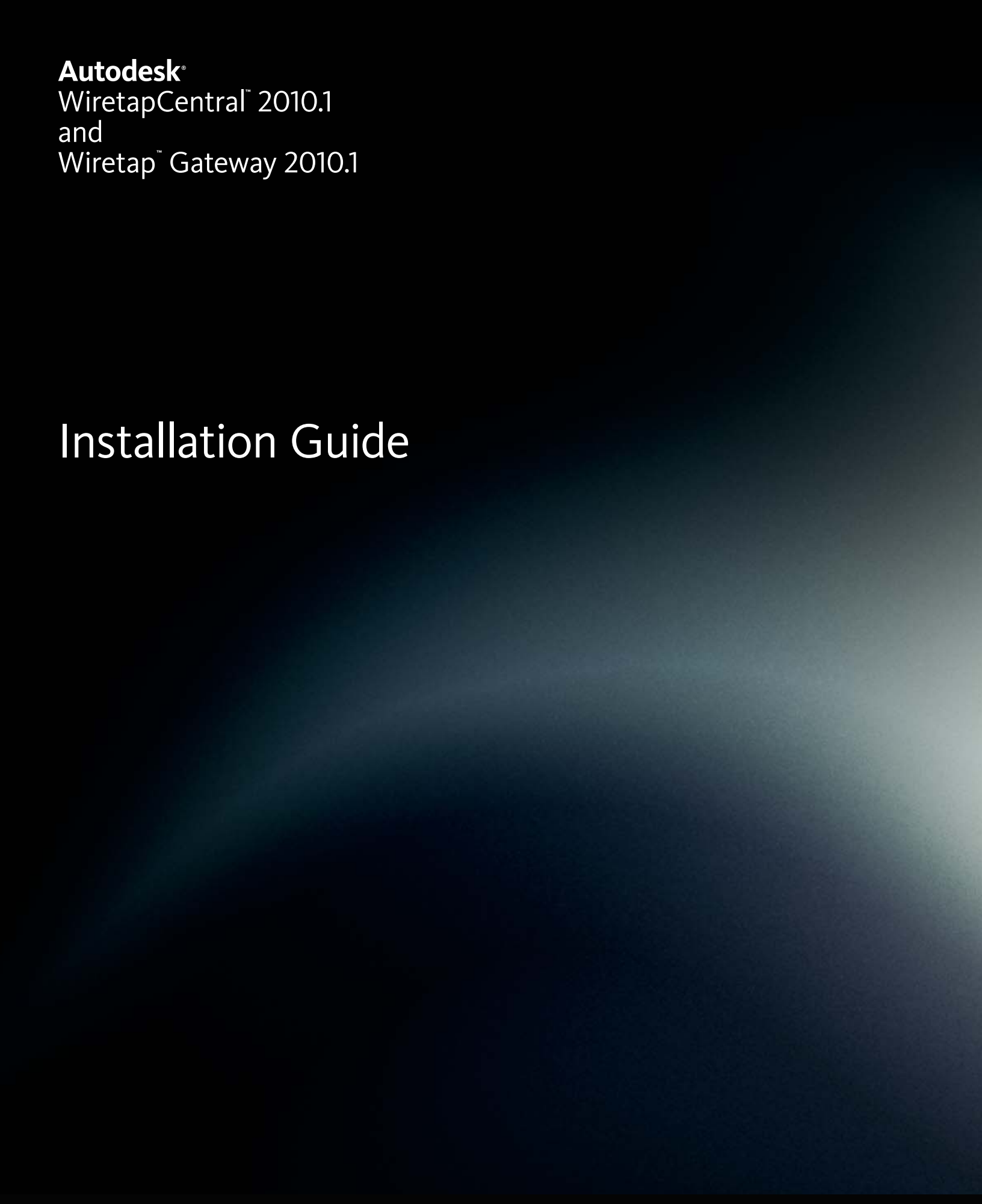
Autodesk®
WiretapCentral™ 2010.1
and
Wiretap™ Gateway 2010.1

Installation Guide



Autodesk®

Autodesk® Visual Effects, Finishing and Grading 2010

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Published by: Autodesk, Inc.
111 McInnis Parkway
San Rafael, CA 94903, USA

Title: Autodesk WiretapCentral 2010.1 and Wiretap Gateway 2010.1 Installation Guide
Document Version: 2
Date: October 6, 2009

Contents

Introduction 1

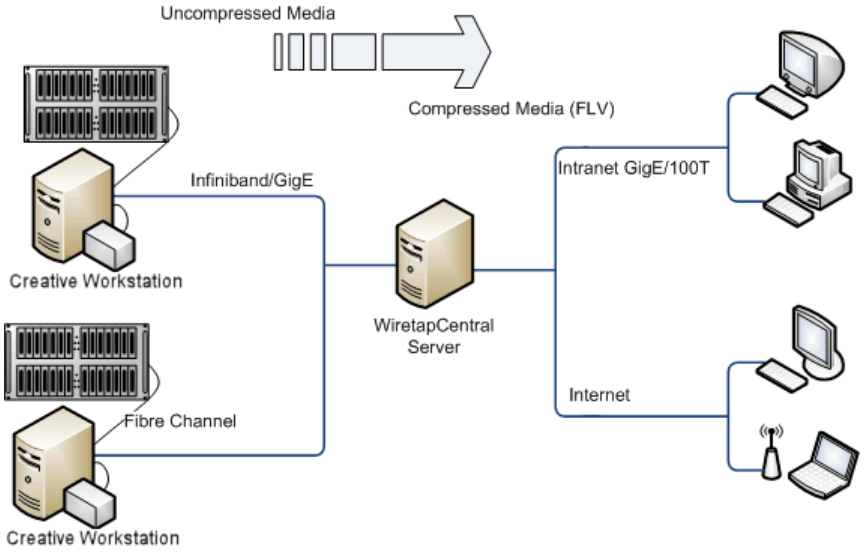
Topics in this chapter:

Overview

Autodesk® WiretapCentral™ is a fully integrated Web application that provides interactive access to all media assets in your facility network. It presents editorial, visual effects, and grading assets stored on any network-accessible Stone filesystem or standard filesystem framestore.

The intuitive Web interface eliminates the need to be at an Autodesk creative workstation to import, play, encode media, or to submit and monitor background jobs. This allows the artist to offload media management and transcoding, and stay focused on creative tasks.

WiretapCentral straddles several different technologies, including Autodesk Visual Effects, Finishing and Colour Grading workstations, low-bandwidth Web video, and several different networking and collaboration protocols and tools.



WiretapCentral enables you to directly import REDCODE RAW and multi-channel OpenEXR files by leveraging the Autodesk® Wiretap® Gateway.

When importing media, WiretapCentral can use Autodesk® Backburner™ distributed background processing to maximize efficiency.

About this Guide

Notation Conventions

A number of style conventions are used throughout your documentation. These conventions and examples of their use are shown as follows.

Convention	Example
Text that you enter in a command line or shell appears in Courier bold. Press the Enter key after each command.	**`install rpm -qa`**
Variable names appear in Courier, enclosed in angle brackets.	`<filename>`
Feedback from the command line or shell appears in Courier.	`limit coredumpsize`
Directory names, filenames, URLs, and command line utilities appear in italics.	*/usr/discreet*

Related Documentation

Documentation for this release is installed with the product as PDF files and as an HTML help system, and is also available on the Autodesk web site at *http://www.autodesk.com/me-documentation*. From this page you can access the complete documentation library.

You should also refer to the product release notes for all late-breaking release information.

Contacting Customer Support

For Autodesk Media and Entertainment Customer Support, visit *http://www.autodesk.com/support*.

Customer support is also available through your Autodesk reseller. To find a reseller near you, consult the reseller look-up database at *http://www.autodesk.com/resellers*.

Concepts

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Topics in this chapter:

Wiretap

WiretapCentral communicates with media and metadata databases through their Wiretap® server, typically an Autodesk Visual Effects, Finishing, and Colour Grading workstation.

The Visual Effects and Finishing Wiretap server (*ifffsWiretapServer*) is installed automatically with Visual Effects and Finishing applications, and requires no modification for WiretapCentral. The server runs automatically and independently of the Visual Effects and Finishing application.

Each workstation is listed in the WiretapCentral network tree as a member of the Wiretap network.

WiretapCentral

The WiretapCentral Web server receives requests from the WiretapCentral UI, and routes them to the appropriate *Wiretap* server.

Media is transferred from the media storage through a GigE or InfiniBand® network to WiretapCentral where it is converted to an .FLV thumbnail and/or preview, as required.

WiretapCentral also performs media encoding, and stores the exported clips and export packages.

The WiretapCentral UI is an Adobe® Flash® Player compatible rich Internet application (RIA) that runs in a standard Web browser. It communicates solely with the WiretapCentral Web server. Once WiretapCentral has converted the high-bandwidth media from the framestore into a light-weight .FLV clip, the only media transaction that occurs between the WiretapCentral Web server and UI is a progressive download.

