Vantage 8.1 UP5

User Guide

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Resource	Contact Information
Vantage Technical Support	Web Site: http://telestream.net/telestream-support/vantage/support.htm
	Support Email: support@telestream.net
	Enterprise Telephone Support:
	U. S. Toll Free: (877) 257-6245
	U. S. from outside U.S.: (530) 470-2036
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Vantage Client Programs Overview

This chapter provides general information about using Vantage client programs, including starting and stopping, logging in to a Vantage domain, and best practices for accessing Windows files in Vantage.

Note: You manage Vantage licenses in the Management Console. For details on adding, updating, or activating licenses, see *Enabling a Vantage License* in the *Vantage Domain Management Guide*. Depending on how you purchase Vantage features, Telestream may send you additional license files or an updated license file. Follow the instructions accompanying the license file for adding or updating license files.

Topics
- Adding Demo Licenses
- Windows Vantage Client Program Management
- Web Application Management
- Paths for Vantage Storage Overview

Adding Demo Licenses

You should, as a general rule, manage your licenses using the Management Console.

However, for convenience, you can also import demo license files (but not production licenses) to your domain directly in Workflow Designer.

When you receive a demo license (an XML file), install it using these steps:

1. Store the demo license file in a location that is accessible to your Vantage domain server.

2. Store a second copy of the file in a safe place.

3. In Workflow Designer, select File > Add/Update Demo License to display the Add/Update Demo Licenses dialog.

4. Navigate to and select one or more licenses, and click Open.

5. Restart Workflow Designer and any other client programs that are open.

Windows Vantage Client Program Management

Vantage provides the following Windows programs:

- Management Console
- Workflow Designer
- Workflow Portal
- Dublist Portal

These programs interact with the Vantage domain database to set up and configure, control, and operate it. They are often referred to collectively as *client programs*.

Note: Vantage Cloud Manager is not described in this guide. For details about using Vantage Cloud Manager, see the *Vantage Cloud User Guide*.

The following topics describe general Windows client program tasks:

- Starting and Stopping Client Programs
- Displaying Program Tips & Warnings
- Displaying the Version of a Windows Client Program
- Displaying your Domain's Database Version
- Displaying the Vantage User Guide
- Displaying Context-Sensitive Help Topics
- Displaying Man Pages
- Selecting Vantage Domains and Logging In
- Changing Vantage Users in Windows Client Programs
- Changing Passwords in Windows Client Programs
- Changing or Reloading A Configuration in Workflow Portal

Starting and Stopping Client Programs

All Vantage Windows client programs connect directly to the Vantage domain database, and thus—can only be used on a Windows computer which has access to the domain (or the domain's database host in the case of an array).

Vantage client programs start and stop like typical Windows programs.

Some client programs require configuration by an administrator before they can function. For example, Workflow Portal and Dublist Portal require application configurations, which are created in the Management Console.

- Starting Workflow Designer
- Starting Workflow Portal
- Starting Dublist Portal
- Stopping Vantage Windows Client Programs

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Starting Workflow Designer

To start Workflow Designer, use one of these methods:

- Select Start > Programs > Telestream > Vantage > Vantage Workflow Designer
- Double-click the Vantage Workflow Designer shortcut on your desktop.

Note: If you are launching Workflow Designer for the first time, you'll be prompted to select and log in to a Vantage domain. See *Selecting Vantage Domains and Logging In* for details.

Starting Workflow Portal

Workflow Portal is an optional, licensed Vantage client program that allows operators to browse catalogs or Windows servers to select media, enter/update metadata and variables, and submit jobs. When you start Workflow Portal, if no license is available, it advises you, and operates in demo mode. When operating in demo mode, you cannot submit jobs or edit metadata labels.

You can run multiple instances of Workflow Portal on one computer (and one license), so that you can use multiple configurations at the same time. For example, you may be reviewing and submitting assets in one, and setting trim points in another.

User authentication is used to control user access to Workflow Portal configurations. Administrators can choose which Vantage users can utilize a specific configuration. Administrators can also make certain configurations available to everyone.

To start Workflow Portal, do one of the following:

- Select start > Programs > Telestream > Vantage > Vantage Workflow Portal
- Double-click the Vantage Workflow Portal shortcut on your desktop.

