Autodesk®
WiretapCentral™ 2010.2
and
Wiretap™ Gateway 2010.2

Installation Guide

Autodesk®

Autodesk® Smoke® 2010 For Mac OS® X

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Contents

Introduction

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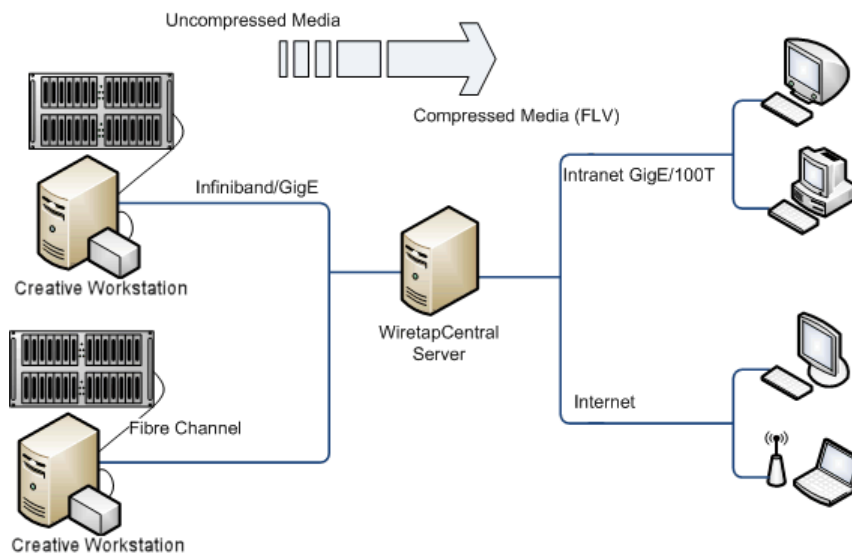
WiretapCentral enables you to directly import REDCODE RAW and multi-channel OpenEXR files by leveraging the Autodesk® Wiretap® Gateway.

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

About this Guide

This guide provides information on using WiretapCentral and the related components.

NOTE Autodesk WiretapCentral 2010.2, Autodesk Wiretap Gateway 2010.2, Autodesk Backburner 2010.2, and Autodesk Backburner Media I/O Adapter 2010.2 are only available for the Mac® platform. The latest version of these components available for Linux® platforms is 2010.1.

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.

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 Autodesk Visual Effects and Finishing Linux® workstation, an Autodesk Smoke for Mac OS® X workstation, or an 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 by distributing processing tasks across several dedicated Backburner Server and Media I/O nodes on your network, running Linux or Mac OS X. 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.

System Requirements

If you are performing a distributed deployment, make sure the dedicated Mac® or Linux systems where you plan to install the various components meet the following recommended specifications.

Component	Hardware	Operating System	Other Requirements
WiretapCentral	■ 64-bit, dual-core CPU ■ 1 GB of RAM or better. ■ GigE or InfiniBand networking ■ 500 GB Hard Drive, or larger	Mac OS X version 10.6.2 (64-bit); Red Hat® Enterprise Linux® Desktop 5.3 (64-bit) or Red Hat® Enterprise Linux Workstation 4 Update 3 (64-bit) **NOTE** It is recommended to disable SELinux on Linux WiretapCentral machines.	■ 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	Mac OS X version 10.6.2 (64-bit) or Any 64-bit Linux distribution that can install *rpm* packages.	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	Mac OS X version 10.6.2 (64-bit) or Any 64-bit Linux distribution that can install *rpm* packages.	

NOTE If you have Autodesk® Burn® or Burn for Lustre 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 or Burn for Linux software.

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 package of the Autodesk Visual Effects, Finishing and Colour Grading application.

For major releases, Visual Effects, Finishing and Colour Grading applications are distributed on DVD. For extensions and service packs, the applications are available for download as *tar* files (for Linux workstations) or *dmg* files (for Mac workstations). The download links are provided in the Release Announcement you received from Autodesk.

NOTE You can also download WiretapCentral, Wiretap Gateway, Backburner and the Media I/O Adapter as separate *tar* files (for Linux systems). Backburner is also available as a *zip* file (for Windows systems). For Mac OS X systems, the stand-alone installers for these components are located on the Smoke for Mac OS X *dmg* image.

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*.

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 installed with your application. 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 not applicable for Lustre Windows workstations or for Incinerator.

To set up a stand-alone configuration:

1 Perform a regular installation of your Visual Effects, Finishing and Colour Grading application, as documented in the *Autodesk Visual Effects and Finishing Installation and Configuration Guide*, *Autodesk Smoke for Mac OS X Installation and Configuration Guide*, or *Autodesk Lustre Installation and Configuration Guide for Linux Workstations*.

NOTE If you are installing a Visual Effects and Finishing application on a Linux workstation, click Yes when the installer asks if you want to automatically run Backburner Manager and Backburner Server on the local machine. Then click Yes when the installer asks if you want to enter a Backburner Manager for the Server, and make sure *localhost* is set as the Manager.

