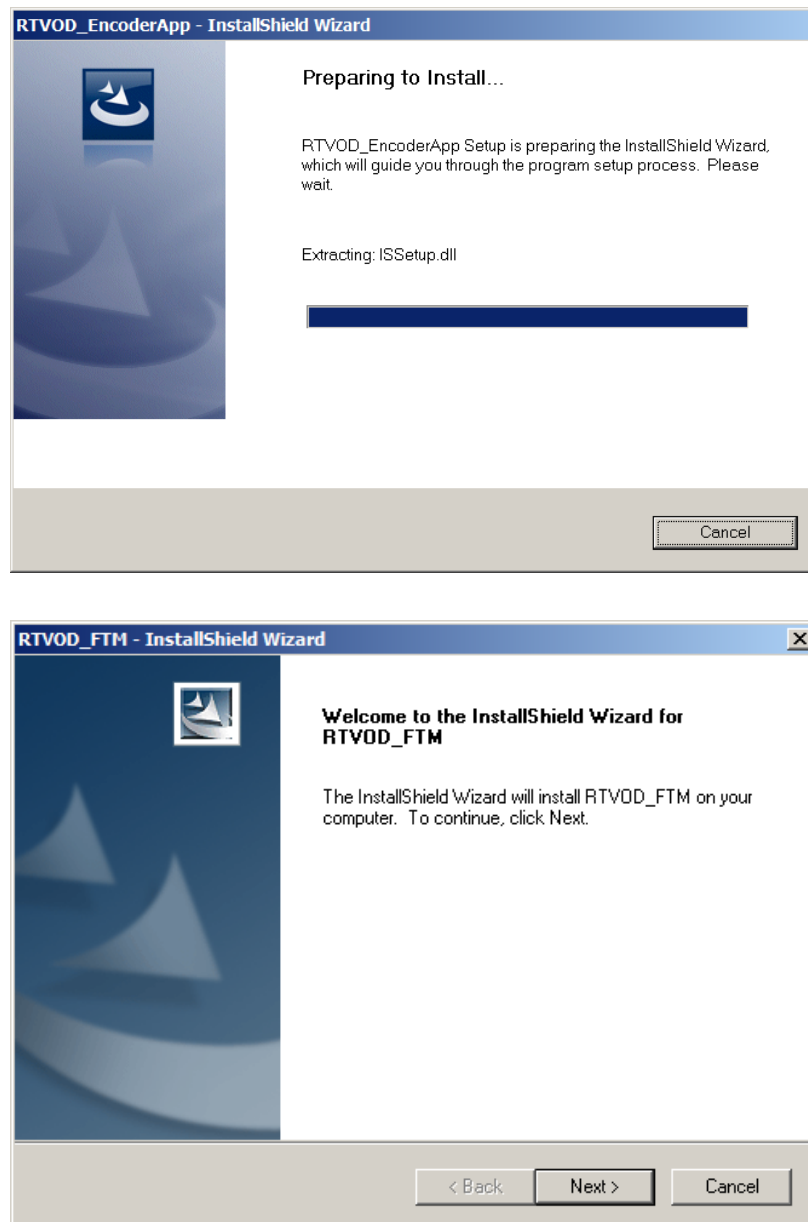
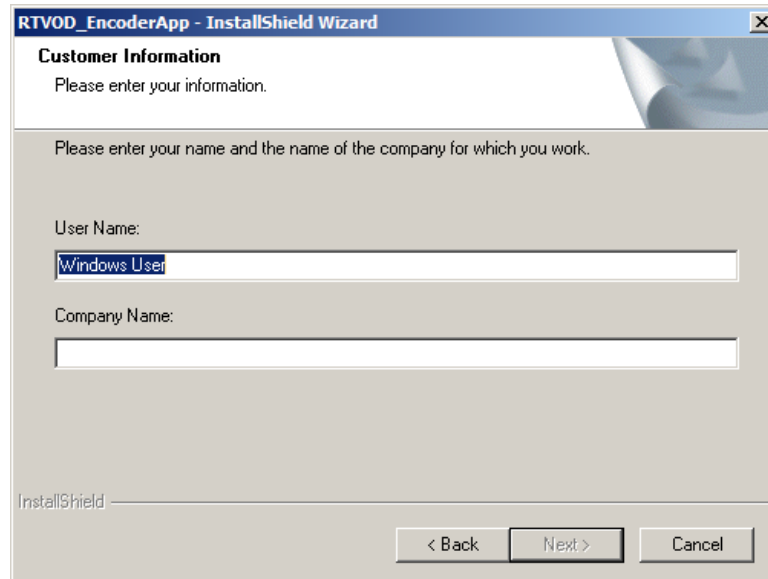


Figure 3 – Encoder InstallShield Installation Windows

7. Click **Next**. The customer information window appears.



The screenshot shows a Windows-style dialog box titled "RTVOD_EncoderApp - InstallShield Wizard". The window has a blue title bar with a close button (X) in the top right corner. The main content area is light gray and contains the following text and controls:

- Customer Information** (Section Header)
- Please enter your information.
- Please enter your name and the name of the company for which you work.
- User Name: [Text box containing "Windows User"]
- Company Name: [Empty text box]
- InstallShield (Small text at the bottom left)
- < Back (Button)
- Next > (Button)
- Cancel (Button)

Figure 4 – Encoder InstallShield Customer Information Window

8. Enter your **User Name** and **Company Name**.
9. Click **Next**. The window to select the setup type appears.

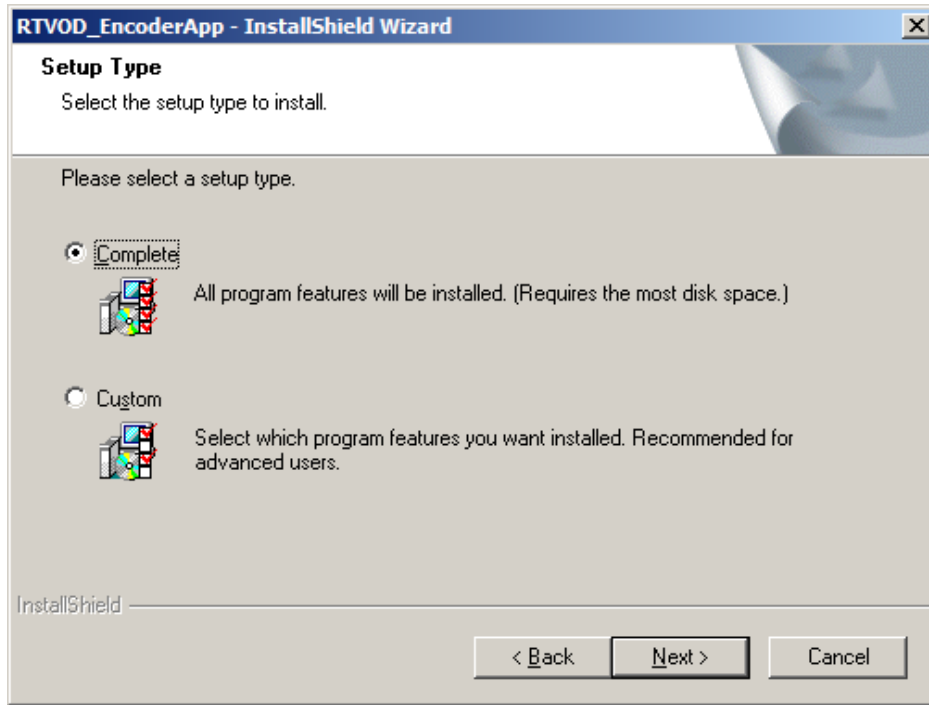


Figure 5 – Encoder InstallShield Setup Type Window

10. We recommend selecting Complete Setup. Click **Next**. The ready to install window appears.

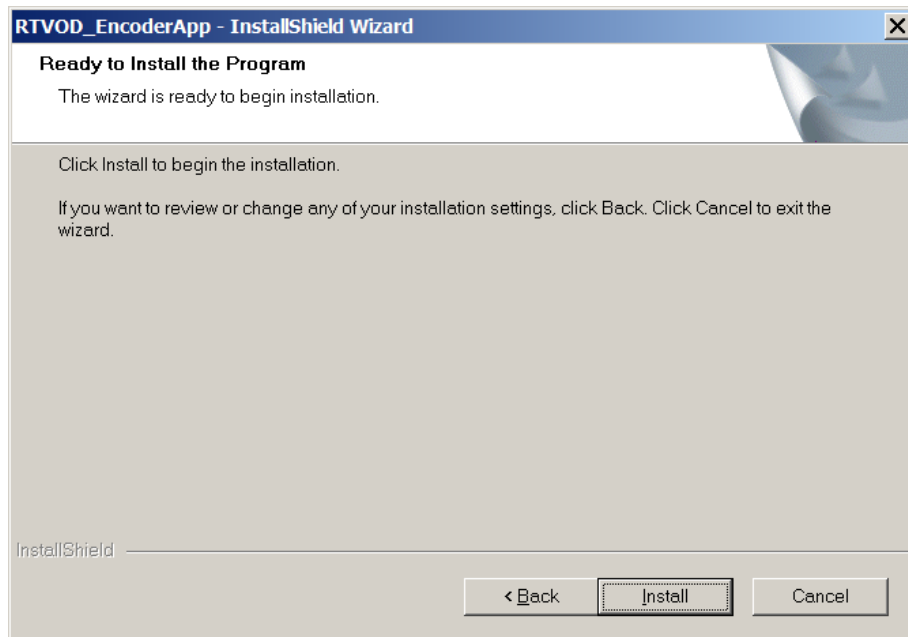


Figure 6 – Encoder InstallShield Ready to Install Window

11. Click **Install**. The setup status window appears.

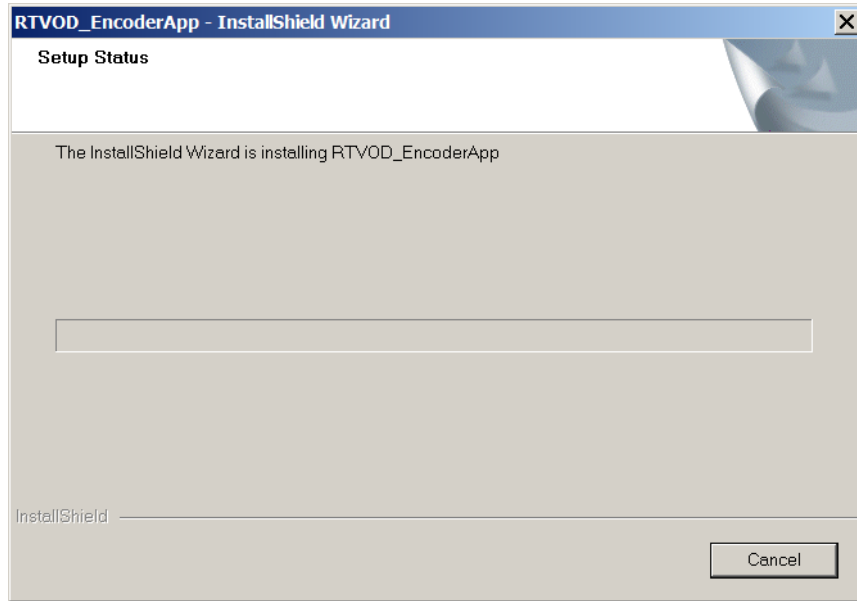


Figure 7 – Encoder InstallShield Setup Status Window

12. A window appears asking to enable modifications to the computer firewall. Click **Yes** if you are authorizing the modifications.

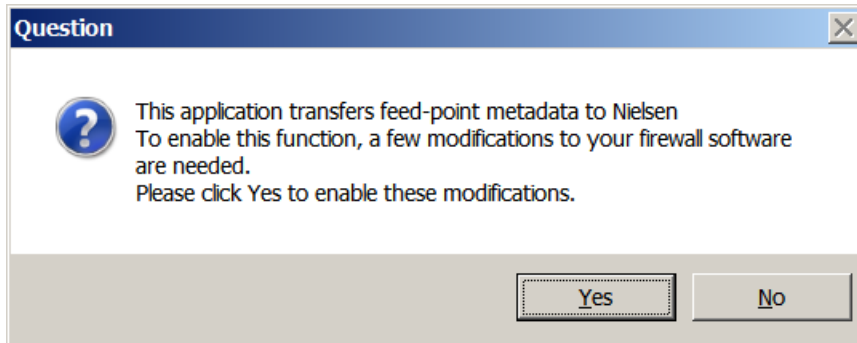


Figure 8 – Encoder InstallShield Feed-point Metadata Firewall Modifications Approval Window

13. If prompted, install Microsoft .Net Framework 4.

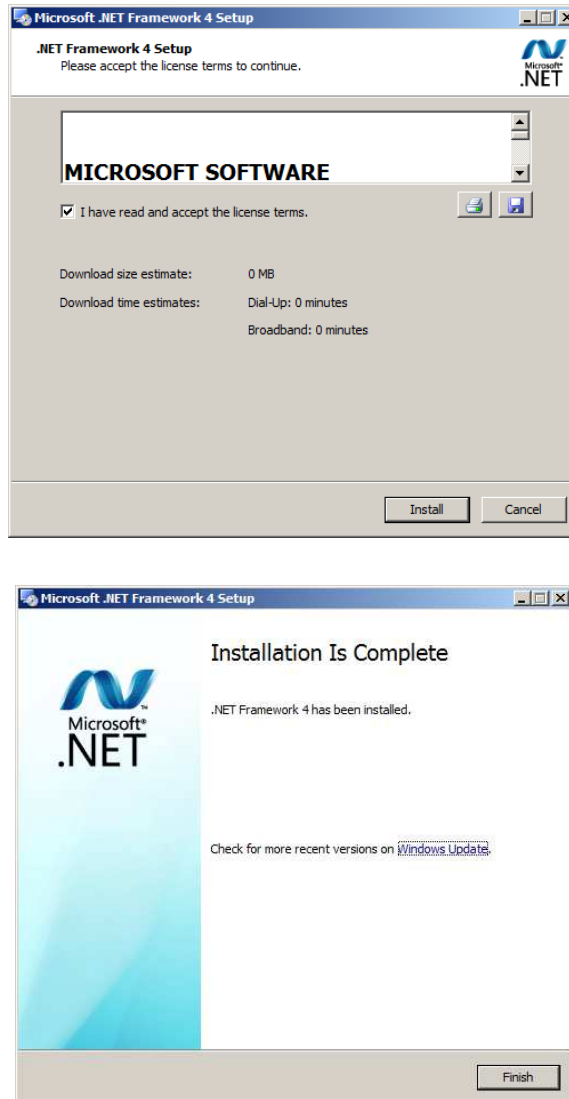


Figure 9 – Microsoft .Net Framework 4 Installation Windows

14. If Microsoft .NET framework 4 has not been detected on the machine, select I accept license terms and click Install to continue installation.
15. If a newer version Microsoft .NET framework is detected on the machine, click Close to continue installation.
16. If Microsoft .NET framework 4 has been detected on the machine, click Cancel (DO Not Repair/Remove) and continue installation
17. The Microsoft .NET framework installation complete window appears. Click **Finish**.
18. The encoder InstallShield installation complete window appears. Click **Finish**.

