

Net-X-Code – Media File Scanner

User Guide v8.x



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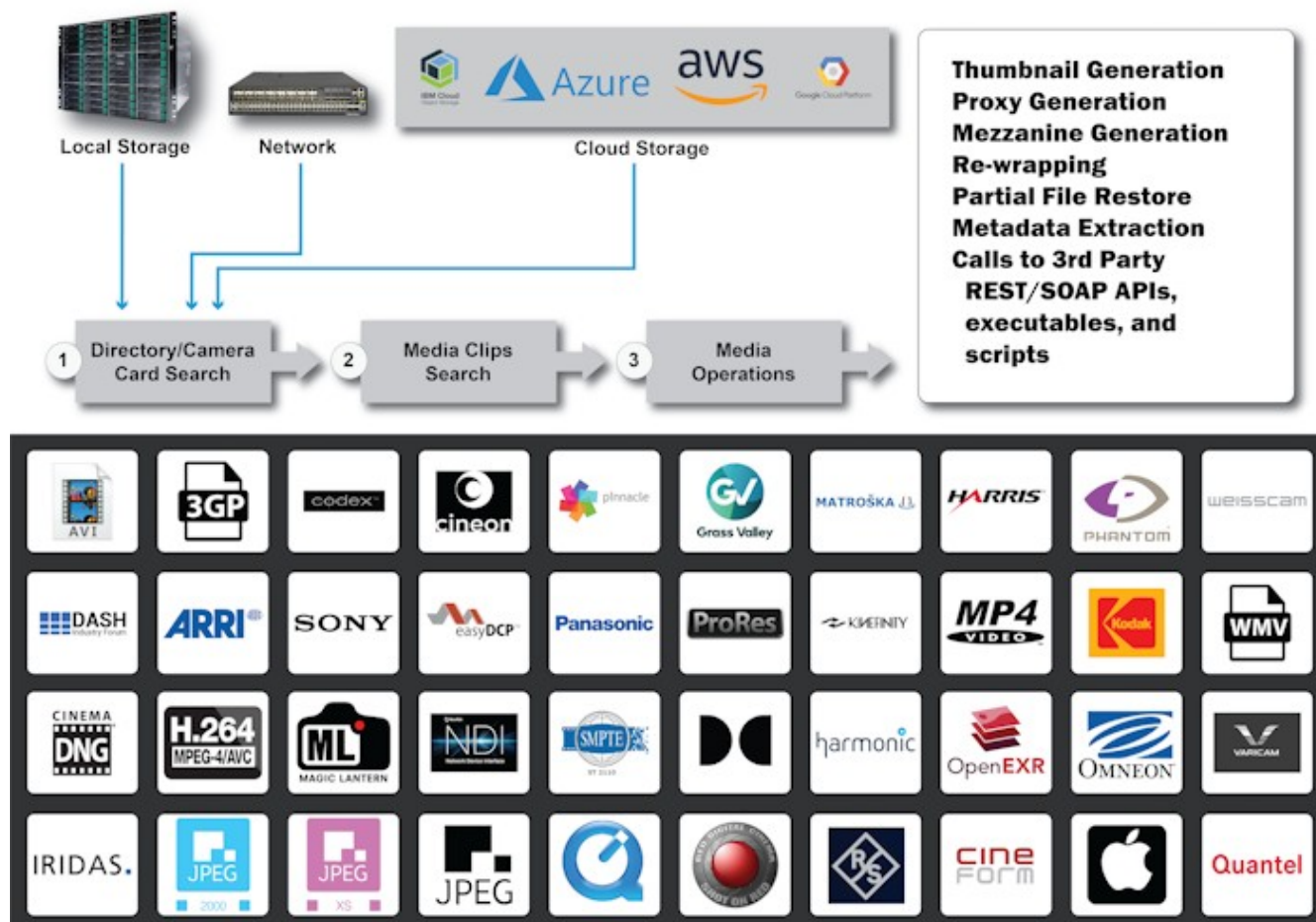
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Introduction

The Media File Scanner is an add on for the Net-X-Code server system. It runs concurrently on a physical or virtual machine with a Net-X-Code Server instance. It is designed to find and catalog all your post production and/or broadcast assets.



Workflow

The Media File Scanner has three distinct parts:

An initial scan is made to locate available local, network, Amazon S3 and Google Cloud Storage drives. This scan also supports most camera card formats from Sony, Panasonic, Canon, Red, GoPro, Arri, Avid Op-Atom/AAF, as well as standards AS-02, IMF and DCP.