Wiretap Gateway, WiretapCentral, and all background processing components are automatically installed on the workstation. You do not need to install any additional packages.

Perform the remaining steps in this procedure to configure these components.

2 License and configure Wiretap Gateway. See Licensing Wiretap Gateway on page 23 and Configuring Wiretap Gateway on page 24.

3 Configure WiretapCentral. See Configuring WiretapCentral on page 27.

4 Verify that all components have been properly installed. See Verifying Installed Components on page 30.

Distributed Deployment

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.

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: Processing is Performed by Dedicated Backburner Server Nodes

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.

Visual Effects and Finishing Workstation
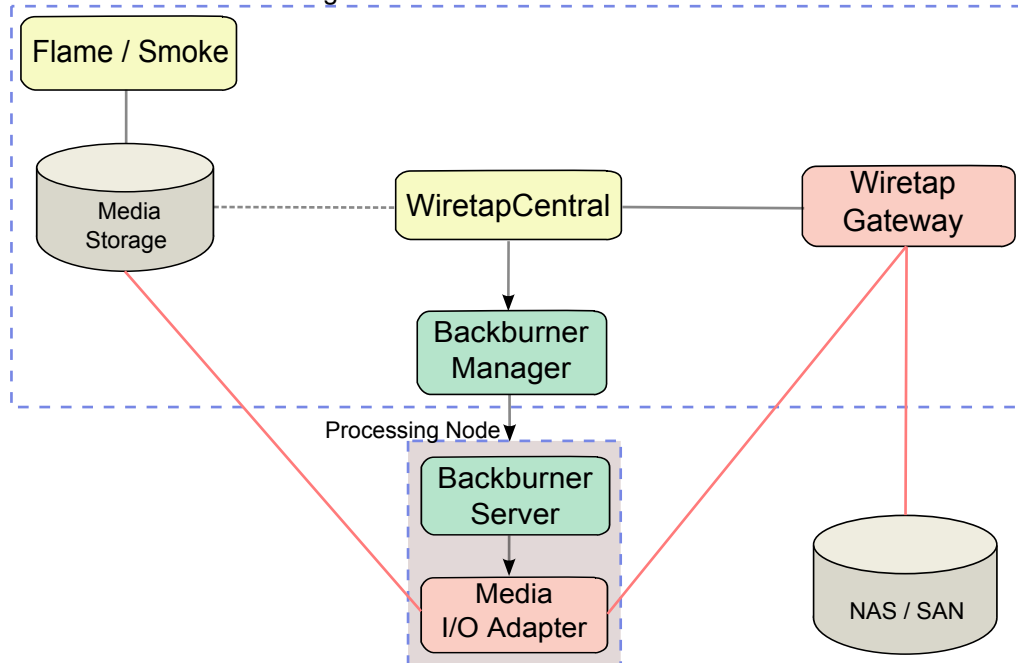
Remember that Lustre can leverage the Wiretap Gateway natively in the Lustre file browser, without needing WiretapCentral. The following diagram includes WiretapCentral as an alternative to Lustre for using the Wiretap Gateway and the render farm to import media.

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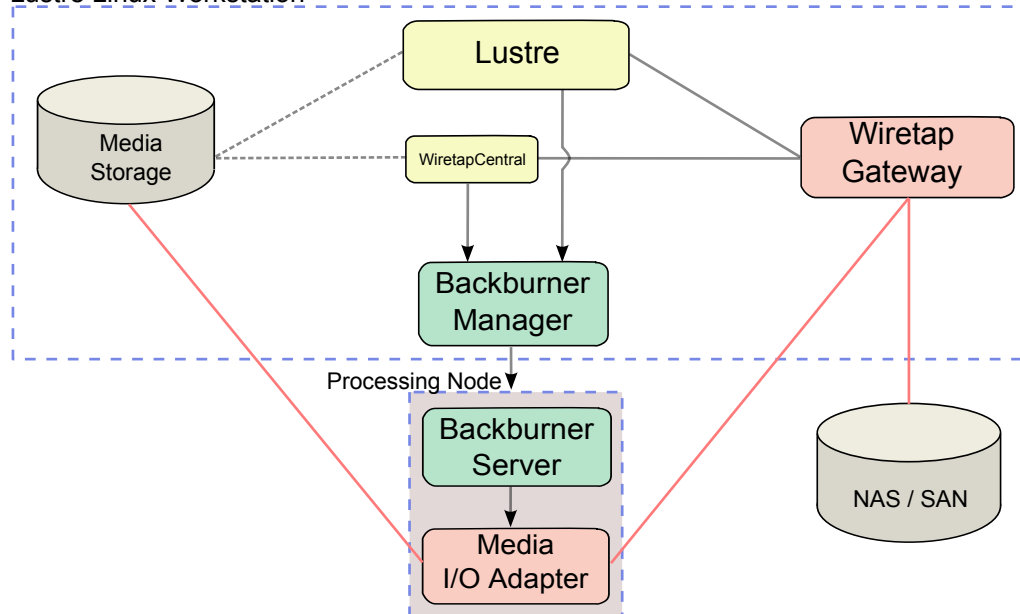
TIP Since processing components (Backburner Server and the Media I/O Adapter) are automatically installed on Visual Effects, Finishing and Colour Grading workstations, the workstations themselves can be used as processing nodes during off-peak hours.