Note: If you encounter an error when launching the Workflow Portal, please see *Troubleshooting Workflow Portal* for assistance.

If you are launching Workflow Portal for the first time, you'll be prompted to select and log in to a Vantage domain and choose a Workflow Portal configuration. See *Selecting Vantage Domains and Logging In* for details.

Starting Dublist Portal

Dublist Portal is provided as part of TrafficManager. You can run multiple instances of Dublist Portal on one computer, so that you can use multiple configurations at the same time.

User authentication is used to control user access to Dublist Portal configurations. Administrators can choose which Vantage users can utilize a specific configuration. Administrators can also make certain configurations available to everyone.

To start Dublist Portal, do one of the following:

- Select start > Programs > Telestream > Vantage > Vantage Dublist Portal
- Double-click the Vantage Dublist Portal shortcut on your desktop.

If you are launching Dublist Portal for the first time, you'll be prompted to select and log in to a Vantage domain. See *Selecting Vantage Domains and Logging In* for details.

Stopping Vantage Windows Client Programs

To stop any of the Vantage Windows client programs, use the usual Windows convention—select File > Exit (Control+Q).

You typically don't need to explicitly save work you have performed, because all information is stored in the Vantage domain database, and updated automatically as you make changes. However, when you are editing data (for example, metadata, in the Management Console or Workflow Portal), you do need to save it explicitly. If you attempt to close a dialog window or the program without saving the data, you'll be warned.

Displaying Program Tips & Warnings

Both Workflow Designer and Workflow Portal provide tips and warnings in tooltips and dialogs. To hide these tips and warnings, Check the Hide checkbox on one of the dialogs, or select Options > Hide Tips & Warnings. To reset them to their default behavior, select Options > Restore Tips & Warnings.

Displaying the Version of a Windows Client Program

To determine which version of a Vantage Windows client program you're using, select Help > About.

Displaying your Domain's Database Version

To determine a Vantage domain's database version number, in Workflow Designer select Help > Database Version.

Displaying the Vantage User Guide

There are several ways to access the *Vantage User Guide* in Workflow Designer:

- Select Help > Getting Started to display the Tours topic in the *Vantage User Guide*. The tours introduce you to Workflow Designer and describe how to create and con-figure workflows, submit jobs, and monitor jobs.
- Select Help > Contents to display the *Vantage User Guide* table of contents.
- Select Help > Index to display the *Vantage User Guide* index.
- Select Help > Search to display the *Vantage User Guide* search tab, where you can enter search criteria to locate topics you want to read.
- If you have Internet access, select Help > Online Help to display Vantage Online Help on the Telestream web site, where you can access all Vantage documentation.

Displaying Context-Sensitive Help Topics

In Workflow Designer, you can click the help button ![help button] to display the topic in the User Guide that relates to the specific program feature that has focus:
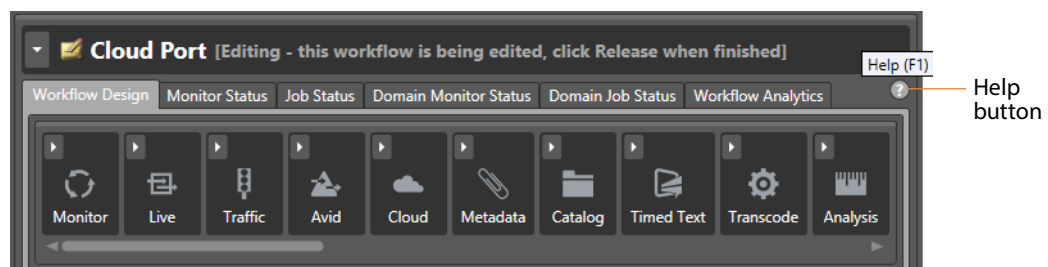
If the topic is not available, you can search the entire User Guide for information.

Displaying Man Pages

In Workflow Designer action Inspectors, *man pages* are context-sensitive help topics that provide detailed information for action configuration options.

To open the man page for any action inspector panel, click the Ⓜ button.