The directories and camera cards are then used to create a list of 'clips', with each clip representing a single audio/video object. The clips can consist of multi file cards, multi part cards, file formats with separate audio/video file, sequences, and other common ways of storing audio and video.

As the clips are found, or after, a number of operations can be run on them, including thumbnail generation, proxy generation, metadata extraction, re-wrapping, mezzanine generation, and calls to third party REST/SOAP APIs. All data generated is stored in industry standard formats for access and use by MAM and other workflow systems.

Supported OS/File Systems

Media File Scanner is available for Window x64 (server model recommended) or Red Hat/CentOS Linux 7.x x64. It can support any file system or network share that can be read from the operating system (like NFS, SMB, CIFS, NTFS, EXT#, FAT##, etc). It also supports directly scanning Amazon S3 and Google Cloud Storage from physical servers or cloud VMs.

Supported Camera/Video Formats

The Net-X-Code Media File Scanner supports the industry's widest range of audio/video/still and camera card formats. Clips include references to all their component files, and include automatic stitching when recordings break the video into separate files. Some of the supported formats include:

- Sony IMX, XDCam, XAVC, Raw
- Panasonic P2 Op-Atom and Op-1b
- Canon XF 264/265 and Raw
- Canon C300/C700
- Arri, VRAW, KRW, CDX, SEQ
- RED R3D
- Blackmagic BRAW
- Phantom Cine
- AVC-HD/MTS, BDMV, HDV
- Grass Valley Infinity, K2 and Server
- AS-02, IMF, DCP, Open MXF
- Avid OP-Atom, AAF
- MXF/MOV + separate audio and metadata files
- MPEG program and transport streams, TR-01
- Wav, Aiff, Mp3/2/1, Mp1, AAC

ARC, AVI, DVS, FLM, GXF, JS, LXF, MLV, MPG, MP4, OMF, WebM, WMV, XML
DASH, HLS, ISVM
Red/Grn/Blu, Luma, YUV, v210, YUV16, Y4M
Image sequences DPX, TIFF, DNG, RAW, BMP, PSD, JPG, etc

Supported Databases

Initially Media File Scanner supports local SQLite databases and local or remote MySQL databases.

IMB QDB2, Oracle, PostfreSQL and ODBC are also available on special request.

Supported Operations

As the list of clips is generated in the database, one or more Net-X-Code Server instances can be used to process useful information from them. Operations include:

- Generate a single or series of JPG thumbnail files
- Convert audio to WAV, AIFF, or MP3
- Convert audio/video to MP4, DASH or HLS proxy
- Extract XMP metadata
- Convert clip to a mezzanine file format, like XDCam
- Call one or more REST APIs with inserted clip information

Open Formats

Drastic is committed to supporting open formats to make Net-X-Code Server and the Media File Scanner as widely compatible as possible. All output formats are standard media file formats like MP4, MOV, MXF and AVI. All proxy/thumbnail are stored as MP4, DASH, HLS and JPG. Metadata is transported in the XMP XML file standard. All database entries are kept in plain text or integer and available for other programs to use or to be altered to customize Net-X-Code Server/Media File Scanner workflows.

Installing the Media File Scanner

The Media File Scanner is an add on to the Net-X-Code Server. As such, Net-X-Code must be installed before Media File Scanner is installed. Please see the Net-X-Code manual for instructions on its install and setup. With the Net-X-Code setup, having an Apache HTTP server and MySQL server is indicated as optional. If you are using the Media File Scanner, both these servers are highly recommended, unless you are hosting the web UI and/or database elsewhere.

Licensing

Please note: to enable the features of this software, you must have at least a temporary license. The software *may* install and run without a license, but important features will not work. Once you have installed Media File Scanner, please run the DTLicense app, and generate a site code to send to us. We will reply with a site key to provide the license.

Here is a page with more detailed information on how to request a license for testing:
<http://license.drastictech.com/>

CentOS 7.x Installation

Download the latest Net-X-Code for Linux installer package from our web site. Please [contact Drastic](#) for the latest link to download the zip file.

Inside that zip is the installer. Unpack it in a temporary directory and set its executable bit:

```
chmod u+x
```

The installer can be run in GUI or command line mode. To run it in GUI mode, double click on it.