Perform the following tasks to set up your components according to this scenario.

1   Perform a regular installation of your Visual Effects, Finishing and Colour Grading application, as documented in the *Autodesk Visual Effects and Finishing Installation and Configuration Guide*, *Autodesk Smoke for Mac OS X Installation and Configuration Guide*, or *Autodesk Lustre Installation and Configuration Guide for Linux Workstations*.

   NOTE If you are installing a Visual Effects and Finishing application on a Linux workstation, click Yes when the installer asks if you want to automatically run Backburner Manager and Backburner Server on the local machine. Then click Yes when the installer asks if you want to enter a Backburner Manager for the Server, and make sure *localhost* is set as the Manager.

   WiretapCentral, Wiretap Gateway, Backburner Manager, and Backburner Monitor are automatically installed on the workstation.

2   Install and configure Backburner Server and the Media I/O Adapter on each Linux or Mac OS X processing node. See Installing and Configuring Backburner Server and the Media I/O Adapter on a Dedicated System on page 18.

   NOTE Backburner Server and the Media I/O Adapter are automatically installed on Burn render nodes with the latest version of Autodesk Burn or Autodesk Burn for Lustre. See the *Autodesk Burn Installation and User Guide* or *Autodesk Lustre Installation and Configuration Guide for Linux Workstations*.

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

4   License and configure Wiretap Gateway. See Licensing Wiretap Gateway on page 23 and Configuring Wiretap Gateway on page 24.

5   Configure WiretapCentral. See Configuring WiretapCentral on page 27.

6 Verify that all components have been properly installed. See Verifying Installed Components on page 30.

Example #2: All Components Reside on Dedicated Machines

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.

Remember that Lustre can leverage the Wiretap Gateway natively in the Lustre file browser. The following diagram includes WiretapCentral as an alternative to Lustre for using the Wiretap Gateway and the render farm to import media.

Perform the following tasks to set up your components according to this scenario.

1 Perform a regular installation of your Visual Effects, Finishing and Colour Grading application, as documented in the *Autodesk Visual Effects and Finishing Installation and Configuration Guide*, *Autodesk Smoke for Mac OS X Installation and Configuration Guide*, or *Autodesk Lustre Installation and Configuration Guide for Linux Workstations*.

> **NOTE** If you are installing a Visual Effects and Finishing application on a Linux workstation, click Yes when the installer asks if you want to automatically run Backburner Manager and Backburner Server on the local machine. Then click Yes when the installer asks if you want to enter a Backburner Manager for the Server, and make sure *localhost* is set as the Manager.

2 Install Backburner Manager on a dedicated system, and configure the Visual Effects, Finishing and Colour Grading application with the new location of Backburner Manager. See Installing Backburner Manager on a Dedicated System on page 16.

3 Install Wiretap Gateway on a dedicated system. See Installing Wiretap Gateway on a Dedicated System on page 22.

4 License and configure Wiretap Gateway. See Licensing Wiretap Gateway on page 23 and Configuring Wiretap Gateway on page 24.

5 Install WiretapCentral on a dedicated system. See Installing WiretapCentral on a Dedicated System on page 26.

6 Configure WiretapCentral. See Configuring WiretapCentral on page 27.

7 Install and configure Backburner Server and the Media I/O Adapter on each Linux or Mac OS X processing node. See Installing and Configuring Backburner Server and the Media I/O Adapter on a Dedicated System on page 18.

> **NOTE** Backburner Server and the Media I/O Adapter are automatically installed on Burn render nodes with the latest version of Autodesk Burn or Autodesk Burn for Lustre. See the *Autodesk Burn Installation and User Guide* or *Autodesk Lustre Installation and Configuration Guide for Linux Workstations*.

8 Make sure the media storage 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 Verify that all components have been properly installed. See Verifying Installed Components on page 30.

Example #3: Incinerator With Wiretap Gateway

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

Remember that Lustre can leverage the Wiretap Gateway natively in the Lustre file browser. The following diagram includes WiretapCentral as an alternative to Lustre for using the Wiretap Gateway and the render farm to import media.

To set up Wiretap Gateway with an Incinerator system:

1 Perform a regular Incinerator installation, as documented in the latest *Autodesk Incinerator Installation and Configuration Guide*.

Backburner Manager and Backburner Monitor are installed on the Incinerator workstation, WiretapCentral and Wiretap Gateway are installed on the Lustre Media Server, and Backburner Server and the Media I/O Adapter are installed on each Incinerator node.