Man page button
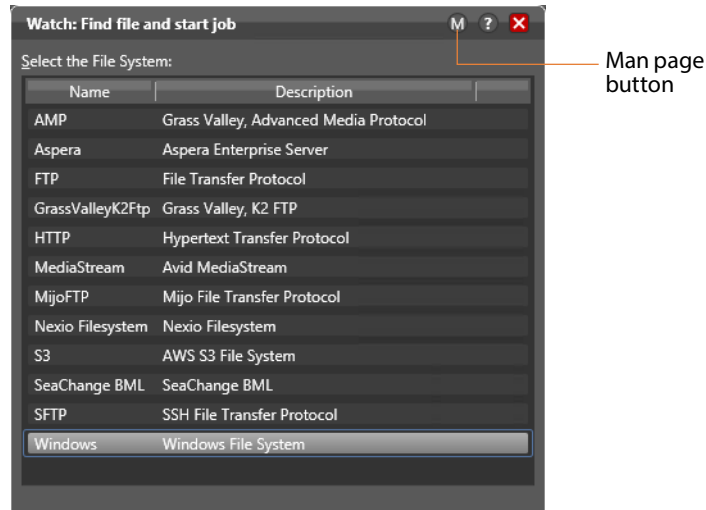
When the man page window is open as you proceed through a series of Inspector panels, the man page changes as necessary, as you display each panel.

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Selecting Vantage Domains and Logging In

Selecting a Vantage domain and logging in to it varies, based on several factors and settings in your domain. These tasks are described in the following topics:

- Selecting the Vantage Domain
- Logging In to a Vantage Domain
- Creating a Workflows Category in Workflow Designer
- Selecting a Configuration in Workflow Portal or Dublist Portal

Selecting the Vantage Domain

You may have multiple Vantage domains in your environment. (For example, domains for different departments, shows, or geographic locations, or for scaling your encoding capacity or using a Vantage Lightspeed server.) Each Vantage domain is a separate, stand-alone Vantage system, whose Vantage domain database and services do not interact with other domains.

You might need to manually select a domain from a Vantage client program for the following reasons:

- You are starting a Vantage client Windows program for the first time.
- Your work requires that you connect to a different Vantage domain.

After you select a Vantage domain, the program remembers it and connects to the domain automatically each time you restart the program. You can change domains at any time.

To select a domain, do the following:

1. In any client program, select File > Change Vantage Domain (in Workflow Designer, you can also right-click in the Workflows panel away from any buttons and select Change Vantage Domain from the context menu).

The program displays the Select Vantage Domain panel.
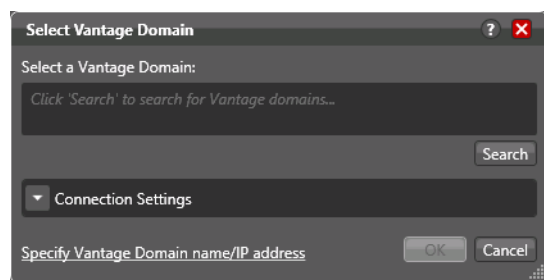
Take one of two actions:

2. If you know the domain's identity or the domain isn't listed during a search, click Specify Vantage Domain Name/IP Address to expand the dialog.
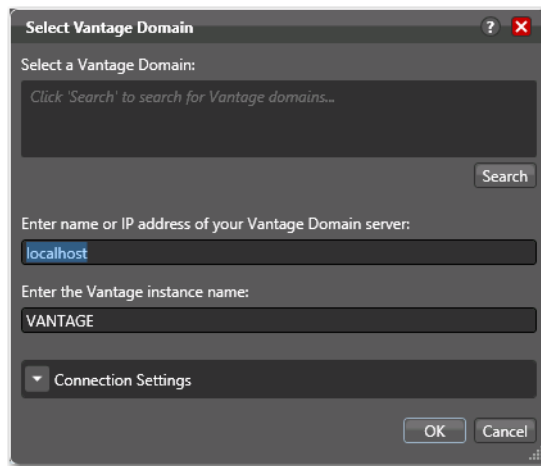
    a. Enter the Vantage domain's server name (for example, *VantageServer203*) or IP address and Vantage database instance name if different than the default, and click OK to connect. If you do not know what to enter, contact your Vantage domain administrator.