To run it in command line mode, use the following command:

```
./Net-X-Code-Linux-x86_64-Install_5_0_500 --mode console
```

Once installed, some systems may require a:

```
sudo ldconfig
```

Windows x64 Installation

Net-X-Code should be installed on Microsoft Windows Server 2008 R2 64 Bit or greater but also can be installed on Windows 7 x64 or 10 x64. You will also need to install a UwAmp server to host the web pages. This document will list the basic setup of Net-X-Code in Windows.

Download and unpack Net-X-Code:

```
http://www.drastic.tv/downloads/net-x-code/SetupMediaFileScanner_x64_7_0.zip
```

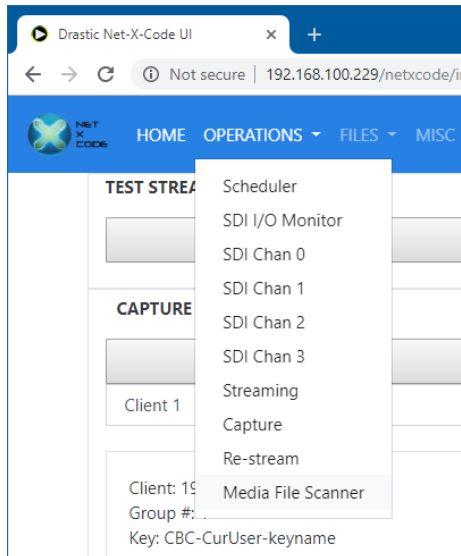
This will install the Net-X-Code servers to: C:\Program Files\Net-X-Code_7\

It will also install the web pages into UwAmp: C:\UwAmp\www\

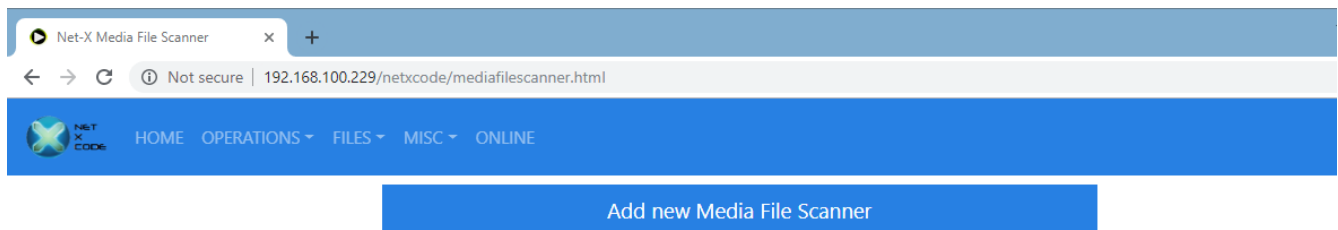
Restarting the system will cause the service to load.