Perform the remaining steps in this procedure to configure these components.

2 License and configure Wiretap Gateway. See Licensing Wiretap Gateway on page 23 and Configuring Wiretap Gateway on page 24.

3 Configure WiretapCentral. See Configuring WiretapCentral on page 27.

4 Verify that all components have been properly installed. See Verifying Installed Components on page 30.

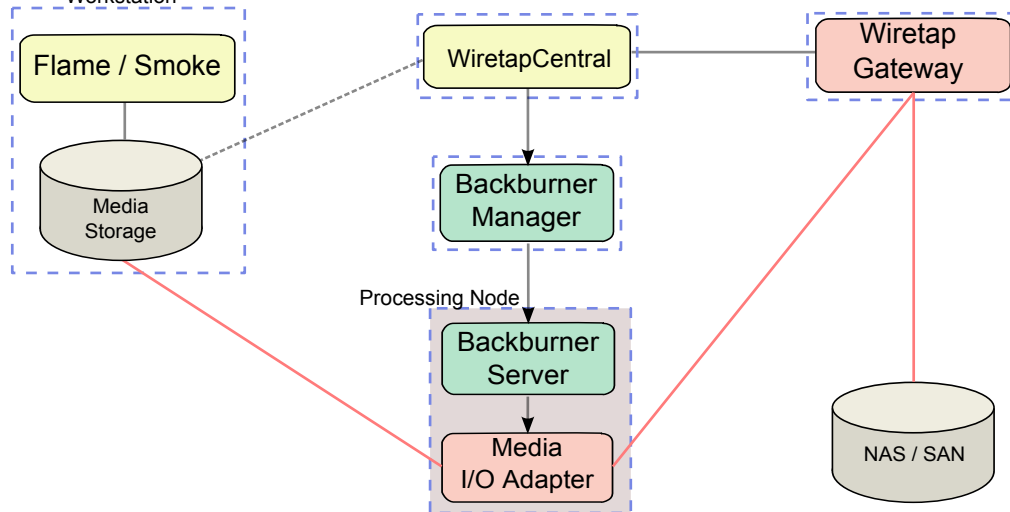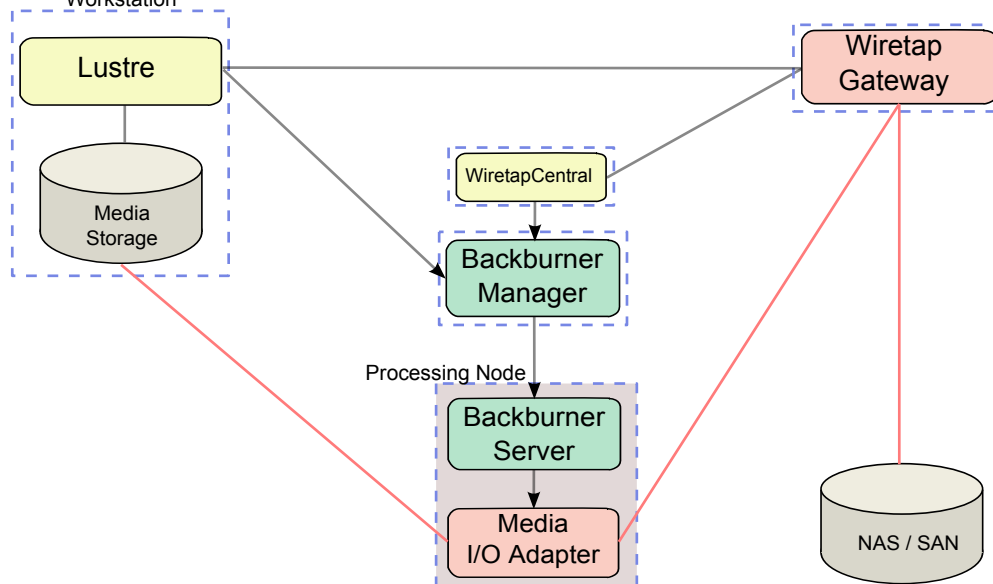# Installing Backburner Manager on a Dedicated System

Perform the following tasks to install Backburner Manager on a dedicated Linux, Windows, or Mac OS X system on your network.

To install Backburner Manager on a dedicated Linux system:

1 Open a terminal and log in as root.

2 Download the Backburner *.tar* file from the link provided in the Release Announcement you received from Autodesk.

3 Unpack the *.tar* file by typing:

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

The installation files are unpacked into a new directory.

4 Go to the newly-created directory, and run the installer by typing:

`./INSTALL`

5 Answer Yes to the question about automatically running Backburner Manager, and No to the question about automatically running Backburner Server.

Backburner Manager and Backburner Monitor are installed and ready to use. See the latest *Autodesk Backburner User Guide* for instructions on using these components.