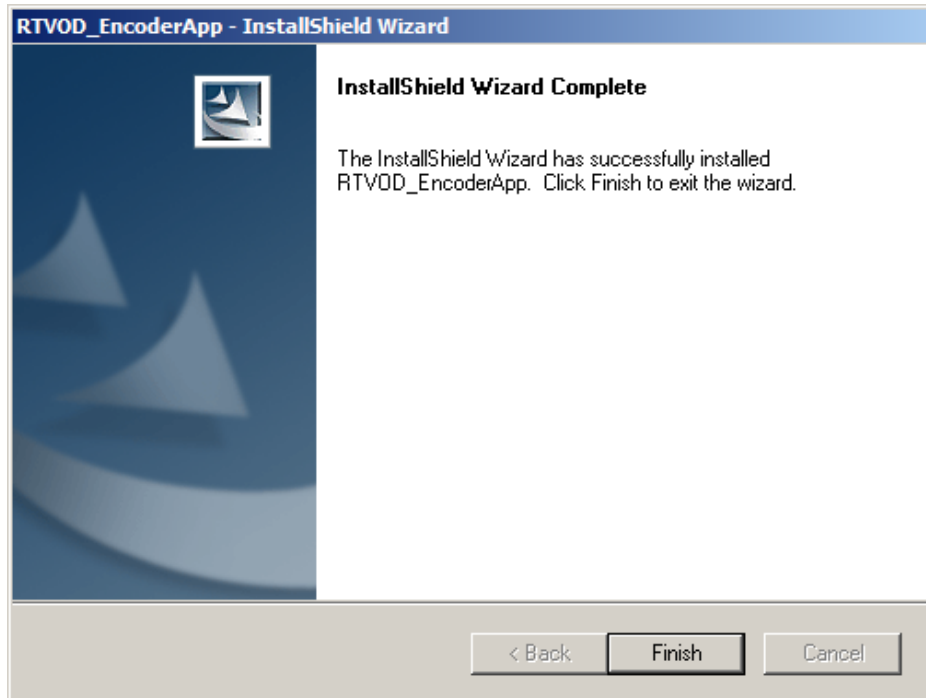


Figure 10 – Encoder InstallShield Installation Complete Window

Installing the File Transfer Manager (FTM)

1. From the RTVOD Encoder Install CD Window, click the button “Install File Transfer Manager.”
2. The Nielsen RTVOD FTM InstallShield windows appear.

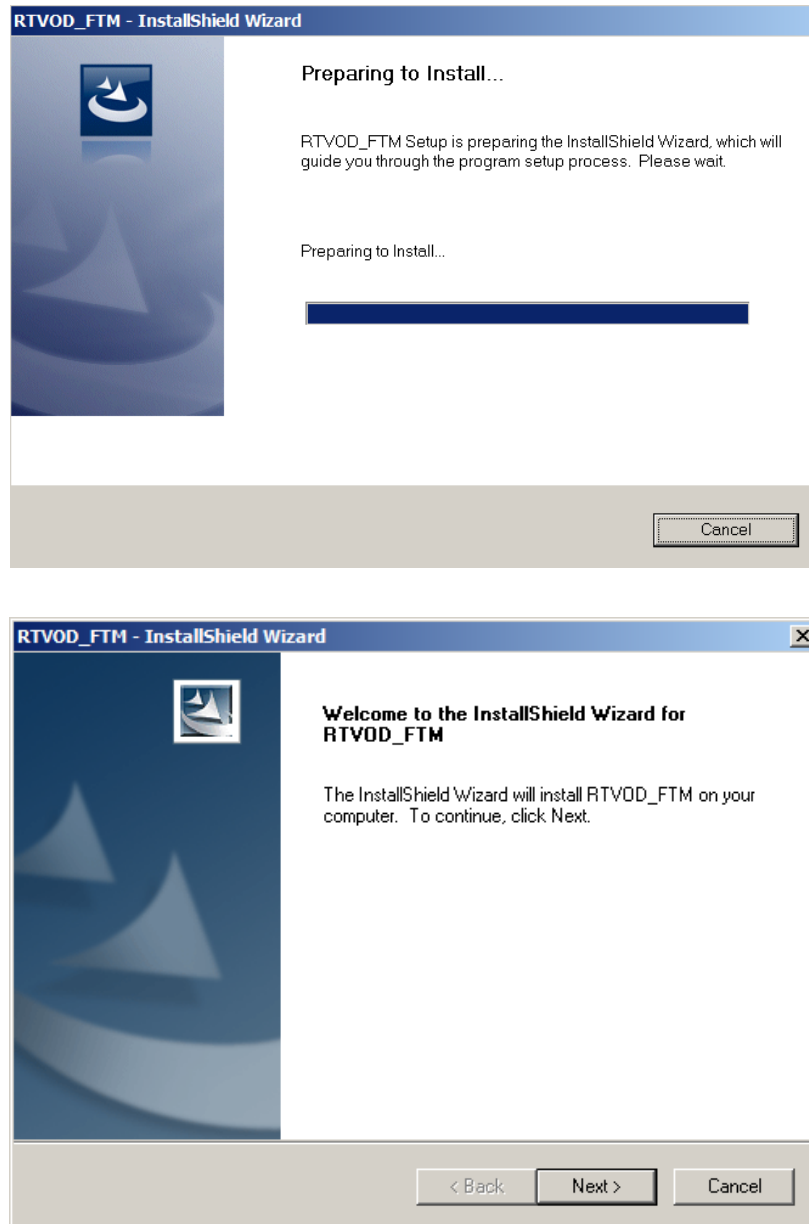
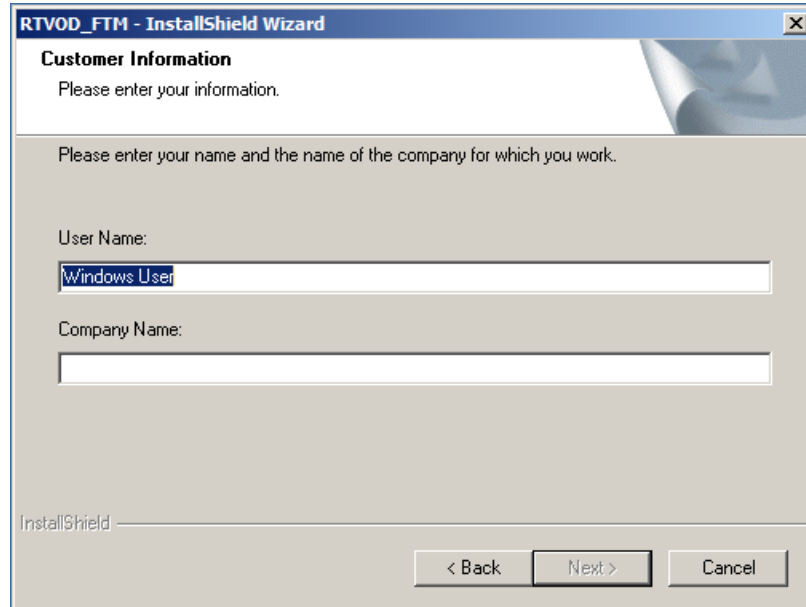


Figure 11 – FTM InstallShield Installation Windows

3. Click **Next**. The customer information window appears.



The screenshot shows a Windows-style dialog box titled "RTVOD_FTM - InstallShield Wizard". The window has a blue title bar with a close button (X) in the top right corner. The main content area is titled "Customer Information" and contains the text "Please enter your information." Below this, there is a sub-instruction: "Please enter your name and the name of the company for which you work." There are two text input fields: the first is labeled "User Name:" and contains the text "Windows User"; the second is labeled "Company Name:" and is currently empty. At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel". The "Next >" button is highlighted, indicating it is the active or default action. The text "InstallShield" is visible in the bottom left corner of the window's content area.

Figure 12 – FTM InstallShield Customer Information Window

4. Enter your **User Name** and **Company Name**.
5. Click **Next**. The window to select the setup type appears.

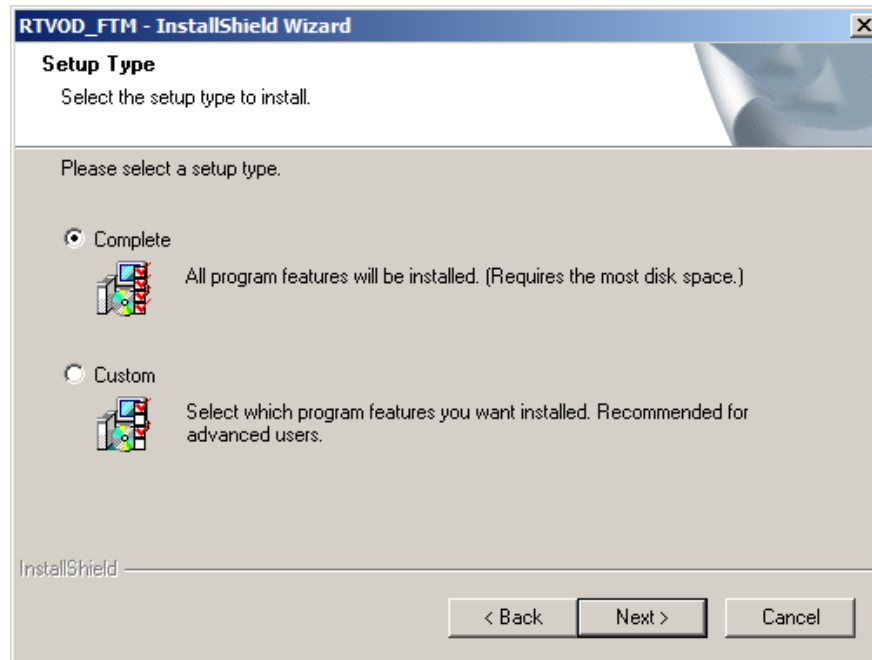


Figure 13 – FTM InstallShield Setup Type Window

6. We recommend selecting Complete Setup. Click **Next**. The ready to install window appears.

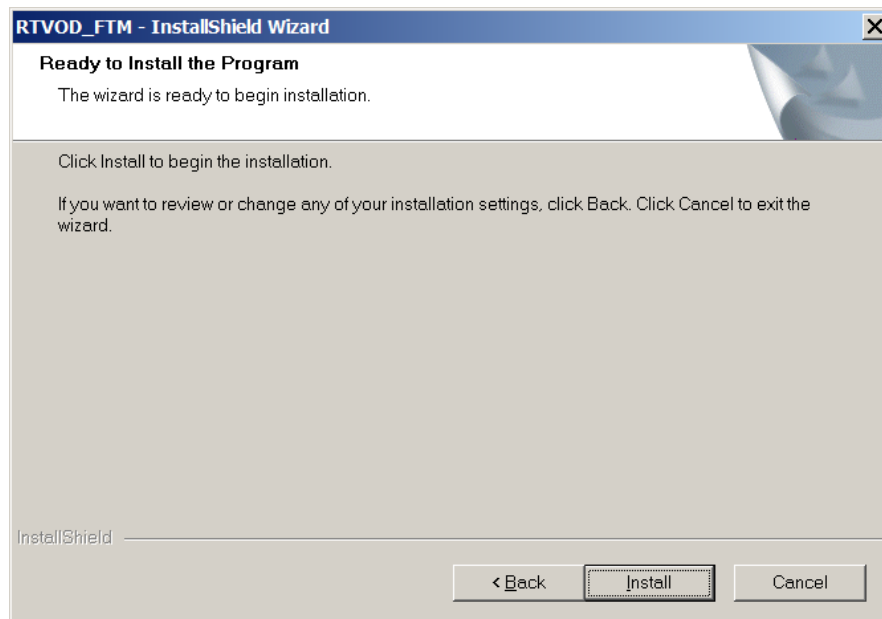


Figure 14 – FTM InstallShield Ready to Install Window

7. Click **Install**. The setup status window appears.

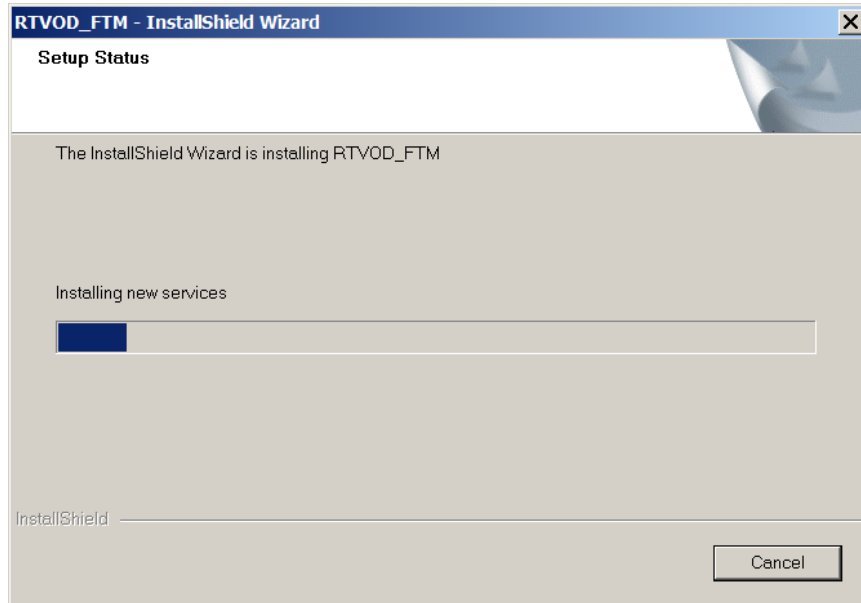


Figure 15 – FTM InstallShield Setup Status Window

8. A window appears asking to enable modifications to the computer firewall. Click **Yes** if you are authorizing the modifications.