Setting Up A Media File Scanner

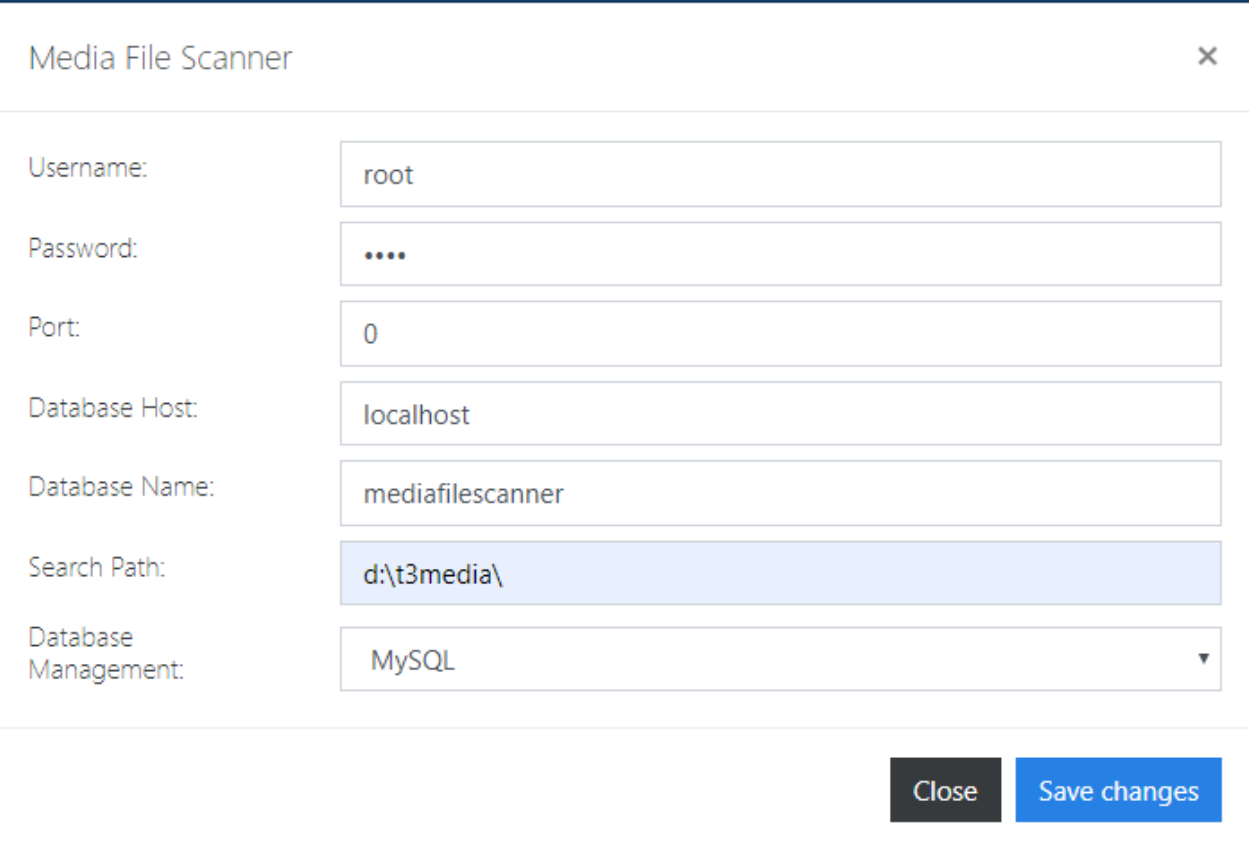
The Media File Scanner is an add on to Net-X-Code. Its interface is integrated with Net-X-Code's WEB UI. To get to the web interface, run Net-X-Code and select the **Operations | Media File Scanner** menu item.



Initially, this will bring up a web page with no Media File Scanning instances. To create an instance, click on the **Add new Media File Scanner** button.



This will bring up the new **Media File Scanner** configuration dialog:



The image shows a configuration dialog box titled "Media File Scanner" with a close button (X) in the top right corner. The dialog contains several input fields and a dropdown menu. The fields are labeled as follows:

- Username: root
- Password:
- Port: 0
- Database Host: localhost
- Database Name: mediafilescanner
- Search Path: d:\t3media\
- Database Management: MySQL (dropdown menu)

At the bottom right of the dialog, there are two buttons: "Close" and "Save changes".

Currently, two types of databases are supported, and each requires a different amount of configuration information:

SQLite – Database Name (full path to the database), Search Path (the path to search)
MySQL – All settings except Port (which can be 0)

- UserName – if req, a valid user for your database server
- Password – if req, a valid password for that user for your database server
- Port – If req, else set to 0
- Database Host – If req, the host address of the database server
- Database Name - Required
 - MySQL – the simple name for the new databases
 - SQLite – the full path, name and extension for the new databases
- Search Path – Required, the root path to search from
- Database Management – The database type to use

Once the **Save Changes** button is clicked, the **Configure** dialog will come up.

Make XMP	☐
Picon	☐
Picon Percent	0
Picon Frame	400
Make Proxy	☐
Proxy Mode	mp4
Proxy Width	0
Proxy Height	0
Proxy Scale	1
Proxy Compression	1635148593
Proxy Date Rate	
Proxy Flags	0

This configures the operation you want to happen with each of the found clip files. This is available at any time, and can be modified after the search, so it is optional to set it up at this point

- @todo – description of config dialog

Picon settings

- make picon
- picon percent
- picon frame (frame # on disk to use) – need to add multiple picon generation
- picon width (picon width will use aspect ratio for height calculation)

XMP settings

- make XMP

MD5 Settings

- make MD5 (calculate MD5, no file generation)

Proxy Settings

- make proxy
- proxy width
- proxy height
- proxy scale
- proxy compression
 - (197 = mp4, 211 = mp4-dash-Multirate, 210 = HLS-TS-Multirate, 22 = mp3)
- proxy datarate (kbs)
 - override the datarate in the profile
- proxy flags
 - where the proxy file will be saved
 - 1 = with source (appends _proxy to the filename)
 - 2 = Flat path (keeps file, saves in directory %proxy_directory%)
 - 3 = Duplicate path uses the same path but inside %proxy_directory%)
- proxy directory