Wiretap Gateway

The Wiretap Gateway is a Wiretap server that exposes any mounted standard filesystem as a Wiretap hierarchy of directories, files, and clip nodes, which it automatically detects.

The Wiretap Gateway reads image media in any format from any storage device, and streams it live as raw RGB to local or remote Wiretap clients, such as WiretapCentral. Any Wiretap-enabled application can use the Wiretap Gateway to move media.

For Visual Effects and Finishing applications, Wiretap Gateway is leveraged by WiretapCentral to decode various media formats, including RED RAW and OpenEXR, or to move media from an Autodesk Visual Effects and Finishing application Stone® storage to Autodesk® Lustre® direct attached storage.

For Autodesk Lustre, Wiretap Gateway is used natively by the Lustre file browser to browse files and decode/transcode media. You use Wiretap Gateway to expose the contents of a file system, for example RED (.r3d), QuickTime® (.mov), and MXF (.mxf) media. Since decompressing compressed media is a CPU intensive task, performance may vary based on your system configuration.

Wiretap Gateway machines in your network are labeled as such in the WiretapCentral network tree, or in the Lustre file browser. They act as gateways to the storage devices where the media to import resides.

When you select a Wiretap Gateway machine, and initiate a media import operation, the media is read from the source storage by the Wiretap Gateway, processed by the Media I/O Adapter encoding engines on the processing nodes, and then written to the destination storage through the Wiretap server.

Autodesk Wire

The Autodesk® Wire® service enables high-speed transfer of uncompressed timelines, clips, and libraries between Autodesk workstations, on industry-standard TCP/IP and InfiniBand® networks, preserving all metadata.

For more information on Autodesk Wire, see the *Autodesk Stone and Wire Filesystem and Networking Guide*.

Autodesk Backburner

Autodesk Backburner is the Autodesk queue manager for background processing and distributed network processing. It provides the means to submit, monitor, and control processing and media I/O jobs.

The Backburner architecture consists of the following components:

- **Backburner Manager** Coordinates jobs submitted by Wiretap clients, and delegates them to the Wiretap servers on the Wiretap network.
- **Backburner Monitor** Front-end interfaces for management and control of the Backburner Manager.
- **Backburner Server** The job-processing component of Backburner that invokes the processing engine.
- **Backburner Processing Engine** The server-side process responsible for processing frames. Processing engines integrate themselves in Backburner Server as plug-ins or adapters.
- **Backburner Processing Node** Processing nodes are dedicated machines on the Backburner network that consist of a Backburner Server, plug-ins/adapters, and processing engines. The Backburner Server

receives job assignments from the Backburner Manager, and passes them on to the correct processing engine through the plug-in/adapter.

For detailed information about Backburner components, see the *Autodesk Backburner Installation Guide*.

Media I/O Adapter

The Media I/O Adapter is a Backburner processing engine that reads media from a storage device or Wiretap server, processes it, and then writes it to a storage device or Wiretap server.

Installing WiretapCentral and Wiretap Gateway

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Topics in this chapter:

Choosing a Deployment Model

There are two main deployment models for WiretapCentral and Wiretap Gateway. Both models allow you to browse, encode, and decode media, but the ease of installation and level of performance differ.

- **Stand-alone installation** This is the easiest installation model, as all components are installed and configured on a single Visual Effects and Finishing workstation, or Autodesk Lustre Linux® workstation. This deployment model is suitable for media browsing with occasional media encoding and decoding, as it offers the lowest level of performance.
- **Distributed deployment** This advanced deployment model offers increased performance, as processing is distributed across several dedicated Backburner Server nodes on your network. This is a scalable deployment model: performance can be maximized by moving as many components as possible onto

dedicated machines on your network. This is the only supported deployment model for Lustre Windows® workstations, or for an Incinerator® network.

The following sections provide information and installation instructions for each deployment option. Choose the configuration that best suits your needs.

Preparing Your Installation

Before you begin installing WiretapCentral and Wiretap Gateway, perform the following steps to prepare for the installation. Some of these tasks must be performed from a computer connected to the Internet.

1. Decide which deployment model you want to use. Refer to the descriptions in the previous section.
2. Obtain your installation media. All necessary components for a stand-alone or distributed deployment setup are available from the installation directory of the Autodesk Visual Effects, Finishing and Colour Grading application. You can get the application installation package on DVD (for major releases) or you can download it as a *tar* file (for major releases, extensions, and service packs). The download link is provided in the Release Announcement you received from Autodesk.

   NOTE You can also download each component individually, as a *tar* file. Backburner is also available as a *zip* file, for Windows. The download links for all components are in the Release Announcement you received from Autodesk.

3. Download the latest version of the *Autodesk Backburner Installation Guide*, *Autodesk Backburner User Guide*, and your application installation and configuration guide from *www.autodesk.com/me-documentation*.

   Although reading these guides is not required for your installation, the present document occasionally refers to them for additional details or for definitions of important concepts.

4. If you are performing a distributed deployment, make sure the systems you plan to install the various components on meet the following recommended specifications.

Component	Hardware	Operating System	Other Requirements
WiretapCentral	■ 64-bit, dual-core CPU, such as AMD™ Opteron™, or Intel® Xeon® ■ 1 GB of RAM or better. ■ GigE or InfiniBand networking ■ 500 GB Hard Drive, or larger	64-bit Red Hat® Enterprise Linux® Desktop 5.3, or 64-bit Red Hat Enterprise Linux Workstation 4 update 3 **NOTE** It is recommended to disable SELinux on the WiretapCentral machine.	■ Direct access to the Autodesk Wiretap network. WiretapCentral must reside on the same subnet as the Visual Effects, Finishing and Colour Grading workstations using it. ■ Apache Web Server version 2.0.52 or later.
Wiretap Gateway	■ 64-bit dual core CPU ■ 1 GB of RAM or better ■ GigE or InfiniBand	Any 64-bit Linux distribution	Direct connection to the SAN/NAS/DAS media storage in your facility.
Backburner Server and Media I/O Adapter	■ 64-bit dual core CPU ■ 1 GB of RAM or better ■ GigE or InfiniBand	Any 64-bit Linux distribution	

NOTE If you have Autodesk® Burn® render nodes in your facility, you can use them as Backburner Servers and Media I/O Adapters. These components are automatically installed with the latest version of the Burn software. See the latest *Autodesk Burn Installation and User Guide* for details about Autodesk Burn.

Stand-alone Installation

In a stand-alone installation, Wiretap Gateway, WiretapCentral, and all background processing components (Backburner Server, Backburner Manager, and the Media I/O Adapter) are installed on the same workstation as the Visual Effects, Finishing and Colour Grading application.

A stand-alone installation is the easiest deployment model, as all necessary components are automatically set up by the Visual Effects, Finishing, and Colour Grading application installer. However, all media processing is performed locally, which can have a significant impact on system performance if you are using several components at the same time.

NOTE This deployment model is only applicable for a Linux (not Incinerator) Lustre workstation.

To set up a stand-alone configuration on a Visual Effects and Finishing workstation:

1. Open a terminal, and log in as root.
2. Download the Visual Effects and Finishing installation package from the link provided in the Release Announcement you received from Autodesk, and unpack it into a temporary directory by typing:

   `tar -zxvf` `<file_name>`*`.tar.gz`*
3. Browse to the Visual Effects and Finishing application installation directory, and run the application installation script by typing:

   `./INSTALL_``<APPLICATION_NAME>`
4. Click Yes when the installation scripts asks if you want to automatically run Backburner Manager and Backburner Server on the local machine.
5. Click Yes when the installation script asks if you want to enter a Backburner Manager for the Server. The manager configuration file opens in a text editor. Make sure the local manager address, *localhost*, is set in the file.
6. If the installer detects changes in your Wiretap Gateway configuration file (*/usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg*), your existing configuration file and the new configuration file are open side by side in an *xxdiff* window.

   Each difference between the old and the new *wiretapgateway.cfg* files is highlighted in *xxdiff*. Review the differences and click on the correct value for each keyword, regardless of whether it is in the left or right panel. Make sure you select a value for each highlighted difference. Then open the File menu and choose Save as Right. After the file is saved, close *xxdiff* to continue the installation process.
7. Perform the remaining steps of a regular application installation, as guided by the application installer. Refer to the latest *Autodesk Visual Effects and Finishing Installation and Configuration Guide* for additional details.

   Wiretap Gateway, WiretapCentral, and all background processing components are automatically installed and configured on the workstation.
8. License Wiretap Gateway. See Licensing Wiretap Gateway on page 20.
9. Configure Wiretap Gateway. See Configuring Wiretap Gateway on page 23.
10. Optional: Password-protect WiretapCentral and create user names and passwords for each user. See Setting Up User Access Control for WiretapCentral on page 24.