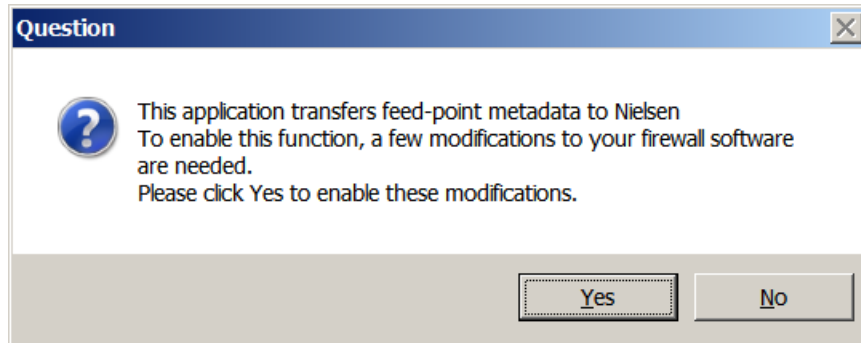


Figure 16 – FTM InstallShield Feed-point Metadata Firewall Modifications Approval Window

9. If prompted, install Microsoft .Net Framework 4.

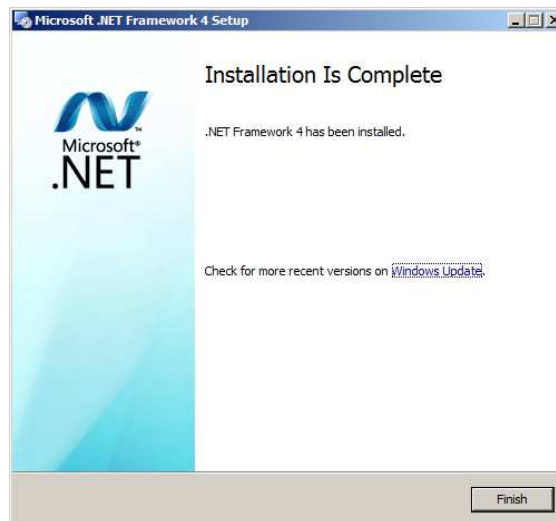
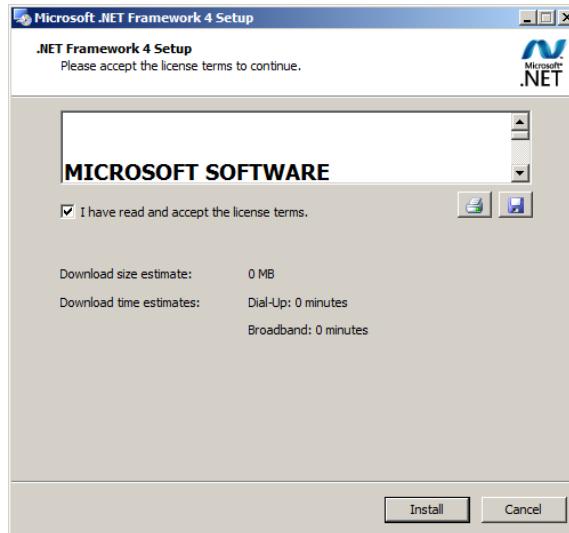


Figure 17 – Microsoft .Net Framework 4 Installation Windows

10. If Microsoft .NET framework 4 has not been detected on the machine, select I accept license terms and click Install to continue installation.
11. If a newer version Microsoft .NET framework is detected on the machine, click Close to continue installation.
12. If Microsoft .NET framework 4 has been detected on the machine, click Cancel (DO Not Repair/Remove) and continue installation
13. The Microsoft .NET framework installation complete window appears. Click **Finish**.

14. The FTM InstallShield installation complete window appears. Click **Finish**.

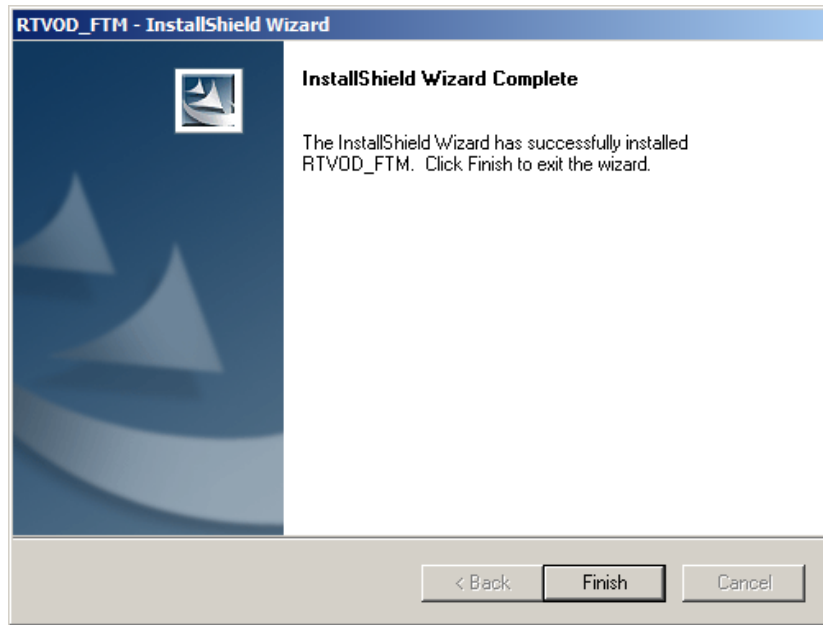


Figure 18 – FTM InstallShield Installation Complete Window

Configuring the Software Applications

This section covers the following tasks:

- RTVOD Content Encoder application
- (Optional) File Transfer Manager application
- (Optional) File Trigger Service

Configuring the RTVOD Encoder Application

Note For instructions on configuring and using the Command Line tool instead of the GUI (graphical user interface), see “Encoding Using the Command Line” on page 49.

1. Restart your antivirus software.
2. Add the following to the list of “exclude” or “trusted” files in your antivirus software:
 - RTVODFileTrigger.exe
 - RTVODFTMSERVICE.exe
 - ServicesMonitorTool.exe
3. Pick a Workflow model (see Figure 19 and Figure 20) –
 - Workflow 1: Single computer for encoding and file transfer to the CF
 - Workflow 2: One or more computers for encoding and a separate computer for file transfer to the CF.

In Workflow 1 install both the RTVOD Content Encoder and the File Transfer Manager onto the same computer. Configure the File Transfer Manager to send the metadata files to the Nielsen Collection Facility.

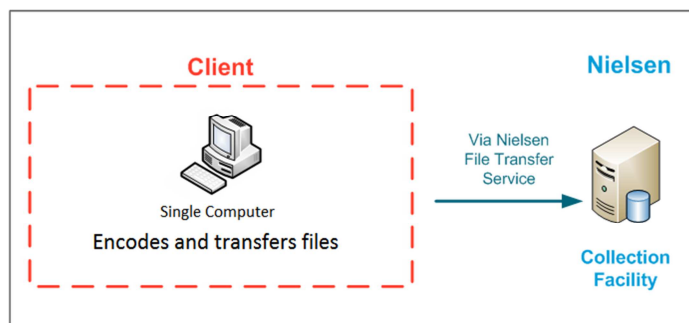


Figure 19 – Workflow 1

In Workflow 2 there can be one or more computers performing encoding and a single computer to transfer the metadata files to the CF.

For each encoding PC, install both the RTVOD Content Encoder and the File Transfer Manager onto the same computer. Configure the File Transfer Manager to send the metadata files to the local file transfer server. Install only the File Transfer Manager onto the local file transfer server. Configure the local file transfer server to send the metadata file to the Nielsen Collection Facility.

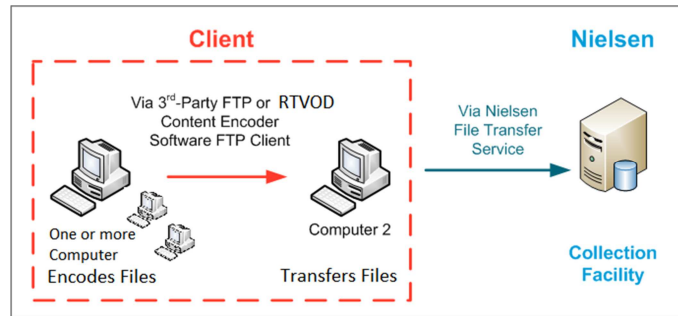


Figure 20 – Workflow 2

(Optional) Configuring the File Transfer Manager Application

Note Configuring the File Transfer Manager application is necessary if you install the RTVOD Encoding application on a separate machine.

Important The Metadata Folder and Archive Metadata Folder must not be located under either the “C:\Program Files\” or “C:\Program Files (x86)\” directory trees. They may be located under other directory trees on the C: drive. They may be located on other hard disks. They may also be located in the default locations.

Note The default location for Metadata Folder is C:\Nielsen\RTVOD_Encoder\metadata

Note The default location for Archive Metadata is C:\Nielsen\RTVOD_Encoder\arch_metadata

1. Select the Transfer Mode.

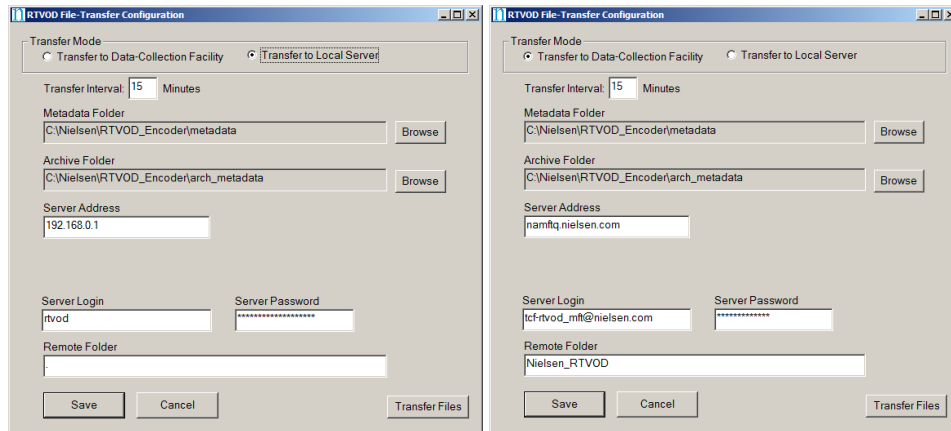


Figure 21 – File Transfer Configuration Window

- If the transfer mode is **Transfer to Data-Collection Facility**, complete the fields shown in Table 3.

Table 3 – Feed-Point Transfer Parameters (Transfer to Data-Collection Facility)

Field	Description
Metadata Folder	The local location of the metadata files to be transferred. The default is C:\Nielsen\RTVOD_Encoder\metadata
Archive Folder	The local location of the folder where metadata files that already transferred are stored. The default is C:\Nielsen\RTVOD_Encoder\arch_metadata
Server Address	Supplied by Nielsen
Server Login	Supplied by Nielsen
Server Password	Supplied by Nielsen
Remote Folder	Supplied by Nielsen

- If the transfer mode is **Transfer to Local Server**, complete the fields shown in Table 4.

Table 4 – Feed-Point Transfer Parameters (Transfer to Local Server)

Field	Description
Metadata Folder	The local location of the metadata files to be transferred Default is C:\Nielsen\RTVOD_Encoder\metadata
Archive Folder	The local location of the folder where metadata files that already transferred are stored Default is C:\Nielsen\RTVOD_Encoder\arch_metadata
Server Address	Address of your local Server setup for File Transfer to Nielsen
Server Login	Login of your local Server setup for File Transfer to Nielsen
Server Password	Password of your local Server setup for File Transfer to Nielsen
Remote Folder	The folder on your transfer server where the metadata files are stored before transfer to the CF

- Click **Save** and close the window. Files are sent on the set interval.

(Optional) Configuring the File Trigger Service

The RTVOD File Trigger application is automatically installed during the RTVOD Content Encoder application installation. This is an optional service that you can use to automatically trigger file encoding.

The File Trigger Service monitors a “watch” folder that contains an XML trigger file that initiates encoding with the content identified in the file. After each file is encoded, the File Transfer Manager Service (RTVODFTMSservice.exe) detects the metadata files generated by the File Trigger Manager Service and then uses SFTP to send the files to the CF (Collection Facility). The configuration application creates a configuration file that it places in the “etc” directory where the Encoder is installed.

For more details on the File Trigger Service, see “Transferring Metadata to the Nielsen Collection Facility” on page 8.

Configuring the Trigger Service to Run Manually

1. From the **Windows Start** menu, select **Nielsen > RTVOD File Trigger Manager**.
2. On the **File Trigger Manager** window, browse to the **XML File Path** to the trigger file watch folder. See Figure 22.

Note The [Appendix](#) shows examples of the XML files.

3. Browse to the **Scratch** folder.
4. Click **Save Config**.

Note If the Monitor File Trigger Service checkbox is checked in the RTVODServicesMonitorTool dialog box, the RTVOD File Trigger Manager service automatically restarts.