Mezzanine Settings

- make mezzanine
- mezzanine Compression
 - (197 = mp4, 211 = mp4-dash-Multirate, 210 = HLS-TS-Multirate, 22 = mp3)
- mezzanine datarate
- mezzanine flags
 - where the proxy file will be saved
 - 1 = with source (appends _mezzanine to the filename)
 - 2 = Flat path (keeps file, saves in directory %mezzanine_directory%)
 - 3 = Duplicate path uses the same path but inside %mezzanine_directory%)
- mezzanine directory

RtIndex Settings

- make rtin

Message (SOAP/API)

- send messages (sends all valid messages, up to 10)

If the string in the registry software\Drastic\MediaFileScanner\Instance0\Element#

starts with http, https, s3, or ftp an HTTPCommand will be sent. It is assumed the command is properly formatted and the target device is available.

The following wildcards can be used and the appropriate data will be extracted from the database and inserted in the command string.

%FILE_NAME%	- the file name
%DIR_NAME%	- the source directory
%CLIP_NAME%	- the clip name
%PICON_NAME%	- location of the picon jpeg
%XMP_NAME%	- location of the XMP
%PROXY_NAME%	- proxy location
%MEZZANINE_NAME%	- mezzanine location
%RTIN_NAME%	- rtin location

```
[HKEY_CURRENT_USER\Software\Drastic\MediaFileScanner\Instance0]
"Element0"="http:\somemamserver:1234&insertclip=%CLIP_NAME%&filelocation=
%FILE_NAME%&picon=%PICON_NAME%"
"SendMessage"=dword:00000001
```

If you wish to call to an external exe, php, bat, cmd, js, or jar file you can use the same wildcards.

It is assumed the file is accessible and valid. The wildcards will be the same as above.

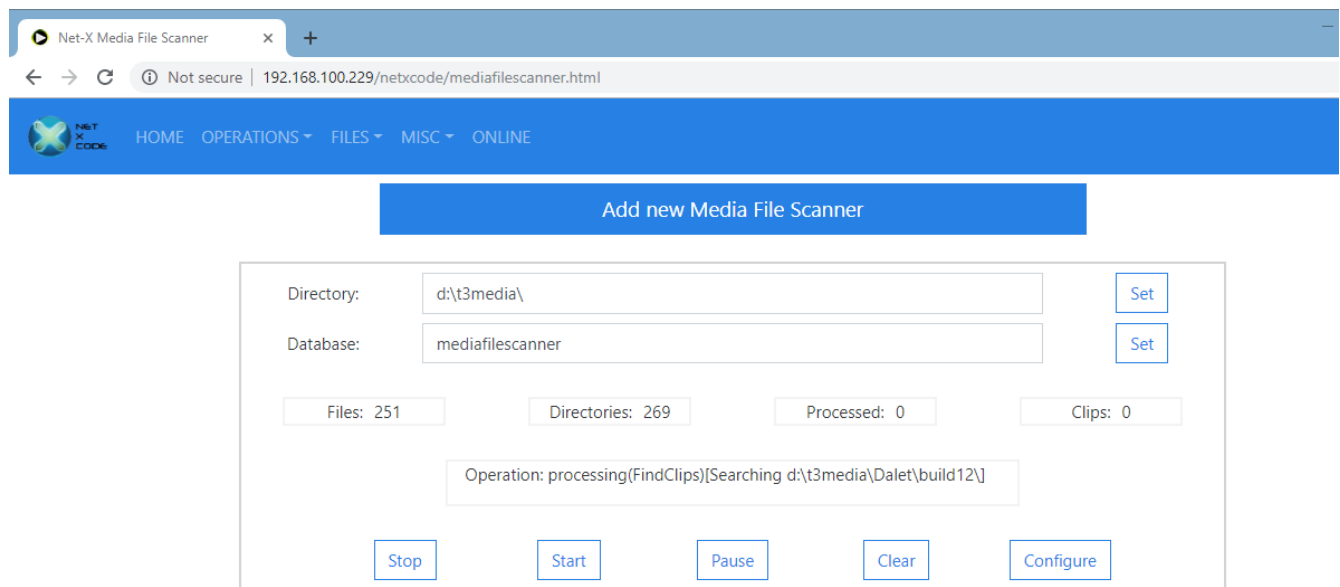
```
[HKEY_CURRENT_USER\Software\Drastic\MediaFileScanner\Instance0]
"Element0"="\C:\\Program Files (x86)\\VideoLAN\\VLC\\vlc.exe\" %FILE_NAME%"
"SendMessage"=dword:00000001
```