11 Make sure the Web browsers on the computers you plan to access WiretapCentral from are properly configured. See Web Browser Configuration on page 26.

12 Verify that all components have been properly installed. See Verifying Installed Components on page 26.

To set up a stand-alone configuration on a Lustre Linux workstation:

1 Open a terminal, and log in as root.

2 Download the Lustre Linux installation package from the link provided in the Release Announcement you received from Autodesk, and unpack it into a temporary directory by typing:

```
tar -zxvf <file_name>.tar.gz
```

3 Browse to the Lustre installation directory, and run the application installation script by typing:

```
./INSTALL_LUSTRE_<version>
```

4 If the installer detects changes in your Wiretap Gateway configuration file (*/usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg*), your existing configuration file and the new configuration file are open side by side in an *xxdiff* window.

Each difference between the old and the new *wiretapgateway.cfg* files is highlighted in *xxdiff*. Review the differences and click on the correct value for each keyword, regardless of whether it is in the left or right panel. Make sure you select a value for each highlighted difference. Then open the File menu and choose Save as Right. After the file is saved, close *xxdiff* to continue the installation process.

5 Perform the remaining steps of a regular application installation, as guided by the application installer. Refer to the latest *Autodesk Lustre Installation and Configuration Guide for Linux Workstations* for details.

Wiretap Gateway, WiretapCentral, and all background processing components are automatically installed and configured on the workstation.

6 License Wiretap Gateway. See Licensing Wiretap Gateway on page 20.

7 Configure Wiretap Gateway. See Configuring Wiretap Gateway on page 23.

8 Verify that all components have been properly installed. See Verifying Installed Components on page 26.

As mentioned earlier, in a stand-alone deployment all media processing takes place locally, and system resources are shared between such background tasks and the Visual Effects, Finishing and Colour Grading application running in the foreground.

To avoid competition for workstation resources and to increase productivity, it is recommended that you relocate some or all of the components to dedicated machines on your network. The following section describes the levels of scalability a distributed deployment offers.

Distributed Deployment

Although more complex to set up, a distributed deployment offers the highest level of flexibility and performance for media decoding, as it allows the CPU-intensive background processing to be off-loaded from the Visual Effects, Finishing and Colour Grading workstation and distributed across a Backburner processing network for increased productivity.

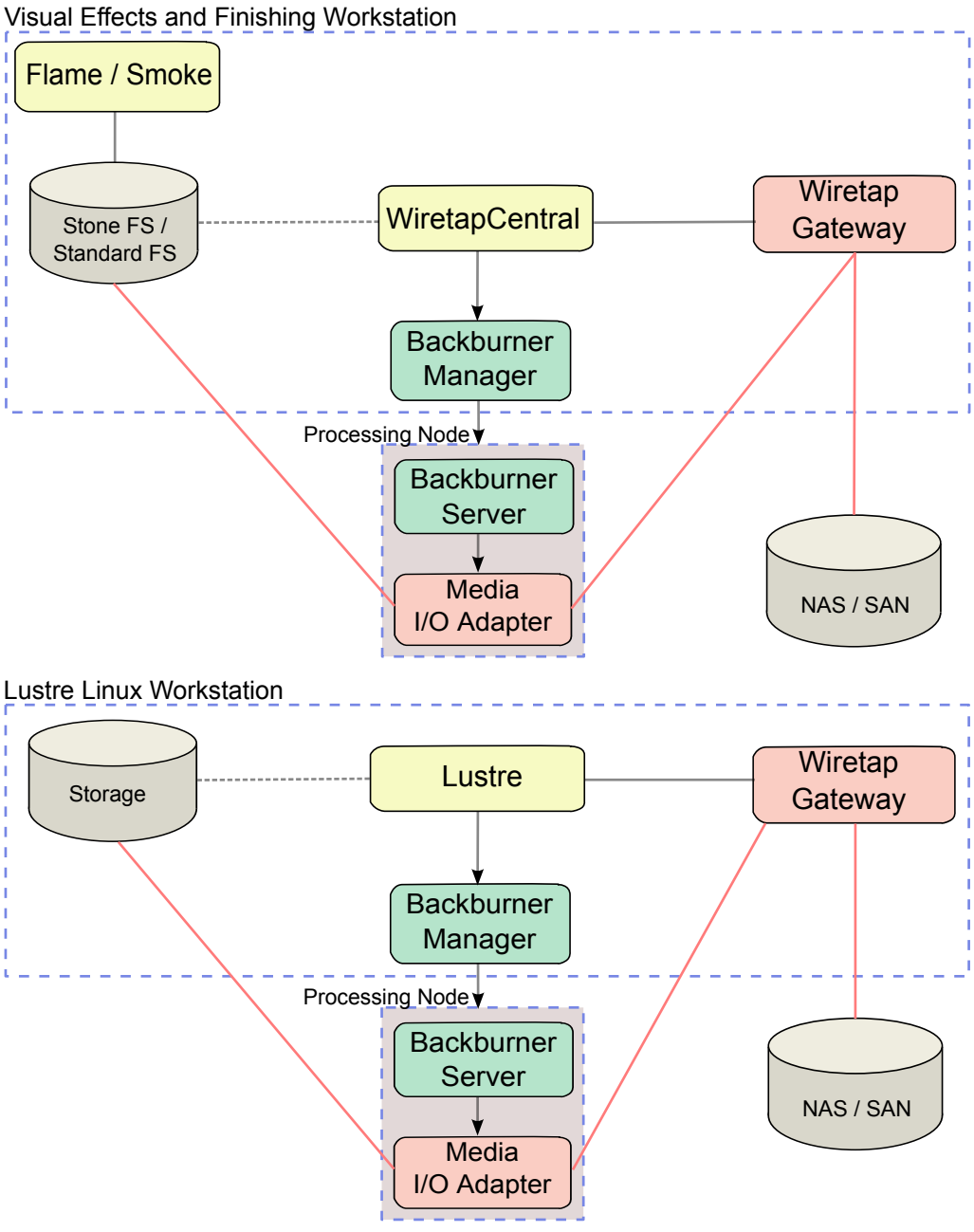
Depending on your performance needs, you can scale your configuration as much as necessary. Here are some examples of typical deployment scenarios.

Example #1: Wiretap Gateway Residing on the Visual Effects, Finishing and Colour Grading Workstation

In this scenario, WiretapCentral, Backburner Manager, and Wiretap Gateway run on the Visual Effects, Finishing and Colour Grading workstation, while processing is performed by several dedicated nodes in a render farm. Each processing node comprises a Backburner Server and a Media I/O Adapter.

The following diagrams depict this deployment model for a Visual Effects and Finishing workstation, and for a Lustre Linux (non-Incinerator) workstation.

NOTE This deployment model is not applicable to a Lustre Windows or an Incinerator setup.



TIP Since processing components (Backburner Server and the Media I/O Adapter) are automatically installed on Visual Effects, Finishing and Colour Grading workstations, the workstations themselves can be used as processing nodes during off-peak hours.

To set up Wiretap Gateway and a Visual Effects and Finishing application on the same workstation:

1. Open a terminal, and log in as root.
2. Download the Visual Effects and Finishing installation package from the link provided in the Release Announcement you received from Autodesk, and unpack it into a temporary directory by typing:

   tar -zxvf <file_name>*.tar.gz*

   The installation package is unpacked into a new directory.
3. Browse to the newly-created installation directory, and run the application installation script by typing:

   ./INSTALL_<APPLICATION_NAME>
4. Click Yes when the installation script asks if you want to automatically run it on the local workstation.
5. Click Yes when the installation script asks if you want to automatically run Backburner Server on the local machine.
6. Click Yes when the installation script asks if you want to enter a Backburner Manager for the Server. The manager configuration file opens in a text editor. Enter the hostname of the machine where Backburner Manager will be installed. By default, this value is set to *localhost*.
7. If the installer detects changes in your Wiretap Gateway configuration file (*/usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg*), your existing configuration file and the new configuration file are open side by side in an *xxdiff* window.

   Each difference between the old and the new *wiretapgateway.cfg* files is highlighted in *xxdiff*. Review the differences and click on the correct value for each keyword, regardless of whether it is in the left or right panel. Make sure you select a value for each highlighted difference. Then open the File menu and choose Save as Right. After the file is saved, close *xxdiff* to continue the installation process.
8. Perform the remaining steps of a regular application installation, as guided by the application installer. Refer to the latest *Autodesk Visual Effects and Finishing Installation and Configuration Guide* for details.

   The application, WiretapCentral, and Wiretap Gateway are installed and configured on the workstation.
9. If you want to use existing Burn render nodes as processing nodes, upgrade to the latest version of Burn, and skip to step 12.