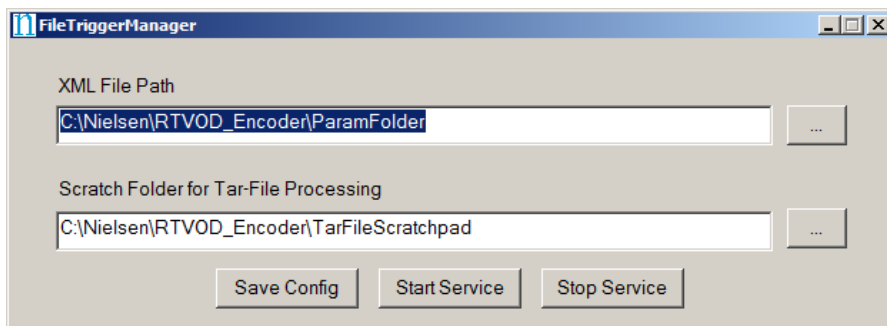


Figure 22 – File Trigger Manager Window

Configuring the File Trigger Service to Run Automatically

1. To start automatically after reboot, open the **Control Panel**.
2. Select **Administrative Tools > Services**.

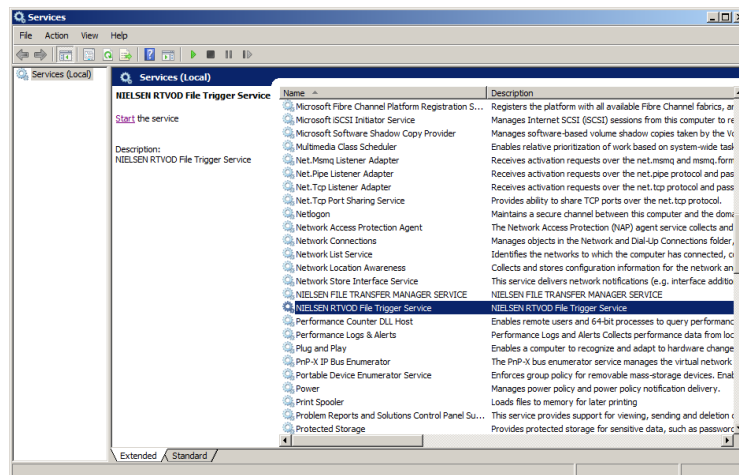


Figure 23 – Administrative Tools > Services

3. Right-click **NIELSEN RTVOD File Trigger Service** and select **Properties** from the menu.

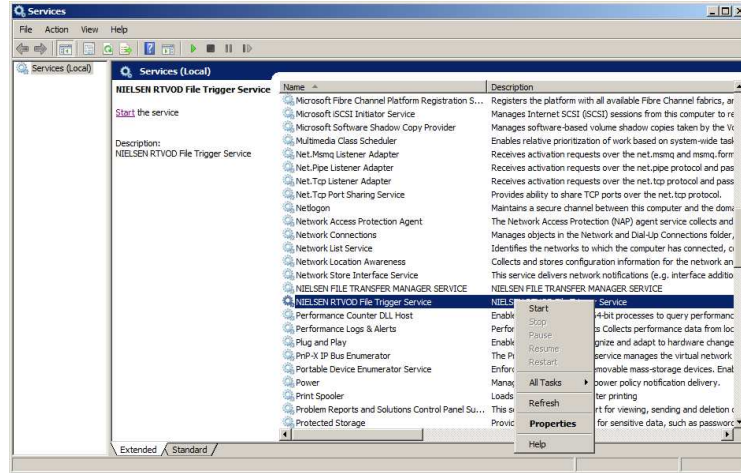


Figure 24 – File Trigger Service in Services

4. In Startup type on the Properties window, select Automatic.

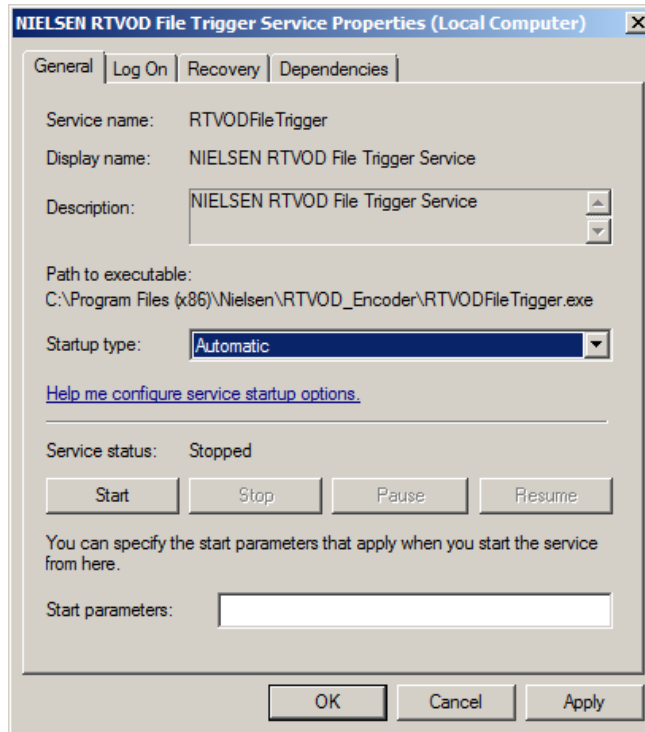


Figure 25 – File Trigger Service Properties

5. Click OK.

Encoding and Decoding

Encoding Using the GUI

1. Launch the RTVOD Encoding App.
2. If feed-point transfer parameters have not been set, the feed-point transfer parameters screen will be displayed. For first time set-up, refer to Table 3 to set feed-point transfer parameters. You will not have to repeat the feed-point transfer parameter set-up again unless you want to make changes. This configuration window is accessed from the main menu, Configure -> System Setup.

The screenshot shows the 'RTVOD Encoder Configuration' window with the 'Feed-Point Transfer Parameters' section active. The 'Transfer to Data-Collection Facility' radio button is selected. The 'Metadata Folder' is set to 'C:\Nielsen\RTVOD_Encoder\metadata' and the 'Archive Folder' is 'C:\Nielsen\RTVOD_Encoder\arch_metadata'. The 'Server Address' is 'namftq.nielsen.com', 'Server Login' is 'tcf-rtvod_mft@nielsen.com', and 'Remote Folder' is 'Nielsen_RTVOD'. The 'Transfer Interval' is set to 15 minutes. The 'Max AC3 Frame Errors' is set to 3. There are 'Save' and 'Cancel' buttons at the bottom.

Figure 26 – Encoder Configuration Feed-Point Transfer Parameters

3. In order to allow RTVOD tagging of a video asset that contains AC3 audio frame errors (artifacts from recording for example), enter the number of AC3 frame errors that are to be ignored.

In the example shown, the AC3 audio frame error threshold is set to 3, which means the RTVOD App (GUI, command-line and File Trigger) will ignore up to and including 3 AC3 audio frame errors found during encoding or decoding. If a 4th AC3 frame error is found, processing will stop.

Note The AC3 frame error threshold defaults to 0 and can be set up to a maximum of 128.

Important Do not input an AC3 audio frame error threshold greater than 128. Due to processing limits, entering a value from 129 to 2147483647 will result in a warning and will not allow you to save the value. Entering a value above 2147483647 will result in the AC3 audio frame defaulting to 0 and there will not be any warning or error message.

4. Click **SAVE**.

5. If Encoding Profile Configuration has not been set, the Encoding Profile Configuration window will display.
6. For first time set-up, refer to “Maintaining the Encoder” on page 56 to add, delete, or edit the encoding profile configuration. You will not have to change the encoding profile configuration again unless you want to make changes.

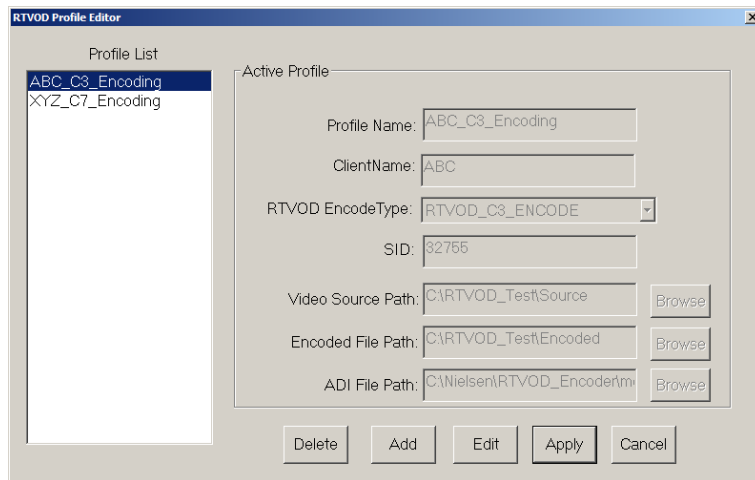


Figure 27 – Encoding GUI Profile Configuration

7. Click **APPLY** to accept configuration or **CANCEL** to discard changes when done.

- When the RTVOD Encoding App is running, the main window will display.

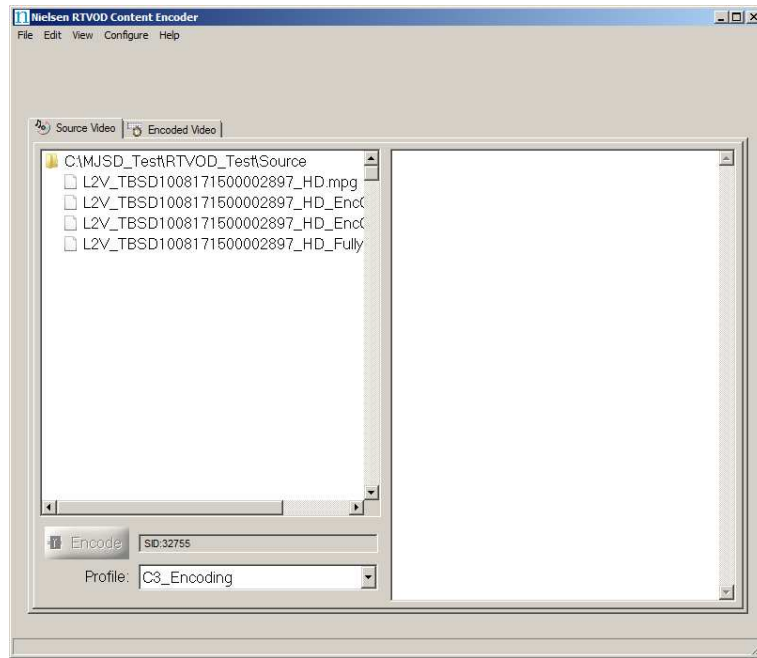


Figure 28 – Encoding GUI App Main Window

- Click on the **SOURCE VIDEO** tab.
- Select the RTVOD profile from the profile combo list.
- Select the file to encode from the list of files.
- Click on **ENCODE** to start encoding.
- The feed-point input information window will display.

The screenshot shows a dialog box titled "Feed-Point Information". It contains the following fields and controls:

- Input File:** E:\Testing\VOD\Source\L2V_TBSD1008171500002
- Duration:** 00:05:00
- Asset Information:**
 - CableLabs ADI File:** (empty field) with a **Browse** button to its right.
 - ClientName:** MyClientName
 - Asset ID:** MyAssetId
 - Asset Name:** MyAssetName
 - Episode ID:** MyEpisode
- Nielsen SID:** 32756
- Buttons:** **OK** and **Cancel**

Figure 29 – Encoding GUI Asset Input Feed-Point Information

14. You can make changes, or accept the default feed-point parameters.
15. Click **OK** to continue, or click **CANCEL** to exit to the main encoding window.
16. If you continue, the encoding progress window will display.

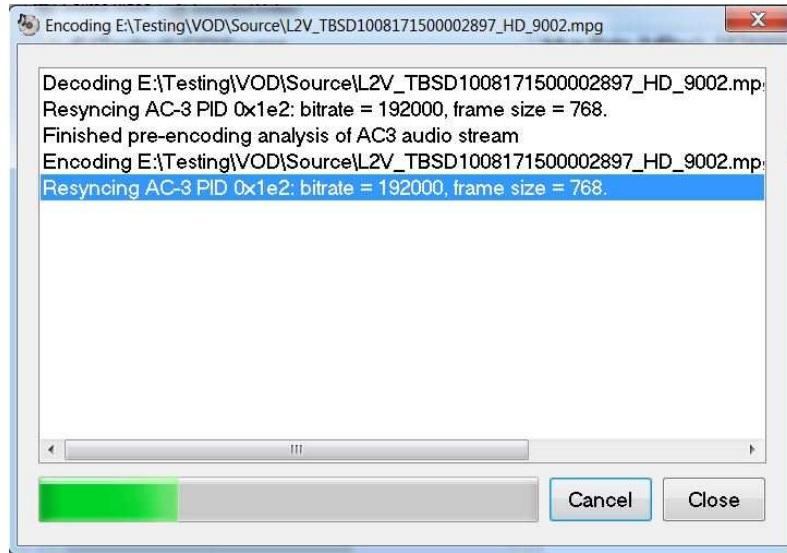


Figure 30 – RTVOD Encoding Progress Window

17. If you click **CLOSE** or **CANCEL**, you will exit to the main menu.
18. If encoding was in progress, there will be an error message displayed indicating the encoding was aborted by the user.
19. If encoding ends, only the **CLOSE** button will display.

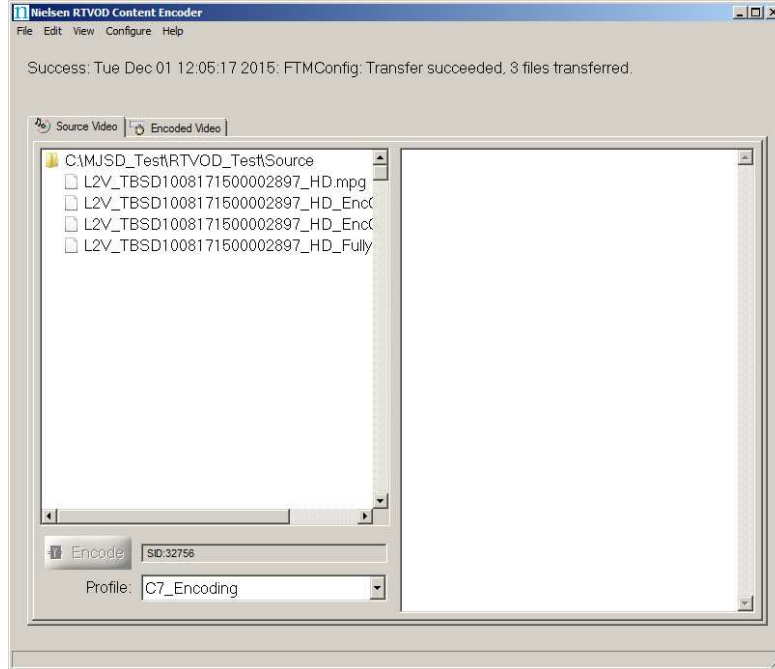


Figure 31 – RTVOD Encoding Tab Window

20. While encoding session is in progress, there are three possible errors that could happen. There are views of the three error messages.