3. If you don't know the domain's identity, click Search to locate all domains on your network.
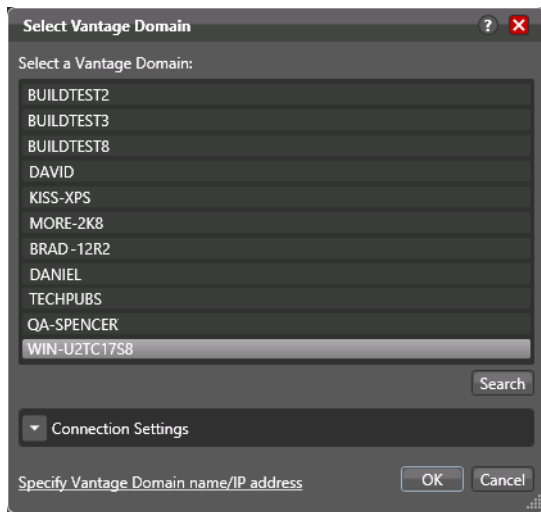
    a. Select the domain you want to connect to, and click OK.

    If connection is successful and you're prompted to enter a user name and password, see *Logging In to a Vantage Domain*.

When you change domains, the program closes its connection (if any) with the current domain and connects to the new domain.

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Note: If your domain isn't listed or you can't connect, contact your Vantage domain administrator and/or refer to *Connecting to an Unlisted Domain*. If you are required to connect using a custom login, follow these steps:

To connect using custom login settings:

If the Vantage domain is using a SQL database where the default settings for the MS SQL server account were changed during installation, open Connection Settings to display the SQL Server login and password settings.
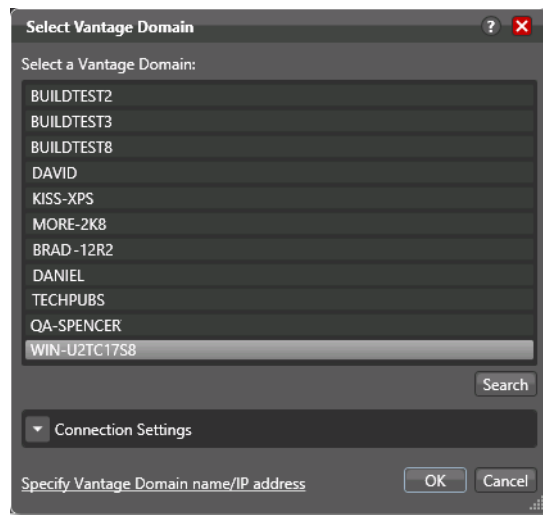
The program displays the SQL Server login and password settings.
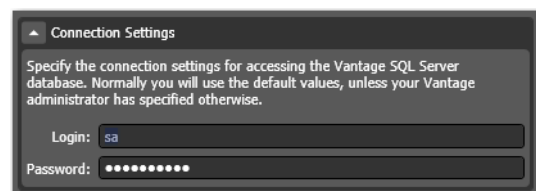
Enter the Vantage database SQL server account user name and password (obtained from your Vantage administrator), and click OK to connect.

Logging In to a Vantage Domain

To access a Vantage domain, you may need to log in, providing your user credentials. Your Vantage administrator will either provide you with a Vantage user name or configure Vantage to work with your Windows user name.

Note: In Workflow Designer and the Vantage Management Console, to maintain security, you can elect to prompt for login each time the program is launched. Or, you can disable this feature, but it reduces security.

Note: Administrators can enable or disable user authentication. They can also choose whether or not to use Windows user names by enabling or disabling Windows Active Directory. Both settings are configured in the Vantage Management Console.

Note: If you don't have a Vantage user name, ask your Vantage administrator to create one for you or add your Windows user as an authorized Vantage user.

If login is required, the Vantage Domain Login dialog displays.

This dialog is for a domain not using Active Directory.

This dialog indicates that the domain is using Active Directory.
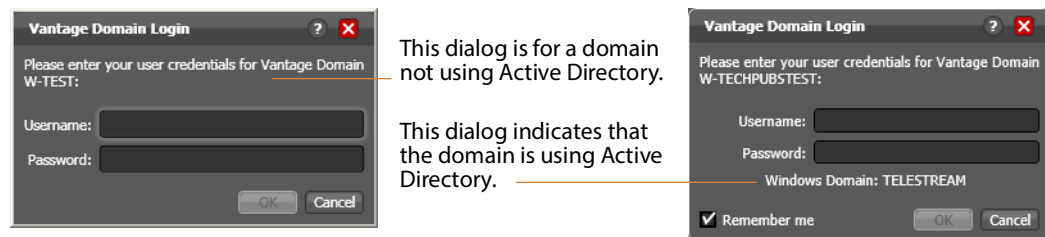
Enter your user name, and password if required, and click OK to connect.