   Backburner Server and the Media I/O Adapter are automatically installed with the latest version of Autodesk Burn. See the *Autodesk Burn Installation and User Guide* for Burn installation instructions.
10. Perform the following tasks to install Backburner Server on non-Burn systems that you want to use as processing nodes:
    - Log in as root and access the Visual Effects and Finishing application installation package.
    - Go to the *dist* subdirectory of the installation directory, and type:
      rpm -Uhv backburner*
    - Click No when the installer asks if you want to automatically run Backburner Manager on this machine.
    - Click Yes when the installer asks if you want to automatically run Backburner Server on this machine.
    - Click Yes when the installation script asks if you want to enter a Backburner Manager for the Server. The manager configuration file */usr/discreet/backburner/cfg/manager.host* opens. Enter the hostname of the Visual Effects and Finishing workstation.

      NOTE You can also configure this setting later by opening the */usr/discreet/backburner/cfg/manager.host* file in a text editor.

11 Install the Media I/O Adapter on the Backburner Server nodes. While you are still in the *dist* subdirectory of the Visual Effects and Finishing application installation package, type:

```
./autodesk.mio.INSTALL
```

12 Optional: Group your Backburner Server nodes into server groups.

This is an optional, but highly recommended task. Server groups provide an efficient way of organizing the way your background processing jobs get distributed to the render farm. Consult the latest *Autodesk Backburner User Guide* for information on creating server groups.

NOTE You can include your Visual Effects and Finishing workstation in a server group, as well, if you wish to use it as a processing node during off-peak hours.

13 Make sure the mount points on all the machines involved in the setup are identical. Failure to perform this step might prevent your processing network from processing jobs.

NOTE Wiretap Gateway does not index "blind" mount points. To make "blind" mount points visible to Wiretap Gateway, create permanent symbolic links to them.

14 License Wiretap Gateway on each machine where you installed it. See Licensing Wiretap Gateway on page 20.

15 Configure Wiretap Gateway. See Configuring Wiretap Gateway on page 23.

16 Configure the *amd* and *NFS* services on each Backburner Server node. See Setting up the Automount Service on Backburner Server Nodes on page 22.

17 Optional: Password protect WiretapCentral and create user names and passwords for each user. See Setting Up User Access Control for WiretapCentral on page 24.

18 Make sure the Web browsers on the computers you plan to access WiretapCentral from are properly configured. See Web Browser Configuration on page 26.

19 Verify that all components have been properly installed. See Verifying Installed Components on page 26.

To set up Wiretap Gateway and Autodesk Lustre on the same Linux workstation:

1 Open a terminal, and log in as root.

2 Download the Lustre Linux installation package from the link provided in the Release Announcement you received from Autodesk, and unpack it into a temporary directory by typing:

```
tar -zxvf <file_name>.tar.gz
```

The installation package is unpacked into a new directory.

3 Browse to the newly-created Lustre installation directory, and run the application installation script by typing:

```
./INSTALL_LUSTRE_<version>
```

4 If the installer detects changes in your Wiretap Gateway configuration file (*/usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg*), your existing configuration file and the new configuration file are open side by side in an *xxdiff* window.

Each difference between the old and the new *wiretapgateway.cfg* files is highlighted in *xxdiff*. Review the differences and click on the correct value for each keyword, regardless of whether it is in the left or right panel. Make sure you select a value for each highlighted difference. Then open the File menu and choose Save as Right. After the file is saved, close *xxdiff* to continue the installation process.

5 Perform the remaining steps of a regular application installation, as guided by the application installer. Refer to the *Autodesk Lustre Installation and Configuration Guide for Linux Workstations*.

Lustre, *BrowseD*,Wiretap Gateway, and Backburner Manager are installed on the workstation.

6 Install the Burn for Lustre package on each processing node by running the installation script, as root. Type:

./INSTALL_LUSTRE_<version>**_BURN**

This installs the Backburner server and Media I/O adapter on each node.

7 Optional: Group your Backburner Server nodes into server groups.

This is an optional, but highly recommended task. Server groups provide an efficient way of organizing the way your background processing jobs get distributed to the render farm. Consult the latest *Autodesk Backburner User Guide* for information on creating server groups.

NOTE You can include your Lustre workstation in a server group, as well, if you wish to use it as a processing node during off-peak hours.

8 Make sure the mount points on all the machines involved in the setup are identical. Failure to perform this step might prevent your processing network from processing jobs.

NOTE Wiretap Gateway does not index "blind" mount points. To make "blind" mount points visible to Wiretap Gateway, create permanent symbolic links to them.

9 License Wiretap Gateway on each machine where you installed it. See Licensing Wiretap Gateway on page 20.

10 Configure Wiretap Gateway. See Configuring Wiretap Gateway on page 23.

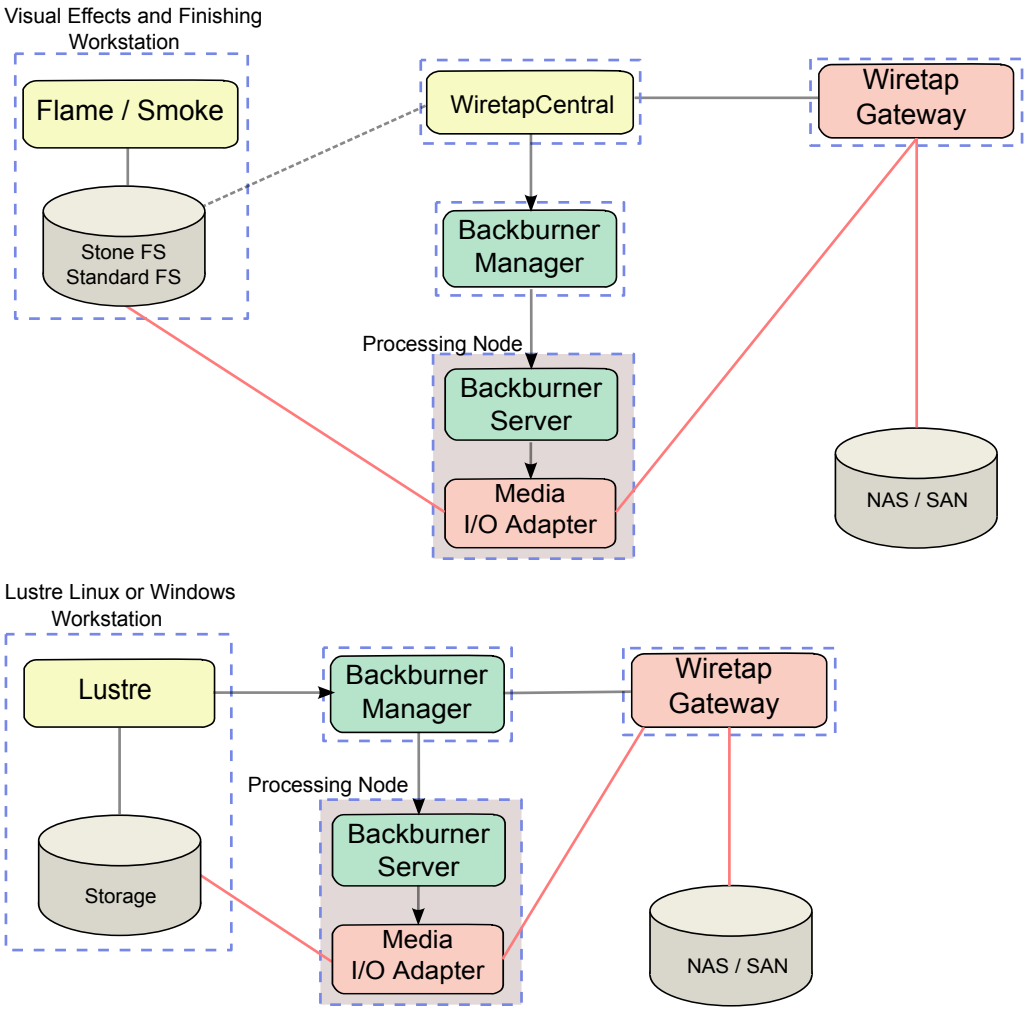
11 Verify that all components have been properly installed. See Verifying Installed Components on page 26.

Example #2: Wiretap Gateway Residing on a Dedicated Machine

In this scenario, each component resides on a dedicated machine on the network. Media processing is performed by processing nodes bundled in node groups in a render farm.

This deployment model can also be used with Lustre Windows, as Wiretap Gateway is installed on a separate Linux machine.

The following diagrams depict this deployment model for a Visual Effects and Finishing workstation, and for a Lustre Linux (non-Incinerator) or Windows workstation.



Perform the following steps to set up WiretapCentral, Wiretap Gateway and Backburner Manager on dedicated machines. Most of the installation steps are similar to the procedures in Example #1: Wiretap Gateway Residing on the Visual Effects, Finishing and Colour Grading Workstation on page 13. This procedure provides details only for the steps that are new or different from Example #1.

To set up Wiretap Gateway and Backburner Manager on dedicated machines:

1 Download and install the Visual Effects and Finishing or Lustre application on the workstation (for Lustre, the workstation can be either a Linux or a Windows workstation).