To install Backburner Manager on a dedicated Windows system:

1 Download the Backburner *.zip* installation package from the links provided in the Release Announcement you received from Autodesk.

2 Unpack the *zip* file using a utility such as WinZip®.

3 Double-click *backburner.exe* to start the installation.

4 Follow the on-screen instructions to complete the installation.

Backburner Manager and Backburner Windows Monitor are installed and ready to use. See the latest *Autodesk Backburner User Guide* for instructions on using these components.

To install Backburner Manager on a dedicated Mac system:

1 If you are installing from the Smoke DVD, insert the disc and double-click the DVD icon on the desktop.

2 If you are installing from the Smoke *dmg* file, double-click the *dmg* to see its contents.

3 Go to the *Standalone Installers* folder and run the *Backburner* installer.

4 Follow the on-screen instructions to complete the installation.

Backburner Manager, Backburner Monitor, and Backburner Server are installed on the Mac. You can ignore Backburner Server; as long as you do not use it, it will not consume any system resources.

See the latest *Autodesk Backburner User Guide* for instructions on using these components.

Configuring Visual Effects and Finishing Applications to Access Backburner Manager

After installing Backburner Manager on a dedicated system, perform the following tasks to configure the Visual Effects, Finishing and Colour Grading applications with the hostname of the Backburner Manager system.

NOTE You do not need to perform these tasks on Visual Effects and Finishing Linux workstations if you have already entered the correct Backburner Manager hostname when installing your application.

To configure Linux Visual Effects and Finishing Applications to connect to Backburner Manager:

1 If your Visual Effects and Finishing application is running, exit it.

2 Open a terminal and log in as root.

3 Open the application configuration file, *init.cfg*, in a text editor. Type:

   vi /usr/discreet<application_directory>**/cfg/init.cfg**

4 Locate the BackburnerManagerHostname keyword.

5 Change the value of the keyword to the hostname of the system where you installed Backburner Manager.

6 Save and close the file.

   You can now use your application with Backburner Manager.

To configure Lustre to connect to Backburner Manager:

1 If Lustre is running, exit it.

2 Open the application configuration file, *init.config*, in a text editor.

   ■ On Linux workstations, open a terminal, log in as root, and type:
      vi /usr/autodesk/lustre<version>**/init.config**

   ■ On Windows workstations, browse to the *C:\Program files\Autodesk\Lustre*<version>** folder, and open the *init.config* file in Notepad.

3 Locate the <Backburner> section.

4 Change the value of the <Hostname>parameter to the hostname of the system where you installed Backburner Manager.

5 Save and close the *init.config* file.

   You can now use Lustre with Backburner Manager.

To configure Smoke for Mac OS X to connect to Backburner Manager:

1 If Smoke is running, exit it.

2 Run the Smoke Setup application from the *Applications / Autodesk / Smoke 2010 / Utilities* folder.

3 Click the Backburner tab.
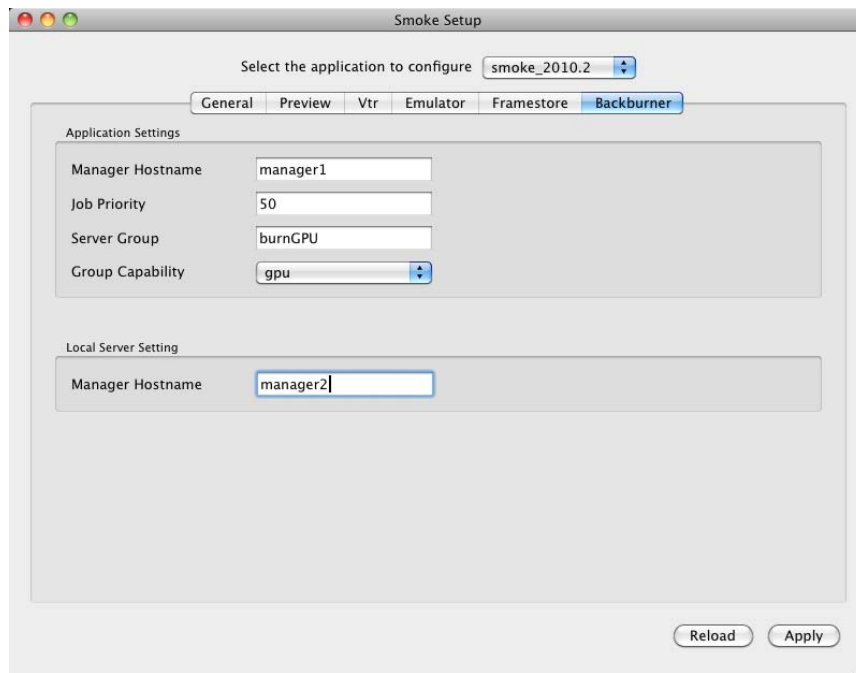
4   Enter the hostname of the system where you installed Backburner Manager in the Manager Hostname field of the Application Settings section.