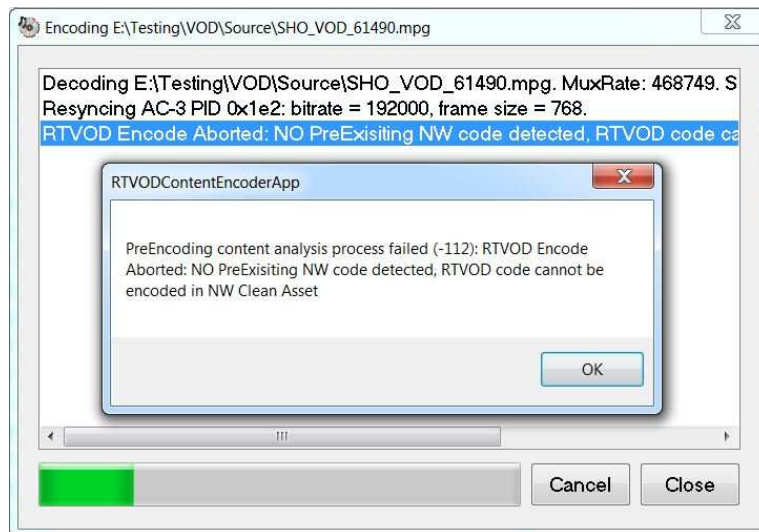


Figure 32 – NW Clean Asset Encoding error

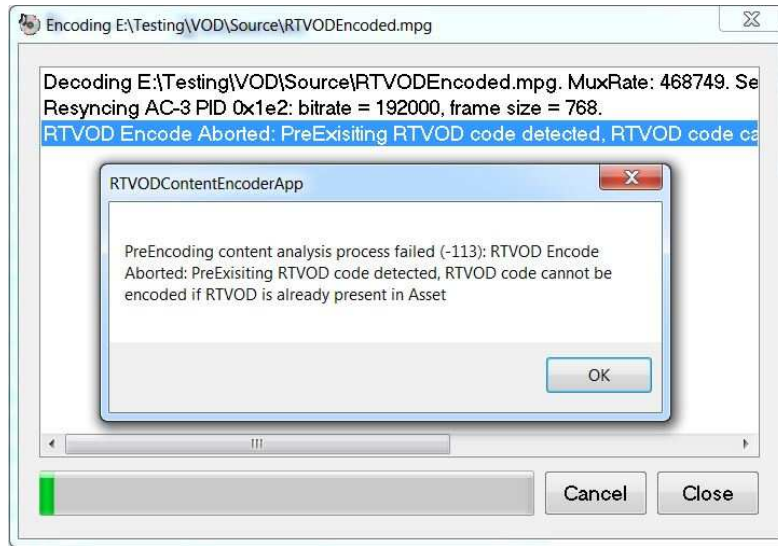


Figure 33 – RTVOD Already present in Asset error

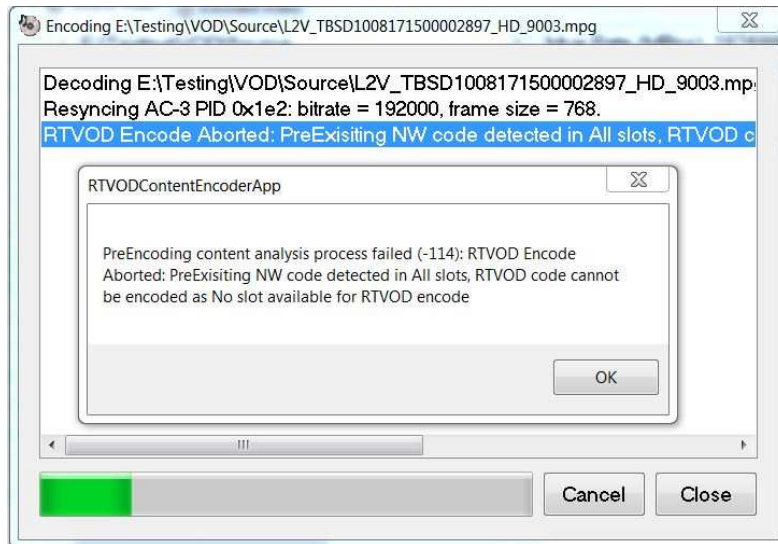


Figure 34 – No Slot available to encode error

21. After PreEncoding analysis is done the encoding progress window will display as shown below.

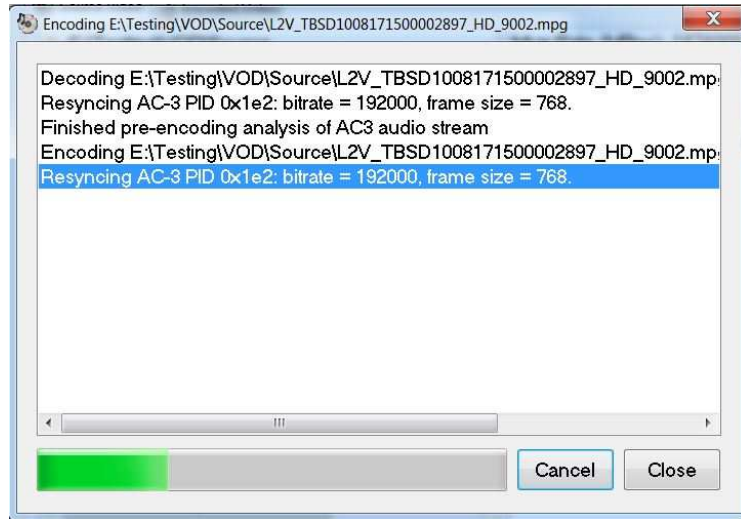


Figure 35 – RTVOD Encoding Progress Window

22. The encoding succeeded window will display at the end of a successful encoding session, as shown below. Click **OK** to proceed.

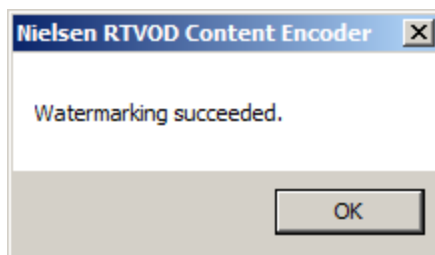


Figure 36 – RTVOD Encoding Success Window

23. Click **CLOSE** to exit to the main menu.

Decoding Using the GUI

To verify that encoding occurred, and that TICs were inserted, decode the encoded file.

1. Launch the RTVOD Decoding App.
2. When the RTVOD Decoding App is running, the main window will display.

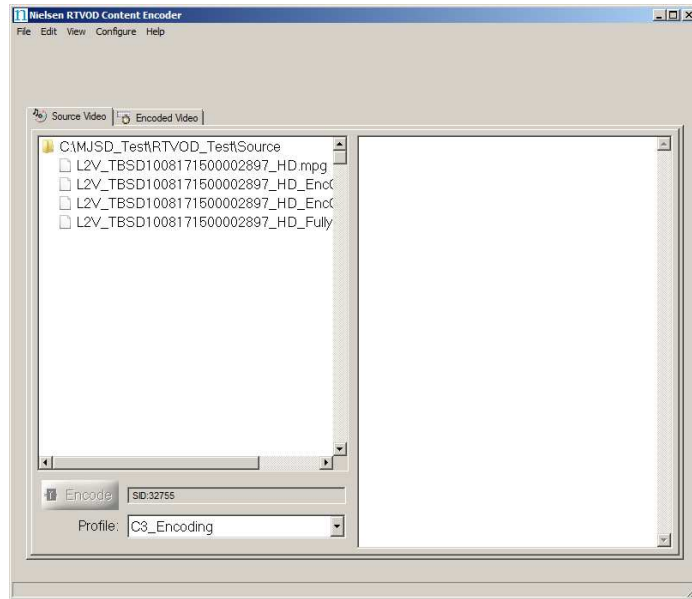


Figure 37 – GUI Decoding Tab

3. Click on the **ENCODED VIDEO** tab.
4. Select the RTVOD profile from the profile combo list.
5. Select the file to decode from the list of files.
6. Click on **DECODE** to start decoding.
7. The decoding progress window will display as shown below.

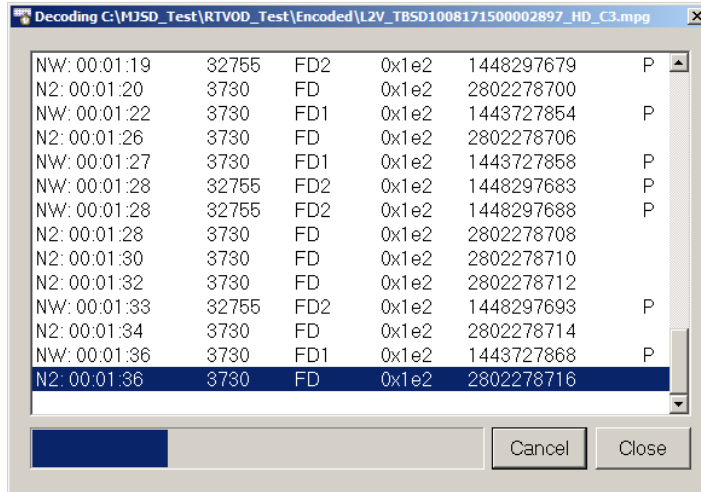


Figure 38 – GUI Decoding Progress Window

- The decoding complete window will display at the end of a successful decoding session, as shown below.

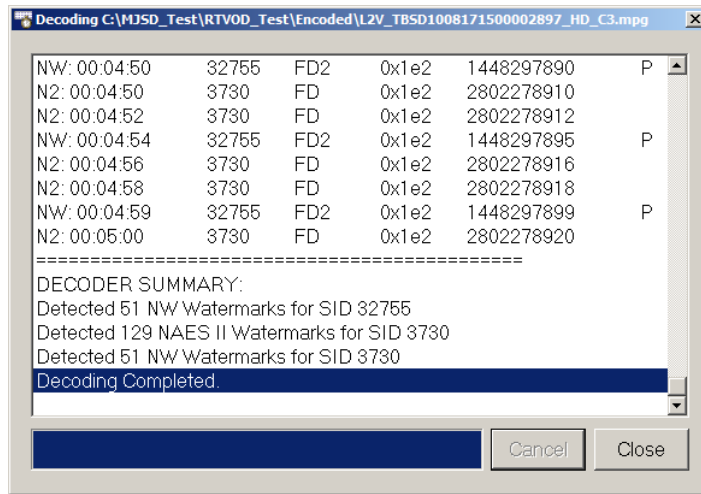


Figure 39 – GUI Decoding Complete Window

9. Click **CLOSE** to exit to the main menu.

RTVOD Services Monitor Tool

The RTVOD Services Monitor Tool monitors either the File Transfer Service or the File Trigger Service or both, depending on what is selected. While monitoring a service, if that service is detected to stop running, the Services Monitor Tool will restart the service. The Services Monitor Tool also monitors the File Transfer log and will generate a pop-up message in the event of a file transfer error as logged by the File Transfer Service. This pop-up message can be disabled.

1. The RTVOD Services Monitor Tool is used to selectively monitor the file transfer service and the file trigger service. If one of these monitored services is found to not be running, it will be started by the service monitor tool.

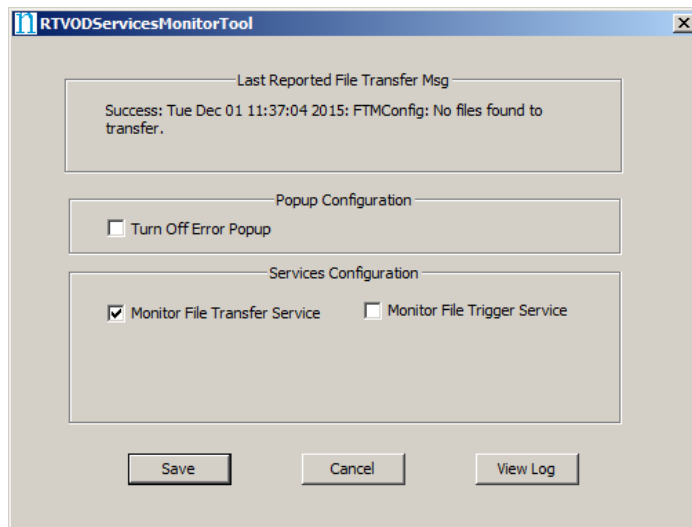


Figure 40 – RTVOD Services Monitor Tool

2. Check the "Monitor File Transfer Service" checkbox to monitor the File Transfer Service (selected by default).
3. Check the "Monitor File Trigger Service" checkbox to monitor the File Trigger Service.
4. Check the "Turn Off Error Popup" checkbox to stop the Services Monitor Tool from generating pop-up messages in the event of file transfer errors.

On Windows Server 2008 32-bit platforms, the UAC (User Account Control) may block the RTVOD Services Monitor Tool from starting automatically on boot-up. If so, you should see a pop-up in the Windows Tray to notify you of this.

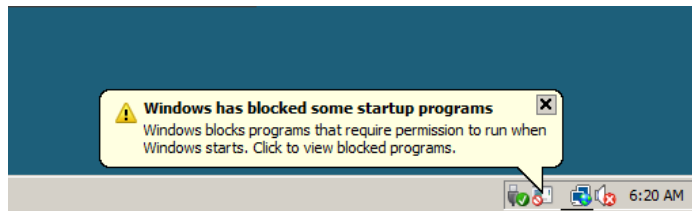


Figure 41 – Windows blocked startup programs

Click on the blocked programs ICON in the Windows tray. Click “Run blocked program” and then click “RTVOD Services Monitor Tool”.

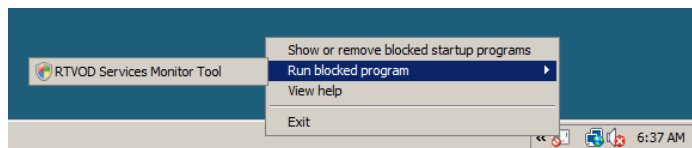


Figure 42 – Allow the RTVOD Services Monitor Tool to run

Encoding Using the Command Line

The command-line version of the RTVOD Content Encoder is called *ContentCodeCmd*. ContentCodeCmd enables you to automate encoding and decoding.

Note You can also automate file transfer. For more information, see “Transferring Metadata to the Nielsen Collection Facility” on page 8.

ContentCodeCmd Arguments

The RTVOD Encoder package includes a batch file, *InsertContentCodes.bat*, which includes a call to ContentCodeCmd.exe. You may edit the command line arguments in this .bat file to meet your requirements, and then execute the .bat file to conduct a single watermarking session.

Table 5 – Encoding Command Line Arguments

Argument	Description
rtvodtype	RTVOD flag type C3 or C7 that indicates live telecast plus 3 days (C3) or live telecast plus 7 days (C7)
input	Full path name of the file containing the MPEG-2 transport stream to be watermarked
output	Full path name of the generated watermarked file
clientname	The name of the client related to the asset
assetid	String for content to be encoded, if not specified default value used
asset name	Descriptive name for content to be encoded; passed to the CF in the feed-point metadata file, if not specified default value used
episode	String for the episode to be encoded, if not specified default value used
adifile	Full path name for CableLabs-compliant file to be transferred to the CF

Encoding Command Line Format

When using ContentCodeCmd to encode, use this format to set the parameters described above:

```
ContentCodeCmd
-rtvodtype <C3 or C7>
-input <input file>
-output <output file>
[-clientname <client name>][-assetid <asset ID>]
[-asset name <asset name>]
[-episode <episode ID>]
[-adifile <ADI file name>]
```

Encoding Example 1

This example shows how to encode “C:\MPEGFILES\Unprocessed\test.mpg” with a RTVOD flag C3 and store the encoded file in “C:\MPEGFILES\Processed\test.mpg”.

```
ContentCodeCmd -rtvodtype c3 -input
"C:\MPEGFILES\Unprocessed\test.mpg" -output
C:\MPEGFILES\Processed\test.mpg -clientname "XYZ" -assetid "54321" -
assetname "InterestingClip" -episode "Episode 1"
```

Decoding Using the Command Line

You can also use ContentCodeCmd to decode Nielsen-encoded files, display the results on the screen, or send them to a file. ContentCodeCmd reports the results in this format.

```
<stream offset>, <SID>, <code type>, <audio PID>, <TIC/timestamp>
```

The RTVOD Encoder package includes a batch file, DisplayCodes.bat, which contains a call to ContentCodeCmd.exe. You may adjust the command-line arguments in this .bat file to meet your requirements and then execute the .bat file to conduct a single decoding session.