For each Media File Scanner instance, there are a series of action buttons:



- **Stop** – stop all processes (may take a while)
- **Start** – start or restart the scan
- **Pause** – pause the scan, after completing current tasks
- **Clear** – clear the scan, will cause a complete rescan on next start
- **Configure** – show the configure dialog above

Once the scan is set up, the instance status will be displayed as below:



The statuses that will change during the scan include

- **Files:** Number of files found
- **Directories:** Number of directories found
- **Processed:** Number of operations run on clips
- **Clips:** Number of clips found
- **Operation:** The current operation and directory or file

Long Directory/File Names In Windows

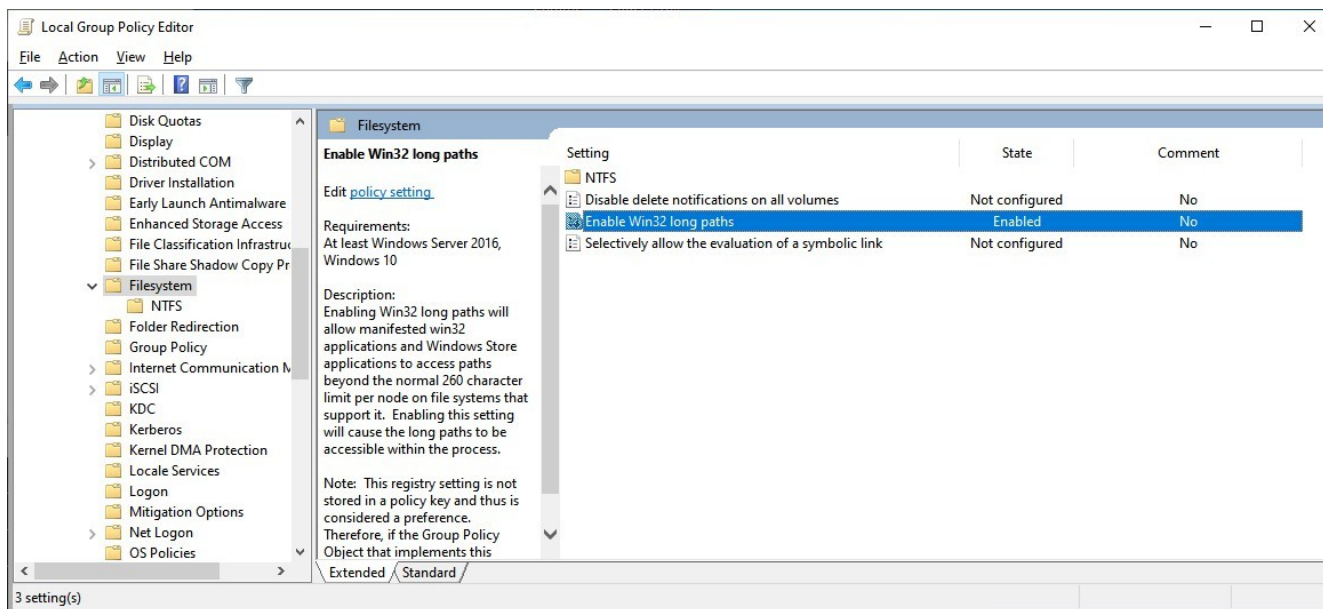
When using **Media File Scanner**, many sources will have directories and file names that exceed Windows' 260 character default limit. If you are targeting an NTFS, or other Windows drive, you will need to enable long directory and file name paths in the Windows permissions. This limit is to preserve compatibility with older, and MS-DOS, programs. If you need that compatibility, you may want to target a NAS as the Media File Scanner output, which will support long directory/file names natively.

Enabling Long File/Dir Names In Windows

Please note: Windows 10 - 1803 build or greater is required for long file/dir name support. Also, the Local Group Policy Editor is not available in Windows Home Edition.