5   Click Apply to save the new settings, and then close the Smoke Setup utility.

You can now use Smoke with Backburner Manager.

Installing and Configuring Backburner Server and the Media I/O Adapter on a Dedicated System

Perform one of the following procedures to install Backburner Server on non-Burn systems that you want to use as processing nodes. The first procedure applies to Linux systems, and the second one applies to Mac OS X systems.

NOTE For more detailed Backburner installation information, see the latest *Autodesk Backburner Installation Guide*.

To install Backburner Server and the Media I/O Adapter on a dedicated Linux system:

1   Open a terminal and log in as root.

2   Download the Backburner and the Media I/O Adapter *.tar* files from the links provided in the Release Announcement you received from Autodesk.

3   Unpack each *.tar* file by typing:

tar −zxvf <file_name>**.tar.gz**

The installation packages are unpacked into new directories.

4   Go to the newly-created directory for the Backburner package, and run the installer by typing:

./INSTALL

5   Answer No when the installer asks if you want to automatically run Backburner Manager on this machine.

6 Answer Yes when the installer asks if you want to automatically run Backburner Server on this machine.

7 Answer Yes when the installation script asks if you want to enter a Backburner Manager for the Server. The manager configuration file opens. Enter the hostname of the system running Backburner Manager.

> **NOTE** You can also configure this setting later. See Configuring Backburner Server to Access Backburner Manager.

8 Go to the directory where you unpacked the Media I/O Adapter *tar* file, and run the installer by typing:

`./INSTALL`

The Media I/O Adapter is installed, and ready to use.

9 Refer to the following sections for information on configuring Backburner Server.

To install Backburner Server and the Media I/O Adapter on a dedicated Mac system:

1 If you are installing from the Smoke DVD, insert the disc and double-click the DVD icon on the desktop.

2 If you are installing from the Smoke *dmg* file, double-click the *dmg* to see its contents.

3 Go to the *Standalone Installers* folder and run the Backburner installer.

4 Follow the on-screen instructions to complete the installation.
Both Backburner Manager and Backburner Server are installed on the Mac.

5 Run the Media I/O Adapter installer from the *Standalone Installers* folder on the Smoke DVD or *.dmg*.

6 Follow the on-screen instructions to complete the installation.
The Media I/O Adapter is installed and ready to use.

7 Refer to the following sections for information on configuring Backburner Server.

Configuring Backburner Server to Access Backburner Manager

Configure each Backburner Server node with the hostname of the Backburner Manager system that the nodes should receive processing tasks from.

The first procedure applies to Linux nodes, and the second one to Mac OS X nodes.

> **NOTE** You do not need to perform these tasks on Linux nodes if you already entered the correct Backburner Manager hostname when installing Backburner Server.

To configure Linux nodes to access Backburner Manager:

1 Open a terminal on the Backburner Server node, and log in as root.

2 Open the */usr/discreet/backburner/cfg/manager.host* file in a text editor, such as *vi*.

3 Enter the host name of the Backburner Manager system in the *manager.host* file.

4 Save and close the configuration file.

5 Restart Backburner Server by typing:

`/etc/init.d/backburner restart`

To configure Mac OS X nodes to access Backburner Manager:

1 Open Finder and press **COMMAND+SHIFT+G**.

2 In the dialog box that opens, type */usr/discreet/backburner/cfg/*.

The *cfg* folder opens.

3 Locate the *manager.host* file, and open it in TextEdit.

4 Enter the host name of the Backburner Manager system in the *manager.host* file.

5 Save and close the file.

6 Restart Backburner Server by typing:

```
sudo /usr/discreet/backburner/backburner_server restart
```

Setting up Backburner Server Nodes to Access Project Metadata

Each Backburner Server node on your network needs to be able to access the project and library metadata directories exported by the Visual Effect and Finishing workstations that submit background processing jobs.

These directories are located under */usr/discreet* on the workstations and are automatically configured to be exported.

Backburner Server nodes must mount these shared directories under */hosts/*<hostname>, where <hostname> is the name of each workstation submitting background processing jobs.

On Burn nodes, these settings are configured automatically by the DKU, so you do not need to perform any of the tasks in this section.

On other Linux nodes, you must configure the *amd* (automount daemon) and *NFS* services.

On Mac OS X nodes, you must configure the */etc/auto_master* file.

Configuring the Automount Service on Mac OS X Nodes

Perform the following tasks to configure each Mac OS X Backburner Server node to automatically mount the directories shared by Visual Effect and Finishing workstations on your network.

To automatically mount shared directories:

1 Open Finder and press **COMMAND+SHIFT+G**.

2 In the dialog box that opens, type */etc*.

The */etc* folder opens.

3 Double-click the *auto_master* file.

The file opens in TextEdit.