NOTE If you are installing a Visual Effects and Finishing application, answer No to the question about automatically running Backburner Manager on the workstation.

2 Perform the following tasks to install Wiretap Gateway on a dedicated machine on your network:

- Log in to the system as root.
- Access the Visual Effects and Finishing application installation package, or the Lustre Linux installation package.
- If you are using a Visual Effects and Finishing installation package, go into the *dist* subdirectory, and run the Wiretap Gateway installation script by typing:
  `./autodesk.wiretapgateway.INSTALL`

- If you are using a Lustre installation package, type the following to run the Wiretap Gateway installation script, located in the main directory of the Lustre installation package:
  ./INSTALL_WIRETAP_GATEWAY_SERVER

Wiretap Gateway is installed on the machine.

3 Perform the following tasks to install WiretapCentral on a dedicated machine:

- Log in to the system as root.
- Access the Visual Effects and Finishing application installation package.
- Go into the *dist* subdirectory, and run the WiretapCentral installation script by typing:
  ./autodesk.wiretapcentral.INSTALL

WiretapCentral is installed on the system.

4 Perform the following tasks to install Backburner Manager on a dedicated Linux or Windows machine on your network:

- Download the Backburner installation package for Linux or Windows from the links provided in the Release Announcement you received from Autodesk.
- To install Backburner Manager on a Windows system, unpack the *zip* file and double-click the *backburner.exe* installation file.
- To install Backburner Manager on a Linux system, open a terminal as root, and type the following sequence of commands:
  tar -zxvf backburner<version>**_LINUX.tar.gz**
  cd backburner<version>**_LINUX**
  ./INSTALL
  Answer Yes to the question about automatically running Backburner Manager, and No to the question about automatically running Backburner Server.

5 Upgrade Burn or Burn for Lustre on each processing node. Backburner Server and the Media I/O Adapter are automatically upgraded with Burn. For instructions on installing Burn see the *Autodesk Burn Installation and User Guide*, or the *Autodesk Lustre Installation and Configuration Guide for Linux Workstations*.

6 If you want to use non-Burn systems as processing nodes, install or upgrade Backburner Server and the Media I/O Adapter on each processing node.

7 Optional: Group your Backburner Server nodes into server groups. See the latest *Autodesk Backburner User Guide*.

NOTE You can include your Visual Effects, Finishing and Colour Grading workstation in a server group as well, if you wish to use it as a processing node during off-peak hours.

8 Make sure the mount points on all the machines involved in the setup are identical. Failure to perform this step might prevent your processing network from processing jobs.

9 License Wiretap Gateway on each machine where you installed it. See Licensing Wiretap Gateway on page 20.

10 Configure Wiretap Gateway. See Configuring Wiretap Gateway on page 23.

11 Configure the *amd* and *NFS* services on each Backburner Server node. See Setting up the Automount Service on Backburner Server Nodes on page 22.

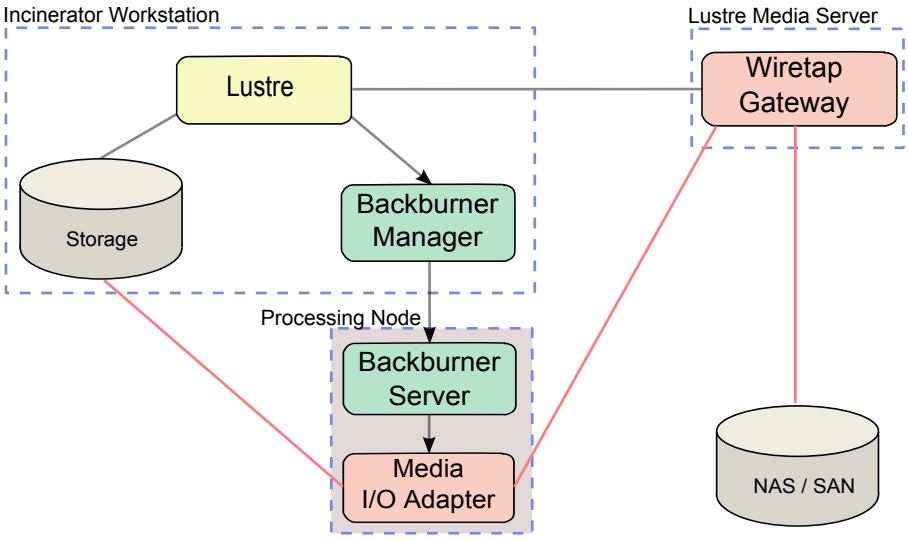
12 Optional: Password protect WiretapCentral and create user names and passwords for each user. See Setting Up User Access Control for WiretapCentral on page 24.

13 Make sure the Web browsers on the computers you plan to access WiretapCentral from are properly configured. See Web Browser Configuration on page 26.

14 Verify that all components have been properly installed. See Verifying Installed Components on page 26.

Example #3: Incinerator With Wiretap Gateway

In this deployment model, Lustre is installed on an Incinerator system, Wiretap Gateway is installed on the Lustre Media Server, and the processing nodes are on a render farm.



To set up Wiretap Gateway with the Incinerator system:

1 Download the Incinerator installation package from the link provided in the Release Announcement you received from Autodesk, and unpack it into a temporary directory by typing:

```
tar -zxvf <file_name>.tar.gz
```

The installation package is unpacked into a new directory.

2 Open a terminal on the workstation and log in as root.

3 Browse to the Incinerator installation directory, and run the application installation script by typing:

```
./INSTALL_LUSTRE_<version>_INCINERATOR
```

Lustre, *BrowseD* and Backburner Manager are installed on the workstation.

4 Log in to the Lustre Media Server as root, access the Incinerator installation package, and install the server by typing:

```
./INSTALL_LUSTRE_<version>_SERVER
```

BrowseD, *cmanagerd*, *client*, and Wiretap Gateway are installed on the Lustre Media Server.

5 If the installer detects changes in your Wiretap Gateway configuration file (*/usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg*), your existing configuration file and the new configuration file are open side by side in an *xxdiff* window.

Each difference between the old and the new *wiretapgateway.cfg* files is highlighted in *xxdiff*. Review the differences and click on the correct value for each keyword, regardless of whether it is in the left or right panel. Make sure you select a value for each highlighted difference. Then open the File menu and choose Save as Right. After the file is saved, close *xxdiff* to continue the installation process.

6 Install the render node package on each processing node by running the installation script, as root. Type:

./INSTALL_LUSTRE_<version>**_RENDERNODE**

This installs the Backburner server, Media I/O adapter and *renderd* on each node.

7 License the Wiretap Gateway on each machine where you installed it. See Licensing Wiretap Gateway on page 20.

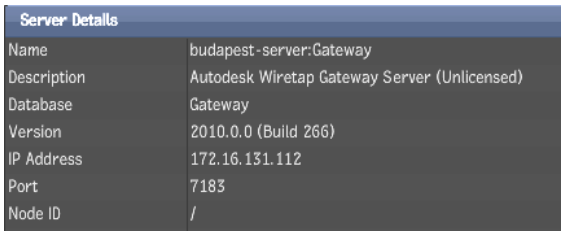
8 Configure Wiretap Gateway. See Configuring Wiretap Gateway on page 23.

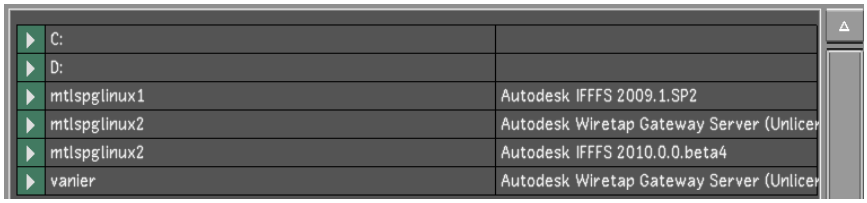
9 Verify that all components have been properly installed. See Verifying Installed Components on page 26.

Licensing Wiretap Gateway

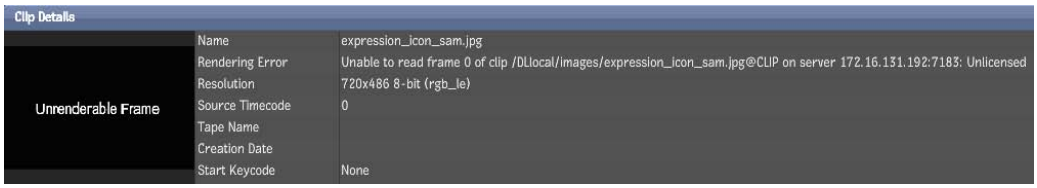
You cannot use Wiretap Gateway until you enter a license code for it.

Unlicensed Wiretap Gateway machines are labeled as such in the WiretapCentral Server Details panel and in the Lustre file browser.





Although they still appear in the network tree, unlicensed Wiretap Gateways block all media I/O. When you attempt to play or import media through an unlicensed Wiretap Gateway, the operation fails and an "Unlicensed" error message is returned.