To enable it:

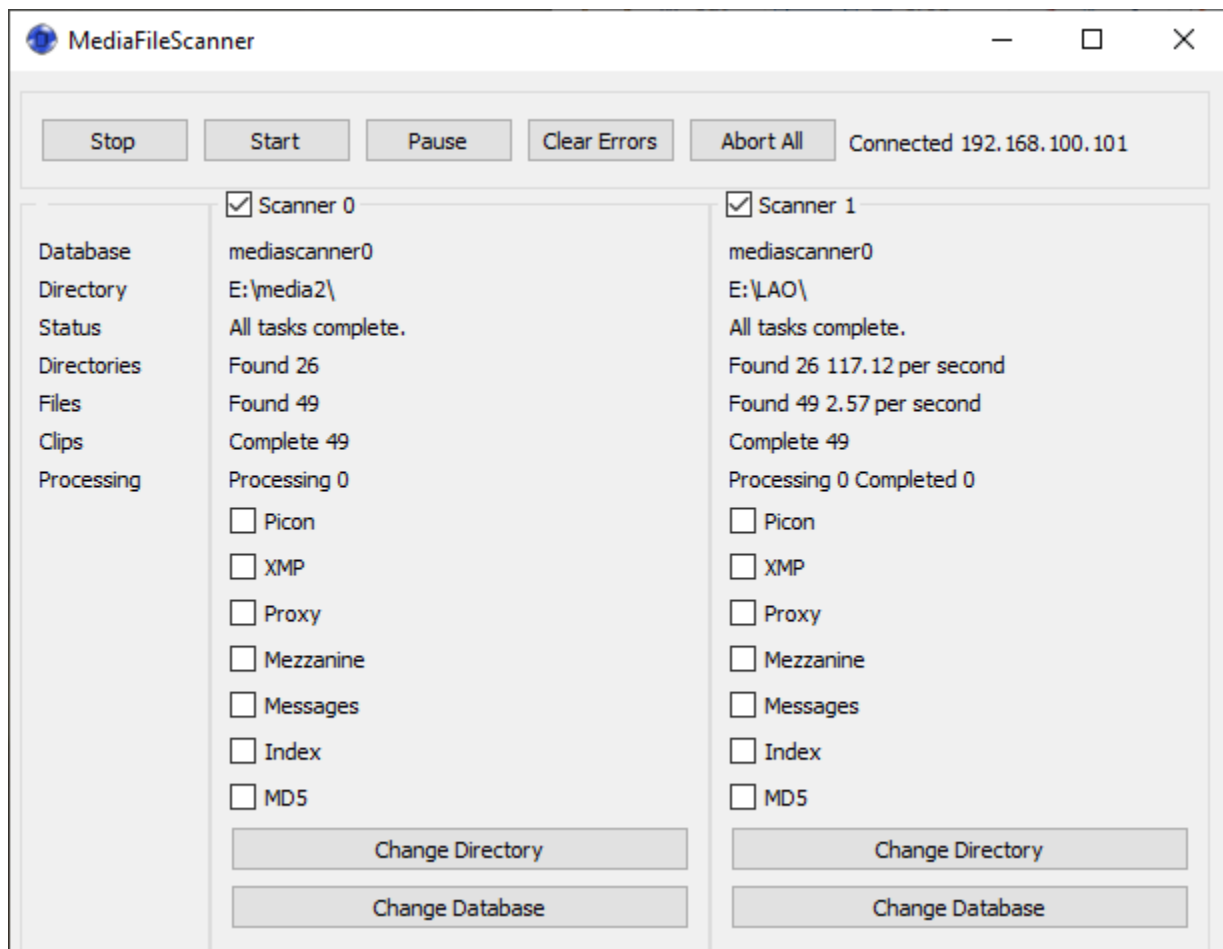
1. Click the Windows key and type gpedit.msc, then press the Enter key. This launches the **Local Group Policy Editor**.
2. Navigate to Local Computer Policy > Computer Configuration > Administrative Templates > System > Filesystem



3. Double click **Enable Win32 long paths** and change it from **Not configured** to **Enabled**.
4. Reboot the machine for the change to take effect

Now your Windows drives should support directories of up to 65535 characters in length, which is far more than the internet/nas/smb/nfs standard of 4096.

Optional Media File Scanner UI



If the Media File Scanner application is run from the desktop or command line, rather than as a service, it will present a simple UI with status updates.

This manual has been compiled to assist the user in their experience using the Net-X-Code Server Media File Scanner Add On. It is believed to be correct at the time of writing, and every effort has been made to provide accurate and useful information. Any errors that may have crept in are unintentional and will hopefully be purged in a future revision of this document. We welcome your feedback.

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