Table 6 – Decoding Parameters

Parameter	Description
Stream offset	Offset from the beginning of the stream where the end of the Nielsen watermark is located. The <stream offset> is expressed as hours : minutes : seconds
SID	Nielsen source identifier
Code type	“PC” for program content or “FD” for final distributor. The VOD Content Encoder inserts “PC” watermarks. If the decoder reports “FD” watermarks, those watermarks were inserted by other Nielsen encoder
Audio PID	MPEG PID that identifies the AC-3 or AES PCM stream in which the Nielsen watermark was found
TIC/Timestamp	Numeric value that identifies a specific segment of the encoded asset. Each four-second segment of code has its own unique TIC or timestamp

Table 7 – Decoding Command Line Arguments

Argument	Description
-decode	Activity the tool should do
-input	Full path name of the file to be decoded

The following is an example of decoding a file, “C:\MPEGFILES\Processed\test.mpg,” and storing the report in a file, “C:\Temp\decoder_out.txt,” while displaying the report on the screen:

```
ContentCodeCmd -decode -input "C:\MPEGFILES\Processed\test.mpg"
```

Transferring Metadata Files to the Nielsen CF

For crediting, your plant must transfer metadata files to the Nielsen CF. There are several possible ways to transfer the files: through the content encoder itself, using the File Transfer Manager application, or using the File Trigger Service to manually or automatically transfer the files.

Transferring Files to CF Using the RTVOD Content Encoder GUI

1. On the **File** menu in the **RTVOD Content Encoder** application, select **Transfer**. All files in the metadata directory (as configured) transfer to the CF or the Local Service, depending on your configuration.

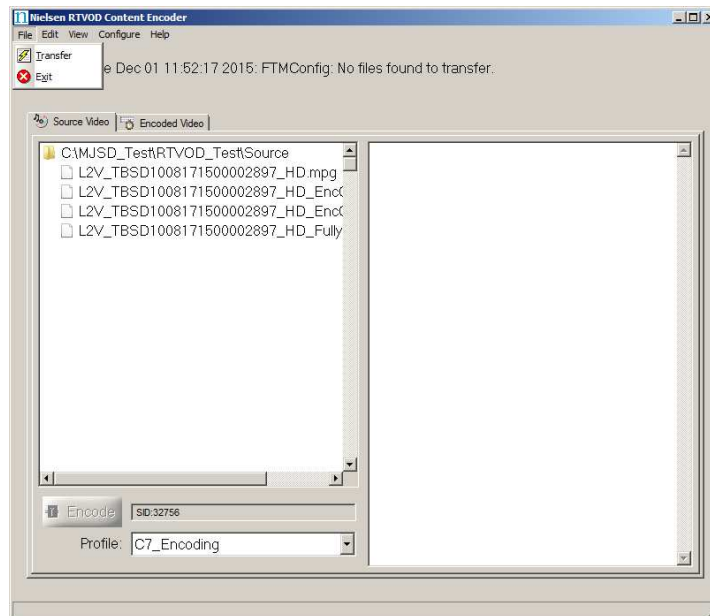
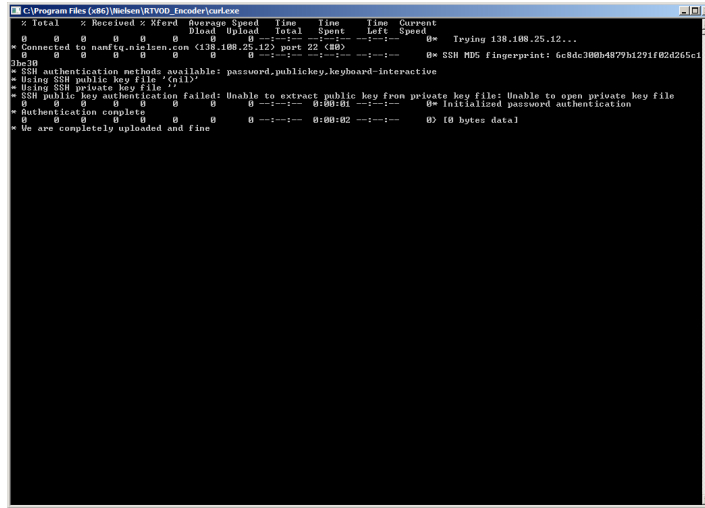


Figure 43 – RTVOD Content Encoder File Transfer Menu Item

- When the file transfer is being executed from either the RTVOD Content Encoder App or the RTVOD File Transfer Manager you will see a pop-up window in which the curl process runs as shown in Figure 44. When the File Transfer Service transfers files, this pop-up window will not appear.

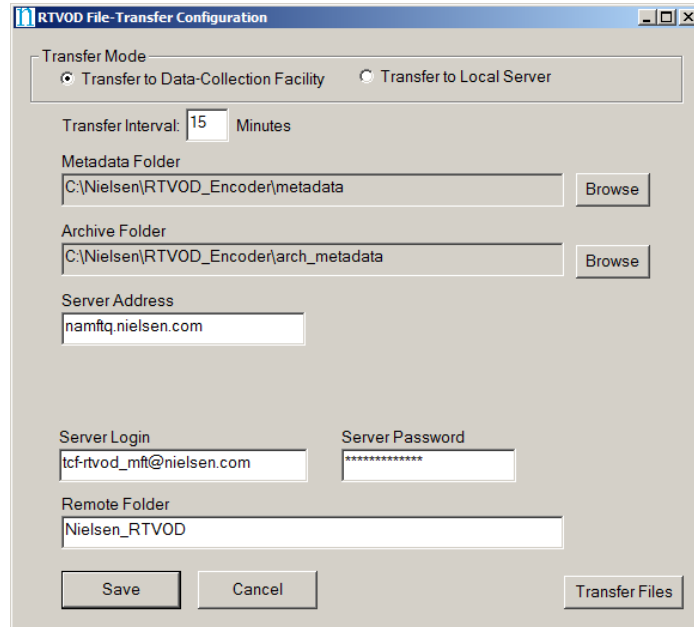


```
C:\Program Files (x86)\Nielsen\RTVOD_Encoder\curl.exe
 * Total % Received % Xferd Average Speed   Time    Time     Time  Current
           0      0     0         0             0      0      0      0
 * Connected to mantrasystems.com (138.108.25.12) port 22 <SSH>
 0     0     0     0         0             0      0      0      0
 100%  100     0     0         0             0      0      0      0
 * SSH MD5 fingerprint: 6c8dc300b4879b1291f02d265c1
 * SSH authentication methods available: password,publickey,keyboard-interactive
 * Using SSH public key file: 'ca12'
 * Using SSH private key file: ''
 * SSH public key authentication failed: Unable to extract public key from private key file: Unable to open private key file
 * Authentication complete
 * We are completely uploaded and fine
```

Figure 44 – Pop-up window showing curl process

Transferring Files to CF Using the File Transfer Manager

1. In the **File Transfer Manager** application, select the **Transfer to Data-Collection Facility** transfer mode.
2. In the **File Transfer Manager** application, click the **Transfer Files** button. All files in the metadata directory transfer to the CF.



The screenshot shows the 'RTVOD File-Transfer Configuration' dialog box. It has a title bar with a minimize, maximize, and close button. The dialog is divided into several sections:

- Transfer Mode:** Two radio buttons are present. 'Transfer to Data-Collection Facility' is selected, and 'Transfer to Local Server' is unselected.
- Transfer Interval:** A text box contains the number '15', followed by the text 'Minutes'.
- Metadata Folder:** A text box contains 'C:\Nielsen\RTVOD_Encoder\metadata', with a 'Browse' button to its right.
- Archive Folder:** A text box contains 'C:\Nielsen\RTVOD_Encoder\arch_metadata', with a 'Browse' button to its right.
- Server Address:** A text box contains 'namfq.nielsen.com'.
- Server Login:** A text box contains 'tcfrtvod_mft@nielsen.com'.
- Server Password:** A text box contains a series of asterisks '*****'.
- Remote Folder:** A text box contains 'Nielsen_RTVOD'.

At the bottom of the dialog, there are three buttons: 'Save', 'Cancel', and 'Transfer Files'.

Figure 45 – RTVOD File Transfer Manager

3. When the file transfer completes successfully, the Content Encoder App indicates success in the status field as shown in Figure 46.

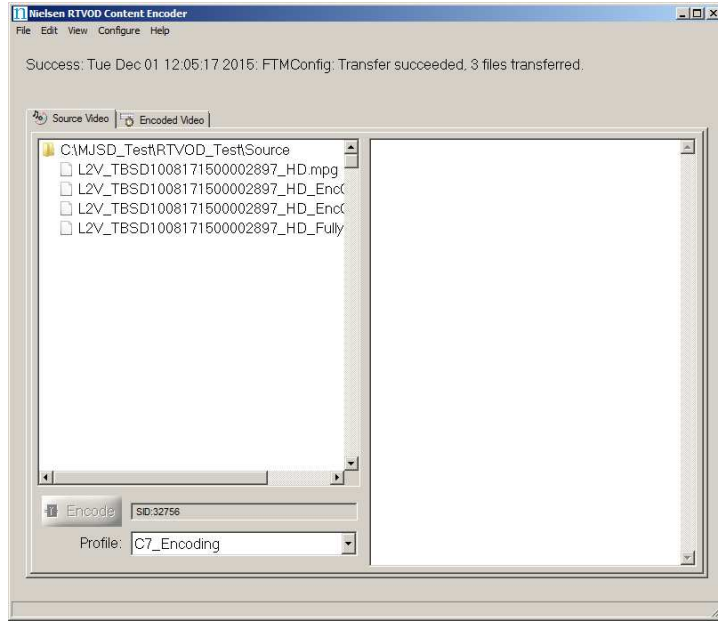


Figure 46 – RTVOD Content Encoder App File Transfer Success

4. When the file transfer completes successfully, the Content Encoder App indicates success in the status field as shown in Figure 47.

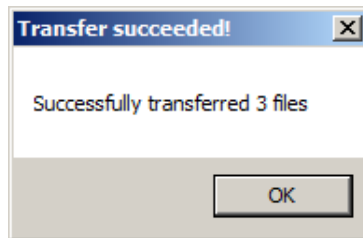


Figure 47 – RTVOD File Transfer Manager File Transfer Success

Encoding Files Using the File Trigger Service

Manually Start File Trigger Service

1. From the **Windows Start** menu, select **Nielsen > RTVOD File Trigger Manager** as shown in Figure 48.

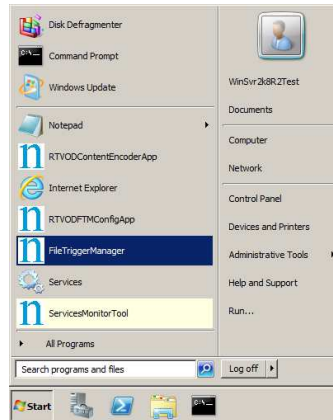


Figure 48 – RTVOD File Trigger Manager In Start Menu

2. The file trigger manager window will appear as shown in Figure 49. Click **Start Service**. The File Trigger Service runs until you stop it or reboot the system.

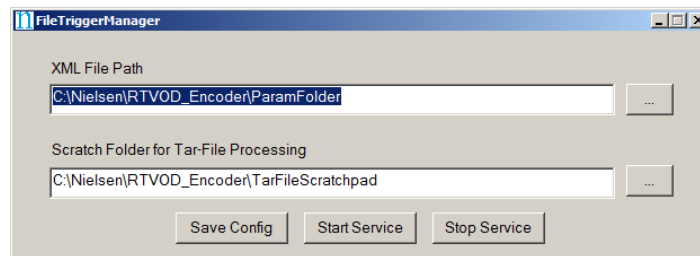


Figure 49 – File Trigger Manager Window

Note If the Trigger Service fails while processing a trigger file, it renames the trigger file (appending the ".failed" extension) instead of deleting the file. The Trigger Service does not attempt to process the renamed trigger file until the extension in the file name is changed to xml.

Note If the Monitor File Trigger Service checkbox is checked in the RTVOD ServicesMonitorTool dialog box, the RTVOD File Trigger Service automatically restarts.

3. To stop the **File Trigger Service**, click **Stop Service**.
4. Close the window.

Automatically Start File Trigger Service

See "Configuring the File Trigger Service to Run Automatically" on page 33.

Maintaining the Encoder

This section covers procedures that you may periodically do.

Adding a Profile

1. From the Main RTVOD GUI, click on the **Menu Item Configure->Profile Setup** to open the profile editor window.
2. On the Profile Editor window, click on the **Add** button to add a new RTVOD encoding profile.
3. Select the **RTVOD EncodeType** (C3 or C7) from the combo list.
4. Enter **Profile Name**, **ClientName** and browse to specify the Source, Encoded and ADI file paths.
5. Click **Apply** to save the encoding profile and exit, or click **cancel** to exit without saving.

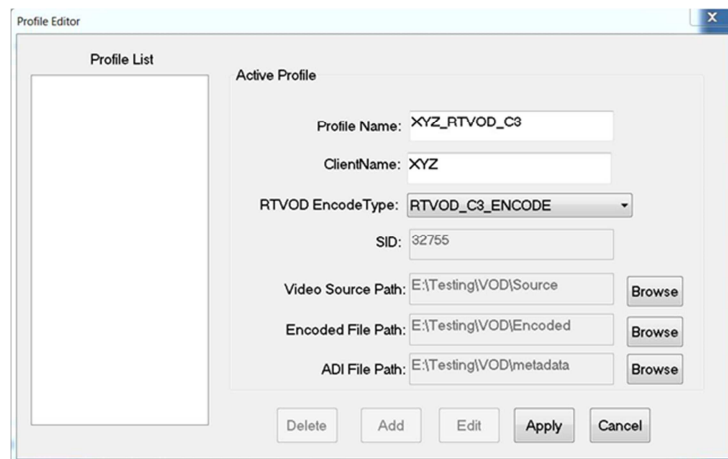


Figure 50 – Adding a Profile

- The newly added profile will be visible in Profile List.