4 Add the following line at the end of the file:

```
/hosts    -hosts    -nobrowse,hidefromfinder,nosuid
```

5 Save and close the file.

6 Restart the system.

Configuring the amd and NFS Services on Linux Nodes

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

Grouping Backburner Server Nodes

Use Backburner Monitor to group your Backburner Server nodes into server groups. This task is optional, but highly recommended.

To create Backburner Server groups:

1 Open a Web browser and enter the URL of the system where you installed Backburner Manager.
   The Autodesk Tools page opens.

2 Click Backburner to open Backburner Monitor.
   You are prompted to log in. The default user name and password are *backburner / backburner*.

3 Select the Backburner Manager from the Manager drop-down list, and then click the Server Groups tab.

4 In the Server Groups tab, click Create.

The following window appears:
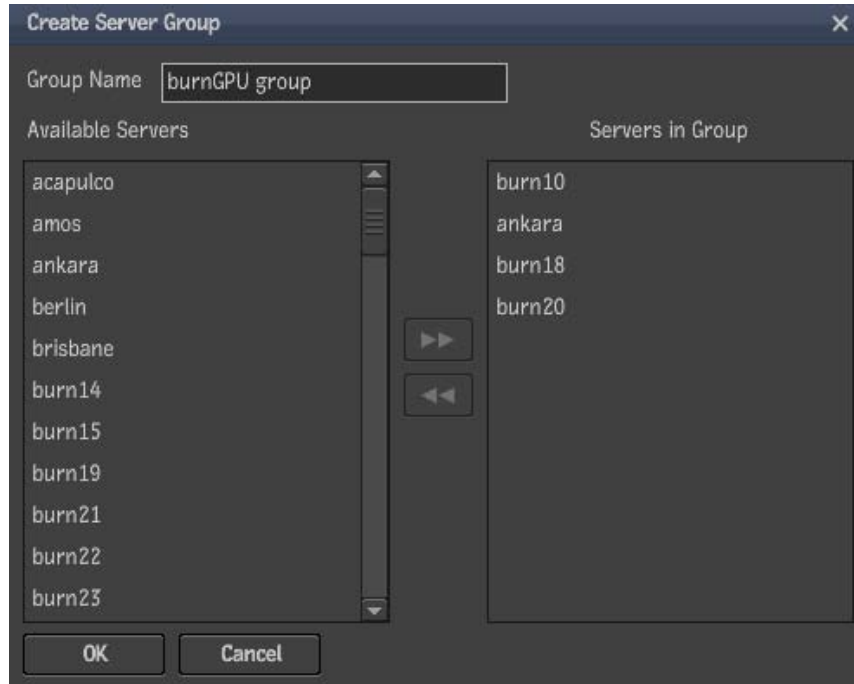
5 Give a meaningful name to your group, and then use the arrow buttons to add or remove servers from the group.

> **NOTE** You can include your Visual Effects, Finishing and Colour Grading workstations in a server group as well, if you wish to use them as processing nodes during off-peak hours.

6 Click OK to save the new group.

See the latest *Autodesk Backburner User Guide* for more detailed information about Backburner Server groups.

Installing Wiretap Gateway on a Dedicated System

Perform the following tasks to install Wiretap Gateway on a dedicated machine on your network. The first procedure applies to Linux systems, and the second one to Mac systems.

To install Wiretap Gateway on a dedicated Linux system:

1 Log in to the system as root.

2 Download the Wiretap Gateway *tar* file to a temporary directory. The download link is provided in the release announcement you received from Autodesk.

3 Unpack the file by typing:

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

The installation files are unpacked into a new directory.

5 Access the new directory, and start the installer by typing:

`./INSTALL`

Wiretap Gateway is installed. Refer to the following sections for information on licensing and configuring it.

To install Wiretap Gateway on a dedicated Mac system:

1 If you are installing from the Smoke DVD, insert the disc and double-click the DVD icon on the desktop.

2 If you are installing from the Smoke *dmg* file, double-click the *dmg* to see its contents.

3 Go to the *Standalone Installers* folder, and run the *Wiretap Gateway Server* installer.

4 Follow the on-screen instructions to complete the installation.

Wiretap Gateway is installed. Refer to the following sections for information on licensing and configuring it.

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 Linux or Mac Wiretap Gateway system to license it.

To license Wiretap Gateway:

1 Obtain the Discreet host ID of the Wiretap Gateway system. Open a terminal (on Mac OS X, the Terminal is in the *Applications / Utilities* folder), and type:

dlhostid

A line similar to the following is output:

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

2 Send the Discreet host ID line (including the *DLHOST01=* part) to the Autodesk Media and Entertainment Licensing Department, at *me.licensing@autodesk.com*.

> **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. To speak to a licensing representative call 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.

3 When you receive the license code, open the file */usr/local/flexlm/licenses/DL_license.dat* in a text editor, 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 perform one of the following actions to restart Wiretap Gateway:

- On a Linux system, open a terminal, log in as root, and type:
  /etc/init.d/wiretapgateway restart

- On a Mac OS X system, use the Smoke Monitor application from the *Applications / Autodesk / Smoke 2010 / Utilties* folder.