Perform the following procedure on *each* Wiretap Gateway machine to license it.

To license Wiretap Gateway:

1 Obtain the Discreet host ID of the Wiretap Gateway machine. Open a terminal and type:

dlhostid

The following line should be part of the output:

```
The Discreet host ID of this machine is
"DLHOST01=25231AEF83AD9D5E9B2FA270DF4F20B1"
```

2 Send the Discreet host ID (including the *DLHOST01=* part) to the Autodesk Licensing Department to obtain the Wiretap Gateway license code.

- **By E-mail** To acquire a license code by e-mail, submit a request with the host ID of the workstation to *me.licensing@autodesk.com*.
- **By Telephone** You can speak to a licensing representative by calling the Licensing Department toll-free in North America at 1-800-925-6442 between 8 AM and 8 PM EST. Outside of North America, call 1-514-954-7199.

NOTE For emergencies, you can acquire an immediate temporary emergency license using the emergency license generator at *http://melicensing.autodesk.com/templicensing/*. A 4-day license code is e-mailed to the address you provide.

You will receive a license code similar to the following:

```
FEATURE wiretapgw_all_2010 discreet_1 2010.999 15-oct-2009 0 \
              4D7A8424FC43E0F86A65 \
               HOSTID=DLHOST01=25231AEF83AD9D5E9B2FA270DF4F20B1 ck=31
```

NOTE The code above is just an example. Actual license codes are unique for each Wiretap Gateway machine.

3 On the Wiretap Gateway machine, open the file */usr/local/flexlm/licenses/DL_license.dat* in a text editor (such as *nano*) and enter the license code.

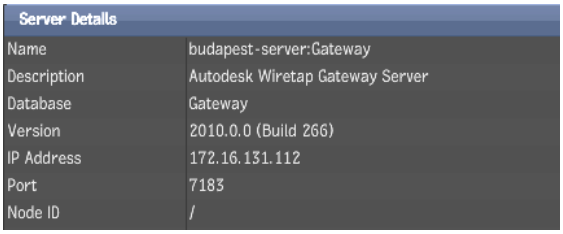
NOTE Edit this file with care; an incorrect character or missing space may prevent Wiretap Gateway from recognizing the license.

4 Save and close the *DL_license.dat* file, then restart Wiretap Gateway by typing:

```
/etc/init.d/wiretapgateway restart
```

5 To verify that Wiretap Gateway was successfully licensed, perform one of the following tasks:

- Open WiretapCentral in a Web browser, and select the Gateway machine in the network tree. The Description row in the Server Details panel should no longer contain the mention “Unlicensed”.



- In Lustre, view the file browser in the Edit > Browse menu. Wiretap Gateway should no longer contain the mention “Unlicensed”.

Setting up the Automount Service on Backburner Server Nodes

The *amd* (automount daemon) and *NFS* services need to be properly configured on each Backburner Server node in order for the node to be able to access project/library metadata on the Visual Effect and Finishing workstation that submits a background processing job.

NFS access to the Linux workstations at */hosts/*<hostname> is required, where <hostname> is the name of each workstation submitting background processing jobs.

If the *amd* and *NFS* services are not running or are not properly configured on a Backburner Server node, you get an error similar to the following when you try to submit a background processing job to the node:

```
Notice : NoticeDescription: Creating clips on parent node
'/stonefs/Project_name/Library_name' on host '192.168.1.72:7549'.

Notice : ErrorDescription: Can't create clip in parent node
'/stonefs/Project_name/Library_name' on host '192.168.1.72:7549'
```

Perform the following procedure on each node to configure the *amd* and *NFS* services.

To configure the *amd* and *NFS* services:

1. Log in as root to the Backburner Server node.
2. Stop the *amd* automounter daemon by typing:
   `/etc/init.d/amd stop`
3. Open the */etc/amd.conf* configuration file in a text editor.
4. Locate the following lines:
   ```
   #DEFINE AN AMD MOUNT POINT
   [ /net ]
   ```
5. Change `/net` to `/hosts`.
   The lines should now be the following:
   ```
   #DEFINE AN AMD MOUNT POINT
   [ /hosts ]
   ```
6. Configure the *NFS* and *amd* services to start automatically, by typing the following commands:
   `chkconfig nfs on`
   `chkconfig amd on`
7. Confirm that the *NFS* and *amd* services are configured to start at run-levels 2 to 5, by typing:
   `chkconfig --list | egrep 'nfs|amd'`
   The output of the command should contain the following lines:
   ```
   nfs             0:off 1:off 2:on 3:on 4:on 5:on 6:off
   amd           0:off 1:off 2:on 3:on 4:on 5:on 6:off
   ```
8. Reboot the node to ensure all network settings take effect. Type:
   `reboot`

Configuring Wiretap Gateway

The Wiretap Gateway configuration file, */usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg* contains a number of settings for Wiretap Gateway.

This section covers some of the most important settings you may want to adjust in the configuration file. For details on each parameter, refer to the comments inside the configuration file.

Defining an Additional IP Address

By default, the primary network interface of Wiretap Gateway is the GigE network adapter. If you are using an additional network, such as an InfiniBand network, uncomment the `IP0` parameter in the */usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg* configuration file, and set its value to the InfiniBand IP address of the host. For example:

```
IP0=10.10.11.10
```

If you need to define more network interfaces, use the `IP1`, `IP2`, parameters, and so on.

Excluding Directories and File Types

By default, Wiretap Gateway exposes all directories and files on the machine where it is installed. You can change this behavior by defining lists of directories and file types that should not be exposed by Wiretap Gateway.

To exclude certain directories from being exposed by Wiretap Gateway, uncomment the `ExcludeDirs` parameter in the */usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg* configuration file, and set its value to a comma-separated list of directories. For example:

```
ExcludeDirs=/dev,/lib,/usr/lib,/bin,/usr/bin,/sbin
```

To exclude certain file types from being exposed by Wiretap Gateway, uncomment the `ExcludeExts` parameter in the configuration and set its value to a comma-separated list of file extensions. For example:

```
ExcludeExts=jpg,tiff,mov
```

If there are just a few directories that you want to expose through Wiretap Gateway, it is more efficient to use the `LimitDirs` parameter to specify just the directories that should be exposed, rather than using `ExcludeDirs` to exclude all the other directories in the system. For example:

```
LimitDirs=/mnt
```

NOTE `LimitDirs` overrides `ExcludeDirs` in the event of a conflict.

Configuring Proxy Quality for RED Footage

When viewing proxies of RED (R3D) media, you may want to change the proxy quality level, for smoother playback. Use the `LowresDebayerMode` keyword in the */usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg* configuration file to change the quality level.

The keyword can take one of the following values:

- Full
- Half Premium
- Half Good

- Quarter
- Eighth

NOTE The default value is *Quarter*.

For example, the following Lustre system setups should have the `LowresDebayerMode` keyword set to the following values to achieve real-time playback.

Hardware	LowresDebayerMode Value
HP® Z800 with HP Z800 media server	Quarter
HP xw8600 with HP xw8600 media server	Quarter
HP xw8400 with HP xw9400 media server	Eighth

Setting up Wiretap Gateway Slave Processes

To improve real-time playback of RED media, Wiretap Gateway can spawn multiple slave processes that increase performance without requiring additional licenses.

To configure Wiretap Gateway to start slave processes, open the configuration file */usr/discreet/wiretapgateway/cfg/wiretapgateway.cfg* in a text editor, uncomment the `NumLocalSlaves` keyword, and set its value to the number of slave processes you want to run on the machine.

If you are running Wiretap Gateway on a dedicated system, enable as many slave processes as the number of CPU cores on the system. If you are running Wiretap Gateway on a Visual Effects, Finishing and Colour Grading workstation, make sure you set aside at least 4 CPU cores for a Visual Effects and Finishing application, or 2 cores for Lustre.

If you plan to also run other applications and processes on the Wiretap Gateway system, reduce the number of slaves accordingly.

For example, on a 16-core HP® Z800 workstation running Autodesk® Lustre®, enable 12 Wiretap Gateway slave processes, so that 2 CPU cores remain available for the Lustre application, and 2 other CPU cores are available for background processes, such as Backburner.

Setting Up User Access Control for WiretapCentral

By default, no user name or password is needed to use WiretapCentral, and all jobs submitted from WiretapCentral to Backburner are owned by the generic user “apache”. As a result, all users can perform operations on any WiretapCentral job on the Backburner network, including suspending, activating, and deleting jobs submitted by other users.

For greater control, you can password-protect the WiretapCentral root directory using the Apache server’s basic authentication mechanism. Once password-protection is in place, users are required to submit a user name and password to access WiretapCentral. With password-protection enabled, WiretapCentral jobs on the Backburner network then have specific user names associated with them. Only the owner of a job can perform operations upon it. Optionally, you can give administrator privileges to specific users so they can control Backburner jobs other than their own.