In Workflow Designer, you may be prompted to create a new category—see *Creating a Workflows Category in Workflow Designer*.

In Workflow Portal and Dublist Portal, you'll be prompted to select a configuration before you can continue—see *Selecting a Configuration in Workflow Portal or Dublist Portal*.

Creating a Workflows Category in Workflow Designer

When you log in, the only categories that display are those that you are authorized to access. (If your user has administrative privileges, all workflows in the domain are displayed.) Access to workflow categories by user is controlled in the Management Console.

When you log in, if there are no categories available then you will be prompted to create one. If you're prompted to create a new category, click OK to display the Create New Category dialog.

Enter the name for this category, and click OK.

Selecting a Configuration in Workflow Portal or Dublist Portal

If a configuration has been previously selected, it is loaded and used automatically. Otherwise the Select Configuration window displays, enabling you to select a configuration to use during this session.

Note: The configurations in the list include public configurations (usable by any Vantage user), plus those that your Vantage user account is authorized to use. Access to configurations is controlled by the Vantage domain administrator.
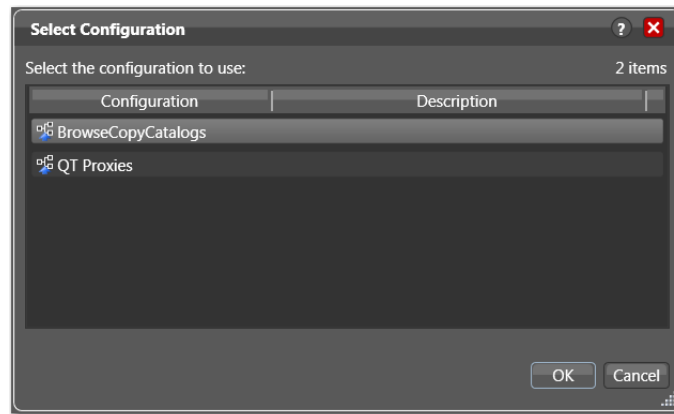
Select a configuration from the list and click OK.

Changing Vantage Users in Windows Client Programs

When you are logged in to a Vantage domain that has User Administration enabled (in the Vantage Management Console), you can change to another Vantage user or Active Directory user (depending on your User Administration settings.

Select File > Change Vantage User to display the Vantage Domain Login dialog.
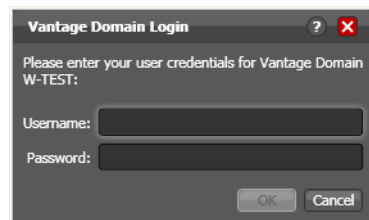
Enter your user name, and password if required, and click OK to log in.

Changing Passwords in Windows Client Programs

When you are logged in to a Vantage domain that has User Administration enabled (in the Vantage Management Console) and Windows Active Directory *is not being used*, you can change the password of the Vantage user currently logged in.

Select File > Change Password to display the Set Password window.
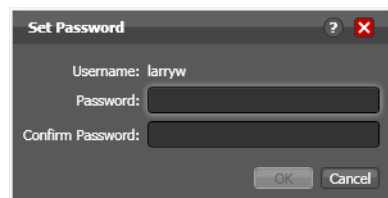
Enter a new password, confirm the password, and click OK to update the password for this user. The next time you log in to the Vantage domain with this user, you'll need to use the new password.

Changing or Reloading A Configuration in Workflow Portal

To change configurations when you need to perform other tasks *in the same domain* or when you have changed a configuration and need to obtain the current version, follow these steps:

1. Select File > Change/Reload Application Configuration.

Workflow Portal displays a list of configurations for this domain.
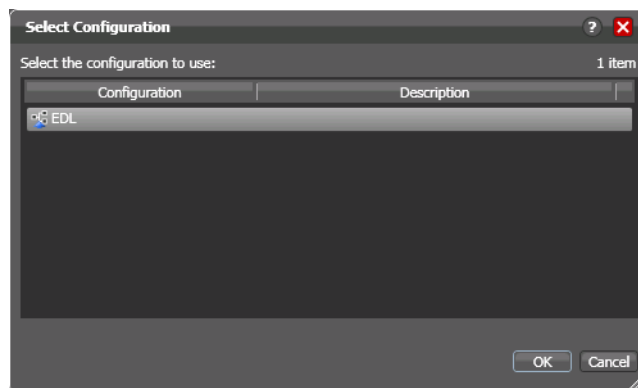
2. Select the configuration you want to use or update, and click OK.