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.

> **NOTE** Remember to restart Wiretap Gateway after changing any of its settings. On Mac OS X, use the Smoke Monitor application from the *Applications / Autodesk / Smoke 2010 / Utilties* folder. On Linux, open a terminal, log in as root, and type:
>
> **/etc/init.d/wiretapgateway restart**

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.

Installing WiretapCentral on a Dedicated System

If you prefer not to access WiretapCentral on your Visual Effects, Finishing and Colour Grading workstation, perform the following tasks to install WiretapCentral on a dedicated system on your network.

The first procedure applies to Linux systems, and the second one to Mac systems.

To install WiretapCentral on a dedicated Linux system:

1 Log in to the system as root.

2 Download the WiretapCentral *tar* file to a temporary directory. The download link is provided in the release announcement you received from Autodesk.

3 Unpack the file by typing:

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

   The installation files are unpacked into a new directory.

5 Access the new directory, and start the installer by typing:

   ./INSTALL

   WiretapCentral is installed. Refer to the following section for information on configuring it.

To install WiretapCentral on a dedicated Mac system:

1 If you are installing from the Smoke DVD, insert the disc and double-click the DVD icon on the desktop.

2 If you are installing from the Smoke *dmg* file, double-click the *dmg* to see its contents.

3 Go to the *Standalone Installers* folder and run the *WiretapCentral* installer.

4 Follow the on-screen instructions to complete the installation.

   WiretapCentral is installed. Refer to the following section for information on configuring it.

Configuring WiretapCentral

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* on Linux or */etc/apache2/httpd.conf* on Mac OS X, 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.
   - On Linux, open a terminal, log in as root, and type:
     /etc/init.d/httpd restart

   - On Mac OS X, run the Terminal application from Applications / Utilities, and type:
     sudo /usr/sbin/apachectl 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:

   ■ On Linux, type:
   /etc/init.d/backburner restart

   ■ On Mac OS X type:
   /usr/discreet/backburner/backburner_manager 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.

Configuring Visual Effects and Finishing Applications to Access WiretapCentral

Configure your Visual Effects and Finishing application with the location of WiretapCentral. The application uses this setting to open WiretapCentral when you click the WiretapCentral button in the Import Image menu.

Configuring Linux applications to point to WiretapCentral:

1 If the Visual Effects and Finishing application is running, exit it.

2 Open a terminal and log in as root.

3 Open the application configuration file, *init.cfg*, in a text editor. Type:
   vi /usr/discreet/<application_directory>**/cfg/init.cfg**

4 Scroll down to the `WiretapCentralUrl` keyword.

5 Change the value of the keyword to refer to the system where you installed WiretapCentral. For example:
   `WiretapCentralUrl   http://server1/WiretapCentral/`

6 Save and close the *init.cfg* file.
   You can now use your application with WiretapCentral.

Configuring Smoke for Mac OS X to point to WiretapCentral:

1 If Smoke is running, exit it.

2 Run the Smoke Setup application from *Applications / Autodesk / Smoke 2010 / Utilities*.

3 Enter the URL of WiretapCentral in the WiretapCentral Url field, in the General tab. For example:
   `http://server1/WiretapCentral/`

4 Click Apply to save the settings, and then close the Smoke Setup application.
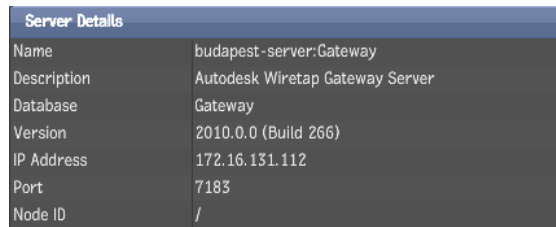
You can now use Smoke with WiretapCentral.

Verifying Installed Components

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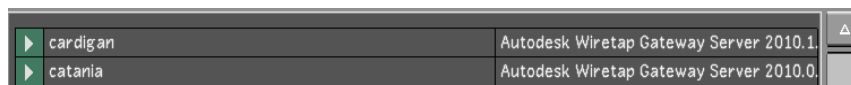
Verifying Wiretap Gateway

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 Wiretap Gateway system you want to verify in the Servers panel on the left-hand side, and make sure the label "Gateway" appears next to the system name.

3 In Lustre, locate the Wiretap Gateway system in the file browser, and make sure the label "Autodesk Wiretap Gateway Server `<version>`" appears in the column on the right.

4 Click the Wiretap Gateway system name, and verify that Wiretap Gateway was successfully licensed:

■ In WiretapCentral, the Description row in the Server Details panel should no longer contain the mention "Unlicensed".

■ In Lustre, Wiretap Gateway should no longer contain the mention "Unlicensed".

5 Make sure you are able to browse the storage device connected to the Wiretap Gateway system.

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.