NOTE If you decide not to implement user access control, you might still want to assign the generic user “apache” administrator privileges for Backburner. This will allow all WiretapCentral users to manage and control all jobs on the Backburner network, including Burn jobs, for example.

Step 1: Password-Protecting the WiretapCentral Directory

The first step in setting up user authentication is to password-protect the directory (and subdirectories) from which the WiretapCentral Web page is served. This is done by adding standard server directives to the main Apache configuration file.

1. Open the main Apache configuration file, */etc/httpd/conf/httpd.conf* in a text editor.
2. Scroll to the bottom of the file and add the following lines, then save and close the file:

```
#
# WiretapCentral User Authentication Section
#
<Directory /var/www/html/wiretapcentral>
AuthType Basic
AuthName WireTapCentral
AuthUserFile /etc/httpd/auth/wiretapcentral.auth
<Limit GET POST>
require valid-user
</Limit>
</Directory>
```

3. Restart the Apache server for the changes to take effect. Type:

   `/etc/init.d/httpd restart`

4. Verify that password protected was successful by opening a browser and attempting to use WiretapCentral:

   http://<hostname>/WiretapCentral

   A pop-up dialog should appear, indicating WiretapCentral requires a valid user name and password.

Step 2: Populating the User/Password File

With the WiretapCentral directory password-protected, you can now create a password file containing user names and passwords.

1. Check if the *wiretapcentral.auth* file exists in the */etc/httpd/auth/* directory, by typing the following:

   `ls /etc/httpd/auth`

   If the file is listed in the command output, the correct file is already in place, and you do not need to create it.

2. Use the Apache *htpasswd* command to add users to the *wiretapcentral.auth* file:

   `htpasswd -c -b /etc/httpd/auth/wiretapcentral.auth` `<username> <password>`

   The **`-c`** option replaces any existing password file. Use this option for the first password only, if *wiretapcentral.auth* is not already in place.

   The **`-b`** (batch mode) option adds the user name and password in one step. Omitting the **`-b`** option causes Apache to prompt you for the password in a separate step, and avoids displaying the password in plain-text as you type it.

3. Optional: To delete an account type:

   `htpasswd -D /etc/httpd/auth/backburner.auth` `<username>`

Step 3 (Optional): Giving Specific Users Administrator Privileges

Users without administrators privileges can perform operations on the jobs they themselves submit, but can only monitor other jobs on the Backburner network. Users with administrator privileges can actively manage all jobs and render nodes. Administrator privileges are assigned in the Backburner configuration file, */usr/discreet/backburner/cfg/wiretap.cfg*.

1. On the workstation where the Backburner Manager is installed, open the */usr/discreet/backburner/cfg/wiretap.cfg* file in a text editor.
2. Locate the `[SECURITY]` section. This section contains the `BackburnerAdministrators` keyword, which specifies the user accounts with administrator privileges.

   For example, the following line assigns administrator privileges to the user account *backburner*:

   ```
   BackburnerAdministrators=backburner
   ```
3. Edit the `BackburnerAdministrators` keyword, separating account names with a comma. For example, the following assigns administrator privileges to the user accounts *backburner*, *apache*, *wiretapcentral*, and *admin*:

   ```
   BackburnerAdministrators=backburner, apache, wiretapcentral, admin
   ```
4. Save and exit the file.
5. To verify that administrator privileges have been successfully applied to the user account, first, on the workstation where the Backburner Manager is installed, restart the Backburner Manager so it picks up the new settings:

   `/etc/init.d/backburner restart`
6. Next, log in to WiretapCentral as the administrator account, and attempt to suspend a job that belongs to a different user.

   If the suspension operation is successful, the administrator privileges have been applied. If you receive a “permission denied” error message, the account does not have administrator privileges.

Web Browser Configuration

The WiretapCentral graphical user interface runs in any Web browser that supports the Adobe Flash Player plug-in, version 9 or later. This includes Mozilla® Firefox® 1.x or later (32-bit), Apple® Safari™ 1.x or later, and Microsoft® Internet Explorer 6 or later.

If you already have the Adobe Flash Player plug-in installed for your browser, you do not have to perform any additional configuration to use WiretapCentral. Just open a Web browser, and point it to `http://<hostname>/WiretapCentral`.

If your browser does not have the Adobe Flash Player plug-in, you can download it for free from the Adobe Web site.

NOTE Currently, the Adobe Flash Player for 64-bit Linux systems is still in alpha stage. On Visual Effects and Finishing workstations, the latest version of the Autodesk DKU (Discreet Kernel Utilities) automatically installs a 32-bit version of Mozilla Firefox with a 32-bit version of the Flash Player. This does not apply to Flare workstations, as the DKU is not installed for Flare. You can get the alpha version of the 64-bit Linux Adobe Flash Player from the Adobe Web site.

Verifying Installed Components

After installing and configuring WiretapCentral, and all related components, perform the following procedures to verify that installation was successful.

Verifying the Wiretap Gateway

To verify the Wiretap Gateway installation on a machine:

1. Access the file browser in Lustre, or open WiretapCentral in a Web browser:
   `http://<hostname>/WiretapCentral`
2. In WiretapCentral, locate the machine you want to verify in the Servers panel on the left-hand side, and make sure the label "Gateway" appears next to the machine name.
3. In Lustre, locate the machine in the file browser, and make sure the label "Autodesk Wiretap Gateway Server `<version>`" appears in the column on the right.
4. Click the machine name, and make sure you are able to browse the storage device connected to the machine.

Verifying your Render Farm

To verify your Render Farm from WiretapCentral:

1. Open WiretapCentral in a Web browser:
   `http://<hostname>/WiretapCentral`
2. Select Backburner Monitor from the Tools menu.
   Backburner Monitor opens in a new window.

   TIP You can also open Backburner Monitor directly by pointing your Web browser to `http://<hostname>/WiretapCentral/bbmon.html`.
3. Make sure the machine where you set up Backburner Manager appears in the Backburner Manager drop-down list.
4. Select the manager for your render farm and then click the Servers tab.
   A list of all the Backburner Servers assigned to the selected manager appears.
5. Make sure the servers you set up are in the list, and that "mio" is listed in the Adapters column for each of them.
6. Click the Server Groups tab, and make sure the node groups you set up are listed.

To verify your Render Farm from the Windows Backburner Monitor:

1. Open Backburner Monitor.
2. From the Manager menu, select Connect.
3. Enter the IP or hostname of the machine where you installed Backburner Manager, and verify that you can connect to the Manager.
4. Once you are connected to the Manager, expand the "Plugins" branch in the lower-left panel of the Monitor window, and select "MIO File Import".
   The Servers panel should list all the Backburner Servers where you installed the Media I/O Adapter.
5. Expand the "Global Groups" branch in the lower-left panel of the Monitor window, and verify that the server groups you defined are listed there, and that the correct servers are listed under each group.

Appendix: Wiretap Gateway Supported Ingest File Formats

4

Topics in this chapter:

Overview

This appendix lists the image and audio file formats supported by the Wiretap Gateway server, for ingest. Use the tables in this appendix to determine if a particular digital image sequence or container format can be recognized by the Wiretap Gateway.

An image sequence is a series of sequentially numbered files, traditionally the result of scanning film stock at high resolution to produce a digital intermediate. Here, each file contains the digital scan of an individual frame. Common image sequence formats include Cineon®, DPX and Tiff. The type of image sequence file on hand is usually revealed by its extension.

In contrast, container formats, also called “wrapper” formats, can contain image sequences (commonly called *streams* or *essences*) and audio, compressed using a variety of compression algorithms (codecs) into a single file. Container formats do not impose specific video or audio codecs upon the media they contain. Rather, a container format defines only how the video, audio and other data is stored within the container itself. Unlike image sequences, it is not possible to tell by looking at the extension what kind of video or audio is inside a container format.

Using the Tables

To determine if a particular container format is supported, first locate the section in this appendix for its container type: QuickTime®, Panasonic® MXF, Sony® MXF, etc. In the table for the container, look for the codec name or a relevant comment. Associated with each codec supported by a container format is a short string identifying the specific codec standard used to compress the contents. If you know the codec flag—called a *FourCC* code for QuickTime—this is the simplest way to determine if the file can be ingested.

For example, suppose you have a QuickTime (.mov) file that was encoded using the QuickTime "Component Y'CbCr 4:4:4" video codec (v410 flag), and the IMA audio codec (ima4 flag). First, locate the video codec in the QuickTime Broadcast table (it's the first entry). Next, locate the audio codec in the QuickTime Audio table (also the first entry). Since both the audio and video codecs used to encode the contents of the QuickTime file are present in the tables, the Wiretap Gateway supports ingesting this particular file.

Supported Image Sequence Formats

The Wiretap Gateway server supports ingest of the following image sequence file formats.