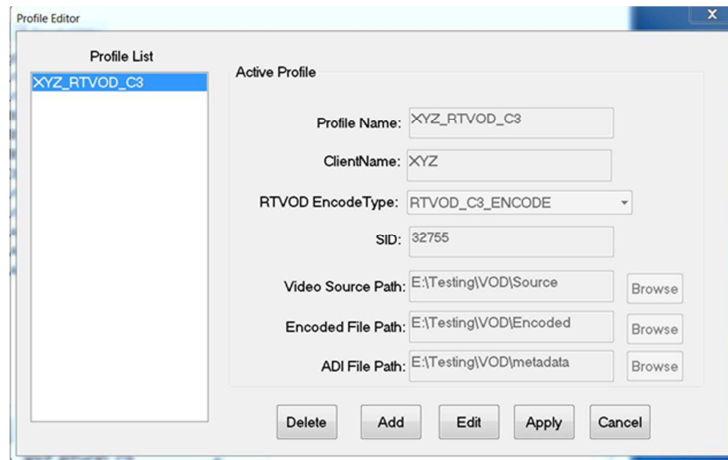


Figure 51 – New Profile Visible in Profile List

Editing a Profile

- From the Main RTVOD GUI, click on the **Menu Item Configure->Profile Setup** to open the profile editor window.
- On the Profile Editor window, select the profile name in **Profile List** to edit the existing profile.
- On the Profile Editor window, click on the **Edit** button to edit the RTVOD encoding profile.

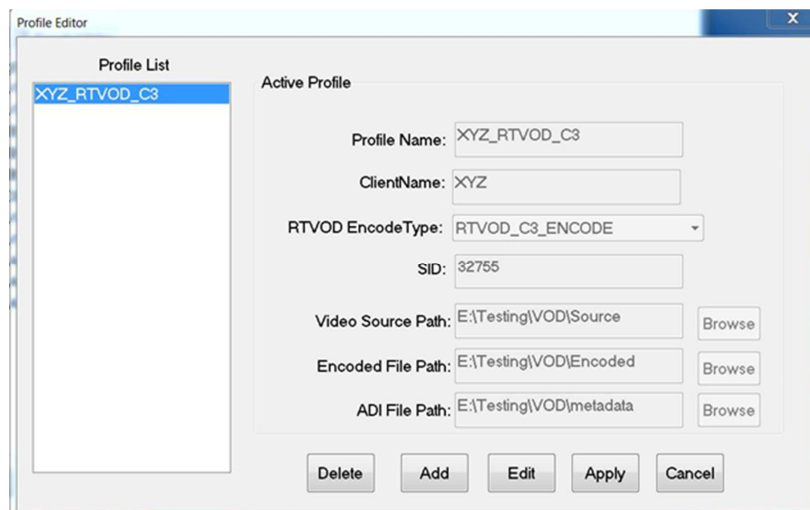


Figure 52 – Selecting a Profile to Edit

4. If needed change the **RTVOD Encode Type** from the combo list.
5. If needed browse to change the location of the Source, Encoded and ADI file path.
6. Click **Apply** to save the modified profile and exit, or **Cancel** to exit without saving.

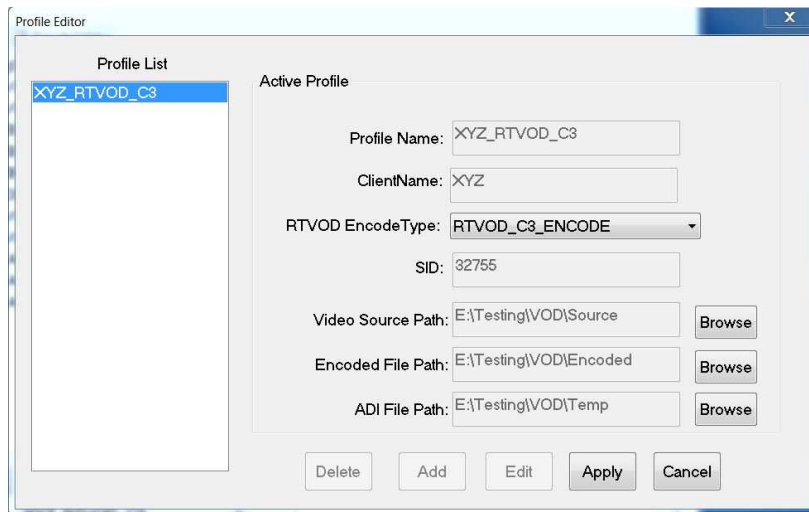


Figure 53 – Saving and Edited Profile

Deleting a Profile

1. From the Main RTVOD GUI, click on the **Menu Item Configure->Profile Setup** to open the profile editor window.
2. On Profile Editor window, select the profile name in **Profile List** to delete the existing profile.
3. On the Profile Editor window, click on the **Delete** button to delete the RTVOD encoding profile.
4. On the Profile Deletion Warning Message popup, click **OK** to continue.
5. Click on **Apply** to permanently delete the profile, or else **Cancel** to exit without deleting.

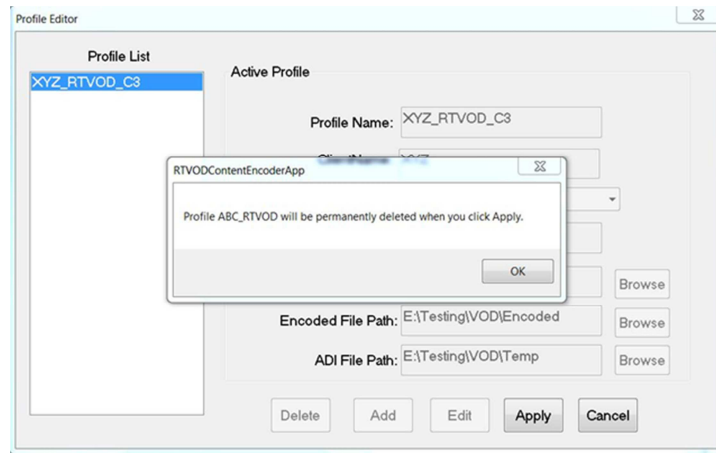


Figure 54 – Deleting a Profile

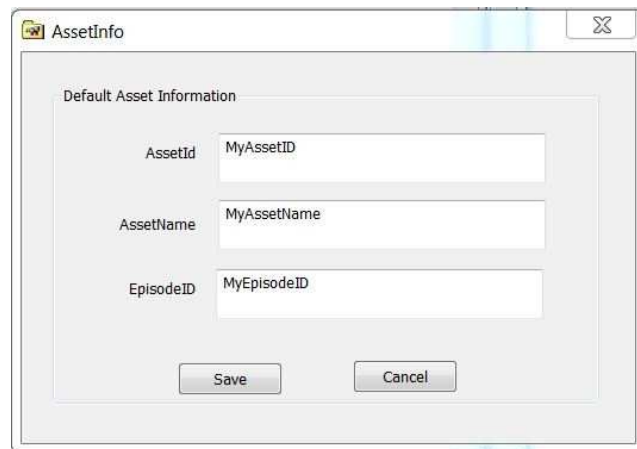
NOTE:

The RTVOD Encoder App will not operate without at least one valid profile, so you will find that it will not successfully delete all of the profiles from the GUI App. If you really want to delete all of the profiles, close the RTVOD Encoder GUI App and delete the following file: “C:\Nielsen\RTVOD_Encoder\etc\ProfileConfig.txt”. The next time you start the RTVOD Encoder GUI App, it will display an error message warning that no valid profiles exist and start the profile editor for you.

Updating Default AssetInfo (Feedpoint Parameters)

1. From the Main RTVOD GUI, click on the **Menu Item Configure->AssetInfo Setup** to open the feedpoint parameters configuration window.
2. You can update default values for AssetId, AssetName and EpisodeID. Refer to Table 1 for feedpoint parameter descriptions.
3. Click save to update the feedpoint parameters/Asset information.

4. Press cancel to keep the default values “MyAssetId”, “MyAssetName” and “MyEpisodeID”.



The screenshot shows a dialog box titled "AssetInfo" with a close button in the top right corner. Inside the dialog, there is a section titled "Default Asset Information" containing three text input fields. The first field is labeled "AssetId" and contains the text "MyAssetID". The second field is labeled "AssetName" and contains the text "MyAssetName". The third field is labeled "EpisodeID" and contains the text "MyEpisodeID". At the bottom of the dialog, there are two buttons: "Save" and "Cancel".

Figure 55 – Updating AssetInfo

Troubleshooting

Encoder Services Are Not Running or Repeatedly Fail

Important RTVOD Content Encoder applications should only be installed on systems used solely for Nielsen encoding. To permit the encoding software to run without interference, antivirus and firewall programs should be disabled. If disabling is not possible, the security software must be configured to permit the files listed in the procedure below to run.

Certain Internet security virus-protection applications may interfere with the RTVOD Content Encoder services and produce any or all of the following issues:

- File Transfer Service is not running or its function does not automatically occur.
- After successful installation of the Encoder application, the FTM and/or File Trigger.exe files disappear.

When these issues could be related to antivirus software (see the rest of the “Troubleshooting” for other, potential causes), do the following:

1. To see whether your antivirus software may be interfering with the encoding software, do the following:
 - a. Open the history feature in the antivirus program.
 - b. Examine the events for evidence of the encoder services stopping or failing.
2. Add the following files to the “exclude” or “trust” feature in your antivirus program.

On a computer installed with...	Trust or exclude this file in antivirus software:
RTVOD Content Encoder	RTVODFileTrigger.exe RTVODFTMSservice.exe
RTVOD File Transfer Manager	RTVODFTMSservice.exe

3. Reboot your system.
4. In **Windows Control Panel** (or equivalent), select **Administrative Tools**.
5. Select **Services** and ensure that all of the following that apply to your system are operating correctly:
 - NIELSEN FILE TRANSFER MANAGER SERVICE Status is Started.
 - NIELSEN RTVOD File Trigger Service Startup Type is Manual.
6. If any services are missing, do the following:
 - In **Windows 7** or **Windows Server**, do the following:
 - a. Select **All Programs > Nielsen** and right-click **RestoreNielsenServices**.
 - b. Select **Run As Administrator**.
7. Ensure that the **ServicesMonitorTool** is running and the corresponding services check box is checked.

Errors Creating ZIP files

The metadata folder and archive folder must not be located under either the “C:\Program Files\” or “C:\Program Files (x86)\” directories. They may be located on other hard disks and the default location is as follows:

C:\Nielsen\RTVOD_Encoder\metadata

C:\Nielsen\RTVOD_Encoder\arch_metadata

Files or Codes Are Missing

Use these steps to uncover root causes when encoding is not successful.

MPEG Files Missing on Source Video Tab

It may be that the incorrect profile for this encoding session was selected or you may need to create a new profile with the correct video source path.

1. Do one of the following:
 - Ensure that the **Video Source Path** specifies the location of the file that you would like to encode. See “Editing a Profile” on page 57.
 - Create a new profile. See “Adding a Profile” on page 56.

Missing Files on the Encoded Video Tab

An incorrect profile for this decoding session may have been selected.

1. See “Editing a Profile” on page 57.
2. Ensure that the **Encoded File Path** specifies the full path name of the file that you just encoded.

Unable to Create or Write to the Output File

Ensure that the encoded path that you selected is not read-only.

Missing or Few RTVOD Watermarks When File is Decoded

If the content was difficult to encode (very quiet, for example) or if the AC-3 stream bit rate was too low, the Encoder may not have been able to insert as many audio codes as expected.

Ensure that audio levels are properly set at the broadcast facility. See the [Encoding Installation and Configuration Policy](#).

Nielsen Unable to Detect Watermarks in Encoded File

Ensure that audio levels are properly set at the broadcast facility. See the [Encoding Installation and Configuration Policy](#).



Ensure that you pitched the encoded file, not the original source file.

Encoding Takes Too Long

Ensure that other processes are not tying up the encoding system. Transferring large files to or from the Encoder host computer, for example, is very likely to slow the encoding process.

Services Monitor Tool Fails to Start on Boot

Due to a bug in the Windows 7 32-bit Operating System, programs do not always launch when entered in the Windows registry under the key “HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run”.

After rebooting a Windows 7 32-bit system, if the Services Monitor Tool fails to start, it will be necessary to start it manually “as Administrator”.

1. Open a file Explorer window and navigate to the directory “C:\Program Files\Nielsen\RTVOD_Encoder”.
2. Right-click on the file “ServicesMonitorTool.exe” and select “Run as administrator” from the pop-up menu.

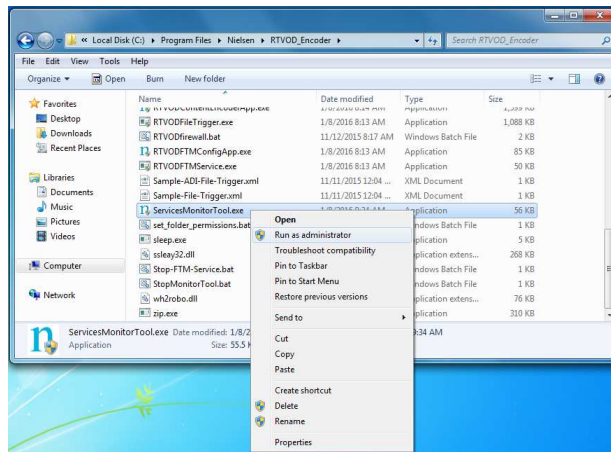


Figure 56 – Run ServicesMonitorTool as admin

TIC/CF Request Failed or Unable to establish valid connection

To start an encoding session, the Encoder must first establish a network connection to a properly configured, active TIC/CF Server. Even if the Server resides on the same computer as the Encoder, the Server and the Encoder application communicate. Communication issues may occur that prevent encoding from taking place.

If you see an error message, use the following steps to look for root causes.

- 1. Communications with Nielsen Fail**

Check your firewall to ensure it is not preventing communications between the Server and the Encoder.

- 2. "File Not found on TFTP server"**

If the server login user or password are not correct, you may get the error message "File Not found on TFTP server". This error message is returned from the "curl" subsystem and be confusing.



Troubleshooting Issues with Transferring Metadata

The RTVOD Encoder File Transfer Service periodically transfers any available feed-point metadata files to the Nielsen CF. Follow these steps when metadata has not properly transferred.