File Format	Bit Depth	Default Extension
Alias®	8-bit	als
Cineon®	10-bit	cin
DPX	8-bit, 10-bit, and 12-bit	dpx
Jpeg	8-bit	jpg
Macintosh® Pict	8-bit	pict
OpenEXR	16-bit int, 16-bit float, 32-bit float	exr
Pixar	8-bit	picio
SGI®	8-bit and 16-bit	sgi
Softimage®	8-bit	pic
TARGA®	8-bit	tga
Tdi/Maya®	8-bit and 16-bit	iff
Tiff	8-bit and 16-bit	tif
Wavefront®	8-bit and 16-bit	rla

NOTE OpenEXR 16-bit and 32-bit float is not supported within Lustre.

Supported Audio File Formats

Wiretap Gateway supports ingest of the following audio file formats.

File Format	Bit Depth	Default Extension
AIFF-C	16-bit, 24-bit, and 32-bit (float)	aifc
AIFF	16-bit and 24-bit	aiff

File Format	Bit Depth	Default Extension
WAVE	16-bit, 24-bit, and 32-bit (float)	wav
Broadcast Wave	16-bit, 24-bit, and 32-bit (float)	wav

Supported Image Container Formats

Wiretap Gateway supports ingest of the following container formats: QuickTime (.mov), Panasonic P2 MXF (.mxf), Sony XDCAM MXF (.mxf), Sony XDCAM EX (.mp4) and Red REDCODE RAW (.r3d). For specific encodings, consult the tables in the sections below.

QuickTime

Wiretap Gateway supports ingest of QuickTime files that adhere to the codec standards presented in the following tables. For convenience, codecs are loosely grouped by their most common usage: broadcast, file, web and audio. This should not be understood as a limitation on usage.

QuickTime Broadcast

CODEC	Flag	Comment
Component Y'CbCr 10-bit 4:4:4	v410	10-bit Packed YUV 4:4:4
Component Y'CbCr 10-bit 4:2:2	v210	10-bit Packed YUV 4:2:2 Blackmagic or AJA-Kona 10-bit compatible
Component Y'CbCr 8-bit 4:4:4	v308	8-bit Planar YUV 4:4:4
Component Y'CbCrA 8-bit 4:4:4:4	v408	8-bit Planar YUV 4:4:4:4
Component Video	yuv2	8-bit Packed YUV 4:2:2 Blackmagic or AJA-Kona 8-bit compatible
Component Y'CbCr 8-bit 4:2:2	2vuy	8-bit Packed YUV 4:2:2
DV-25 NTSC	dvc	
DV-25 PAL	dvcp, dvpp	
DVCPRO 50 NTSC	dv5n	
DVCPRO 50 PAL	dv5p	
DVCPRO HD	dvh1, dvh2, dvh3, dvh5, dvh6, dvhp, dvhq	1920x1080, 24/30 fps1280x720, 24/30/60 fps1920x1080, 25 fps1280x720 25/50 fps
DNxHD	avdn	10-bit Avid® DNxHD 220x (220 Mb/sec): ■ 1080p, 10-bit, 220 mbps @ 29.97 fps ■ 720p 10-bit, 220 mbps @ 29.97 fps ■ 1080i, 10-bit, 220 mbps @ 59.94 fps 8-bit Avid DNxHD 220 (220 Mb/sec):

CODEC	Flag	Comment
		■ 1080p, 8-bit, 220 mbps @ 29.97 fps ■ 720p, 8-bit, 220 mbps @ 29.97 fps ■ 1080i, 8-bit, 220 mbps @ 59.94 fps 8-bit Avid DNxHD 145 (145 Mb/sec): ■ 1080p, 8-bit, 145 mbps @ 29.97 fps ■ 720p, 8-bit, 145 mbps @ 29.97 fps ■ 1080i, 8-bit, 145 mbps @ 59.94 fps ■ 1080i, 8-bit, 145 mbps @ 59.94 fps (thin raster - 1440x1080), 8-bit Avid DNxHD 36 (36 Mb/sec): ■ 1080p, 8-bit, 36 mbps @ 24 fps
IMX	mx3n, mx3p, mx4n, mx4p, mx5n, mx5p	MPEG IMX 30 Mb/sec, 40 Mb/sec, 50 Mb/sec

QuickTime File

CODEC	Flag	Comment
PhotoJPEG	RTJ0	RT PhotoJPEG compatible
MJPEG	MJPG, mjpg, mjpa, mjpb, JPEG, jpeg, dmb1, AVDJ	JPEG compatible
PNG	png	Portable Network Graphic sequence (no alpha support)
PNGA	pngalpha	Portable Network Graphic sequence (with alpha support)
RGB Uncompressed	raw	No alpha support
RGBA Uncompressed	rawalpha	With alpha support
TGA	tga	TARGA

QuickTime Web

CODEC	Flag	Comment
MPEG-1	mpg1, MPG1, pim1, PIM1	
MPEG-4	mp4v; DivX®; DIV1; div1; MP4S;M4S2; m4s2; xvid; XVID; XviD; DX50; dx50; DIVX; MP4V	
MSMpeg 4v3 (DivX)	DIV1, div1, MPG4, mpg4, DIV2, div2, MP42, mp42, DIV3, div3, DIV4, div4,	

CODEC	Flag	Comment
	DIV5, div5, DIV6, div6, MPG3, mpg3, MP43, mp43, AP41, ap41, MJPG	
QuickTime Planar RGB	8BPS	
Apple® Video	rpza	
Apple Graphics	smc	
Apple Animation	rle	With alpha support
Cinepak	cvid	

QuickTime Audio

Audio CODEC	CODEC Flag	Comment
IMA 4:1	ima4	
Raw 8-bit audio	rawaudio	
Twos	twos	16-bit PCM (Big Endian)
Ulaw	ulaw	
Sowt	sowt	16-bit PCM (Little Endian)
A-law 2:1	alaw	
16-bit PCM	in16	
Linear PCM (QT 7)	lpcm	
Ogg Vorbis	vorbis	qt4l compatible
Ogg Vorbis	vorbis_qt	qtcomponents compatible
MPEG-2 Layer 2 Audio	mp2	
QDM2 Audio	qdm2	
Apple lossless	alac	
McRowsoft ADPCM	adpcm (ms)	
ADPCM ima WAV	ima adpcm (wav)	

MXF

Wiretap Gateway supports the ingest of MXF files associated with the Panasonic DVCPRO P2 and Sony XDCAM and Avid Media Composer® implementations of the format.

Avid DNxHD MXF

Wiretap Gateway supports the ingest of DNxHD media in the Avid MXF wrapper, as presented in the following table.

NOTE File-based workflows originating from Media Composer 3.05 and later are fully supported. MXF files originating from a non-file workflow may result in error.

CODEC	Flag	Comment
DNxHD	avdn	10-bit Avid DNxHD 220x (220 Mb/sec): ■ 1080p, 10-bit, 220 mbps @ 29.97 fps ■ 720p, 10-bit, 220 mbps @ 29.97 fps ■ 1080i, 10-bit, 220 mbps @ 59.94 fps 8-bit Avid DNxHD 220 (220 Mb/ sec): ■ 1080p, 8-bit, 220 mbps @ 29.97 fps ■ 720p, 8-bit, 220 mbps @ 29.97 fps ■ 1080i, 8-bit, 220 mbps @ 59.94 fps 8-bit Avid DNxHD 145 (145 Mb/ sec): ■ 1080p, 8-bit, 145 mbps @ 29.97 fps ■ 720p, 8-bit, 145 mbps @ 29.97 fps ■ 1080i, 8-bit, 145 mbps @ 59.94 fps ■ 1080i, 8-bit, 145 mbps @ 59.94 fps (thin raster - 1440x1080) 8-bit Avid DNxHD 36 (36 Mb/sec): ■ 1080p, 8-bit, 36 mbps @ 24 fps

Panasonic DVCPRO P2 MXF

P2 CODEC	CODEC Flag	Comment
AVC-Intra 50	AVC-I 50	Panasonic P2
AVC-Intra 100	AVC-I 100	Panasonic P2
DV 25	DV 25	
DVCPRO	DVCPRO	
DVCPRO 50	DVCPRO50	
DVCPRO HD	DVCPROHD	

Sony XDCAM MXF

XDCAM CODEC	CODEC Flag	Comment
MPEG-2 IMX 30	IMX 30	XDCAM

XDCAM CODEC	CODEC Flag	Comment
MPEG-2 IMX 40	IMX 40	XDCAM
MPEG-2 IMX 50	IMX 50	XDCAM
MPEG-2 long-GOP	XDCAM HD	XDCAM HD

Sony XDCAM EX

The following Sony XDCAM EX format is supported for ingest.

CODEC	Comment
MPEG-2 Long-GOP	MP4

Red REDCODE RAW

All Red REDCODE™ RAW(.r3d) file resolutions and qualities encoded by the Redcode codec are supported for ingest by the Wiretap Gateway. Audio is not currently supported.