Verifying the File Transfer Service Is Correctly Operating

1. In the **FTM** application, select **View > Log File**.
2. Scroll through the log file and search for any of the following messages:
 - This message indicates that a file was successfully transferred to the CF at the time that the message was sent.


```
FTM: Transfer succeeded, 1 files transferred.
```
 - This message indicates that no files have been transferred since the last message from the File Transfer Manager. In the absence of other, more specific error messages, however, this is not an error report. Instead, it merely indicates that there were no feed-point metadata files ready to be transferred.


```
FTM: No files found to transfer.
```
 - An error message in the error log or no reports from the File Transfer Manager over a long period indicates File Transfer Service may not be properly functioning. See “Verifying the File Transfer Manager Service Is Running” on page 65.

Verifying the File Transfer Manager Service Is Running

1. To ensure that the **File Transfer Manager Service** is running, in the **Control Panel**, open **Administrative Tools > Services**.
2. In the **Services** list, locate **Nielsen File Transfer Manager Service** and do one of the following:
 - If **File Transfer Manager Service** does not appear in the list, the Encoder software was not properly installed. Uninstall and reinstall the software as follows:
 - Uninstall and reinstall FTM.
 - If the **File Transfer Manager Service** DOES appear in the list (#2 in Figure 23), check the **Status** of the **Trigger Service** and do one of the following:
 - If the **Status** is not **Started**, right-click the **File Transfer Manager Service** list entry and select **Start**.
 - If the **Status** of the **File Transfer Manager Service** is **Started**, go to the next step.
3. From the **View** menu on the **RTVOD Encoder** window, select **Configure > System Setup**.
4. In the **RTVOD File – Transfer Configuration** window (Figure 21), verify the values are correct. See also Table 3 – Feed-Point Transfer Parameters on page 31.
5. Click **Save**.

6. On the **File** menu in the **Encoder** window, select **Transfer**. If all components are properly configured, all files should transfer from the metadata folder to the CF and the original files to the arch_metadata folder. A message should confirm that the transfer was successful. If the transfer fails, do the following:
 - o Check the network configuration and firewall settings on the Encoder.
 - o Verify that a third-party FTP application is NOT running on the same subnet as the **File Transfer Service** by doing the following:
 - a. In **Control Panel** (or equivalent), open **Administrative Tools > Services**. See Figure 23.
 - b. Examine the **Services** list to see if an FTP application other than the **Nielsen File Transfer Manager Service** is running.
 - c. If an FTP application is running, to prevent the application from auto-starting during boot up, do the following:
 - a. Right-click the name of the application and select **Properties**.
 - b. Change the **Startup Type** to **Disabled**.

Important If File Transfer Manager Service problems persist, call Nielsen Encoder Support to check the status of the metadata server at the Collection Facility. See “Customer Support” on page 5.

Note If only the RTVOD Encoder software is installed by itself, the Services Monitor Tool will by default record errors in the log that it “Failed to start the service RTVODFTMSERVICE”. To stop these error messages, install the File Transfer Manager. See “Installing the File Transfer Manager” on page 22.

Appendix

Contents of an XML Trigger File

The following is an example of a Sample-File-Trigger.xml file. Refer to Table 1 for feedpoint parameter descriptions.

```
<ContentEncodingParams>
  <InputFile>
    C:\temp\VoD\Source\Sample.mpg
  </InputFile>
  <OutputFile>
    C:\temp\VoD\Encoded\Sample-enc.mpg
  </OutputFile>
  <RTVODEncType>
    C3
  </RTVODEncType>
  <AssetId>
    Test ID 1
  </AssetId>
  <AssetName>
    This is for File Trigger Encode Test.
  </AssetName>
  <EpisodeId>
    Episode 1
  </EpisodeId>
  <ClientName>
    Enter the client name here
  </ClientName>
</ContentEncodingParams>
```

Contents of an ADI File Trigger XML File

The following is an example of a Sample-ADI-File-Trigger.xml file. For definitions of the parameters, see Table 2 – Parameters Defined for Standard XML File-Encoding on page 11.

```
<ContentEncodingParams>
  <InputFile>
    C:\temp\VoD\Source\Sample.mpg
  </InputFile>
  <OutputFile>
    C:\temp\VoD\Encoded\Sample-enc.mpg
  </OutputFile>
  <AdiFile>
    C:\temp\VoD\ADI\Sample-ADI.XML
  </AdiFile>
  <SID>
    9000
  </SID>
  <AssetId>
    TEST0001137522386093
  </AssetId>
  <AssetName>
    TEST24S04E01_Title
  </AssetName>
</ContentEncodingParams>
```

CURL EXIT CODES

There are a several error codes and their corresponding error messages that may appear during bad conditions. At the time of this writing, the exit codes are:

- 0 The curl command succeeded.
- 1 Unsupported protocol. This build of curl has no support for this protocol.
- 2 Failed to initialize.
- 3 URL malformed. The syntax was not correct.
- 4 A feature or option that was needed to perform the desired request was not enabled or was explicitly disabled at build-time. To make curl able to do this, you probably need another build of libcurl!
- 5 Couldn't resolve proxy. The given proxy host could not be resolved.
- 6 Couldn't resolve host. The given remote host was not resolved.
- 7 Failed to connect to host.
- 8 FTP weird server reply. The server sent data curl couldn't parse.
- 9 FTP access denied. The server denied login or denied access to the particular resource or directory you wanted to reach. Most often you tried to change to a directory that doesn't exist on the server.
- 10
- 11 FTP weird PASS reply. Curl couldn't parse the reply sent to the PASS request.
- 12
- 13 FTP weird PASV reply, Curl couldn't parse the reply sent to the PASV request.
- 14 FTP weird 227 format. Curl couldn't parse the 227-line the server sent.
- 15 FTP can't get host. Couldn't resolve the host IP we got in the 227-line.
- 16
- 17 FTP couldn't set binary. Couldn't change transfer method to binary.
- 18 Partial file. Only a part of the file was transferred.
- 19 FTP couldn't download/access the given file, the RETR (or similar) command failed.
- 20
- 21 FTP quote error. A quote command returned error from the server.
- 22 HTTP page not retrieved. The requested url was not found or returned another error with the HTTP error code being 400 or above. This return code only appears if -f, --fail is used.
- 23 Write error. Curl couldn't write data to a local filesystem or similar.
- 24
- 25 FTP couldn't STOR file. The server denied the STOR operation, used for FTP uploading.

- 26 Read error. Various reading problems.
- 27 Out of memory. A memory allocation request failed.
- 28 Operation timeout. The specified time-out period was reached according to the conditions.
- 29
- 30 FTP PORT failed. The PORT command failed. Not all FTP servers support the PORT command, try doing a transfer using PASV instead!
- 31 FTP couldn't use REST. The REST command failed. This command is used for resumed FTP transfers.
- 32
- 33 HTTP range error. The range "command" didn't work.
- 34 HTTP post error. Internal post-request generation error.
- 35 SSL connect error. The SSL handshaking failed.
- 36 FTP bad download resume. Couldn't continue an earlier aborted download.
- 37 FILE couldn't read file. Failed to open the file. Permissions?
- 38 LDAP cannot bind. LDAP bind operation failed.
- 39 LDAP search failed.
- 40
- 41 Function not found. A required LDAP function was not found.
- 42 Aborted by callback. An application told curl to abort the operation.
- 43 Internal error. A function was called with a bad parameter.
- 45 Interface error. A specified outgoing interface could not be used.
- 46
- 47 Too many redirects. When following redirects, curl hit the maximum amount.
- 48 Unknown option specified to libcurl. This indicates that you passed a weird option to curl that was passed on to libcurl and rejected. Read up in the manual!
- 49 Malformed telnet option.
- 50
- 51 The peer's SSL certificate or SSH MD5 fingerprint was not OK.
- 52 The server didn't reply anything, which here is considered an error.
- 53 SSL crypto engine not found.
- 54 Cannot set SSL crypto engine as default.
- 55 Failed sending network data.
- 56 Failure in receiving network data.
- 57
- 58 Problem with the local certificate.
- 59 Couldn't use specified SSL cipher.

- 60 Peer certificate cannot be authenticated with known CA certificates.
- 61 Unrecognized transfer encoding.
- 62 Invalid LDAP URL.
- 63 Maximum file size exceeded.
- 64 Requested FTP SSL level failed.
- 65 Sending the data requires a rewind that failed.
- 66 Failed to initialise SSL Engine.
- 67 The user name, password, or similar was not accepted and curl failed to log in.
- 68 File not found on TFTP server. (NOTE: This message may appear if the server login user or password are incorrect)
- 69 Permission problem on TFTP server.
- 70 Out of disk space on TFTP server.
- 71 Illegal TFTP operation.
- 72 Unknown TFTP transfer ID.
- 73 File already exists (TFTP).
- 74 No such user (TFTP).
- 75 Character conversion failed.
- 76 Character conversion functions required.
- 77 Problem with reading the SSL CA cert (path? access rights?).
- 78 The resource referenced in the URL does not exist.
- 79 An unspecified error occurred during the SSH session.
- 80 Failed to shut down the SSL connection.
- 81
- 82 Could not load CRL file, missing or wrong format (added in 7.19.0).
- 83 Issuer check failed (added in 7.19.0).
- 84 The FTP PRET command failed
- 85 RTSP: mismatch of CSeq numbers
- 86 RTSP: mismatch of Session Identifiers
- 87 unable to parse FTP file list
- 88 FTP chunk callback reported error
- 89 No connection available, the session will be queued
- 90 SSL public key does not matched pinned public key

ZIP EXIT CODES

There are a several error codes and their corresponding error messages that may appear during bad conditions. At the time of this writing, the exit codes are:

- 0 Normal; no errors or warnings detected.
- 1
- 2 The zipfile is either truncated or damaged in some way (e.g., bogus internal offsets) that makes it appear to be truncated.
- 3 The structure of the zipfile is invalid; for example, it may have been corrupted by a text-mode ("ASCII") transfer.
- 4 Zip was unable to allocate sufficient memory to complete the command.
- 5 Internal logic error. (This should never happen; it indicates a programming error of some sort.)
- 6 ZipSplit was unable to create an archive of the specified size because the compressed size of a single included file is larger than the requested size. (Note that Zip and ZipSplit still do not support the creation of PKWARE-style multi-part archives.)
- 7 The format of a zipfile comment was invalid.
- 8 Testing (-T option) failed due to errors in the archive, insufficient memory to spawn UnZip, or inability to find UnZip.
- 9 Zip was interrupted by user (or superuser) action.
- 10 Zip encountered an error creating or using a temporary file.
- 11 Reading or seeking (jumping) within an input file failed.
- 12 There was nothing for Zip to do (e.g., "zip foo.zip").
- 13 The zipfile was missing or empty (typically when updating or freshening).
- 14 Zip encountered an error writing to an output file (typically the archive); for example, the disk may be full.
- 15 Zip could not open an output file (typically the archive) for writing.
- 16 The command-line parameters were specified incorrectly.
- 17
- 18 Zip could not open a specified file for reading; either it doesn't exist or the user running Zip doesn't have permission to read it.

Glossary

A

ADIFilename

The name of the CableLabs file (if any) that will be transferred to the Nielsen Data-Collection Facility along with the NMR Feed-Point Metadata File.

ADI-XML File

The ADI.XML file holds parameters (MPEG file name, asset name, asset ID, episode ID) used in content encoding. In tar-file processing, the File Trigger Service extracts a set of encoding parameters from the ADI.XML file before starting the encoding session. When the tar-file encoding session ends successfully, the Trigger Service modifies the ADI file, updating the MPEG file name and the checksum to correspond to the newly encoded MPEG file.

AssetId

The ID of the encoded content. May be derived from an Asset ID field in the CableLabs file.

AssetName

The name of the encoded content. May be derived from an Asset Name field in the CableLabs file.

C

CF

Nielsen Collection Facility.

CURL

An open source file transfer tool. <http://curl.haxx.se/docs/manpage.html>

D

Decoder

An application that processes an audio stream (PCM or AC-3) and reports on the Nielsen watermarks (NAES II, NW, or both) that it finds in the audio stream.

E

Ending TIC

The value of the last TIC reserved for this asset.

F

FD

Final Distributor. An attribute in watermark that identifies the watermark as inserted by a distributor.

FileSizeBytes

The size of the encoded file in bytes.

FileSizeSeconds

The approximate duration (in seconds) of the encoded file. This is just an approximation. For very long files, the estimated size may be incorrect by several seconds.

N

NAES II (Nielsen Audio Encoding System II)

Also known as NAES II. The second-generation method of inserting a SID (Nielsen source identifier) and time stamp into a TV signal.

NW (Nielsen Watermarks)

A Nielsen technology that places an audio watermark in a lower-frequency portion of the active program than does NAES II technology. Its lower-frequency position enables NW to be more robust and much less likely to be “compressed out” of the program audio by TV distribution providers without interfering with the viewer’s listening experience. Unlike NAES II, however, NW code cannot be overwritten by successive program distributors.

P

PC (Program Content)

An attribute in a watermark that identifies the watermark as inserted by a programming source.

S

SID (Source Identifier)

Unique identifier that Nielsen assigns to each subscriber (or distribution source) using audio watermarking. Included as a component of each watermark, the SID uniquely identifies the distribution source. A subscriber may have more than one SID.

StartingTIC

The value of the first TIC reserved – and the first TIC inserted into this asset.

T

TIC (Time in Code)

A time code used for encoding offline content. See Time Stamp.

Time Code

See Time Stamp.

Time Stamp

A component of the watermark that identifies one of two attributes:

- A numeric representation of the date and time at which the watermark was inserted in the stream (referred to as a timestamp or time code, and typically used when streaming content is watermarked as it is being broadcast).
- A numeric representation of the time-in-content (referred to as a TIC, and typically used when watermarking audio content that is stored in a file). By subtracting the starting TIC from the TIC extracted from the watermark, one can determine how many seconds into the stored file the watermark is located.

In NAES II watermarking, the timestamp or TIC is represented as a 32-bit unsigned integer. The timestamp in Nielsen watermarking uses only 29 bits.

Trigger File

An XML file the presence of which in a specific folder triggers the start of a RTVOD content encode.

W

Watermark

Used as a noun, also referred to as an audio code, a watermark is a sequence of bits that the Nielsen Watermark software inserts periodically in an audio stream. The components of the watermark (SID, timestamp or TIC, and a PC or FD flag to identify the point of entry into the flow of content distribution). With these components, a watermark can uniquely identify the portion of audio from which the watermark is extracted, that is, the distribution source to which the audio content can be credited.

Used as a verb, the term “to watermark” means to insert Nielsen codes into an audio stream.

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