Workflow Portal opens the configuration, and displays the appropriate user interface for this configuration.

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Web Application Management

Vantage provides the following web applications:

- Web Dashboard—Shows domain status and statistics for administrators.

- Job Status Views Web Application—Allows viewing and managing Vantage jobs.

- Workflow Portal Web Application—Allows viewing and managing catalogs and binders, and submitting them to workflows.

- Dublist Portal—Provides an operator web portal for managing dublists.

- Settings—Settings for web apps, including 12/24 hour clock selection, and Precon-figure Vantage Database, which eliminates the requirement for users to search for the domain and log in on first use (see *Bypassing Database Login*).

- External Links—A web page for storing frequently used web links. You can add links using the Vantage Management Console > Settings & Options > Dashboard Links.

The following topics describe general web application tasks:

- Web Application Browser Requirements
- Web App Home Page—Launching Web Apps
- Logging In or Changing Domains from Web Applications
- Returning to the Vantage Web App Home Page
- Logging Out of a Vantage Domain
- Changing Passwords in Web Applications
- Displaying Version Information
- Accessing Vantage Help in Web Applications

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Web Application Browser Requirements

Vantage web applications are implemented for execution in Microsoft IIS. JavaScript and cookies must be enabled to use Vantage web applications properly.

Telestream recommends the following web browsers for use with Vantage web apps:

- Internet Explorer 11—32-bit or 64-bit (Windows only)
- Chrome—current version (MacOS X and Windows)
- Safari—current version (MacOS X only).

To configure Internet Explorer for use with Vantage web applications, do the following:

1. Enable Active Scripting—Open Internet Explorer, select *Tools > Internet options,* select the Security tab, click *Custom level*, scroll down to Scripting, click Enable under *Active scripting*, click OK, and click OK to close the Internet Options dialog.

2. In Internet Explorer, disable Enhanced Security Configuration (ESC) using the Windows Server Manager. Enter the hostname or IP address into the address bar that is used to set up the HTTP alias. For example, if you use a hostname to set up the alias, then you use that hostname to browse to the web apps. If you use an IP address, you should use that address to browse to them. For example, *http://192.168.0.1/Vantage/Portal/ConfigSelect.aspx*. The use of *localhost* is not supported.

3. When using the Workflow Portal Web Application on a Windows Server platform, you must install the Desktop Experience feature in order to view proxy media in the HTML5 Media Player.

Web App Home Page—Launching Web Apps

You use the Vantage web app home page (launchpad/dashboard) for accessing Vantage web apps.

- Starting Web Applications
- Licensing Issues When Starting Workflow Portal
- Stopping Web Applications

User authentication may be used to control user access to Workflow Portal configurations. Administrators can choose which Vantage users can utilize a specific configuration. Administrators can also make certain configurations available to everyone. (These functions are performed in the Vantage Management Console.)

Starting Web Applications

Logging in to a Vantage domain from a web application is a bit different than logging in from a Vantage Windows client, such as Workflow Designer. When you log in from a web application, you first start the web application by accessing the web server via a browser. Then, you actually log in to the Vantage domain after that.

To start Vantage web applications from the Vantage web app home page, do the following:

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1. Open your web browser and enter the Vantage web application home page URL:

http://<IISServerName>/Vantage/

where *<IISServerName>* is the DNS name of the IIS server (or its IP address)—by default, the same as the Vantage domain server.

Note: If you do not know the name of the Vantage IIS server (by default, the same server where the Vantage domain database is hosted), contact your Vantage administrator or IT department.

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2. If you are prompted to select a domain, select the domain name, and click OK.

The first time you connect to a Vantage domain from this computer (or you deleted your browser's cookies), select the domain from the list and click OK to continue. Refer to *Logging In or Changing Domains from Web Applications* for more information.

3. Enter your authorized Vantage user name and password.

Vantage displays the Vantage web app home page.
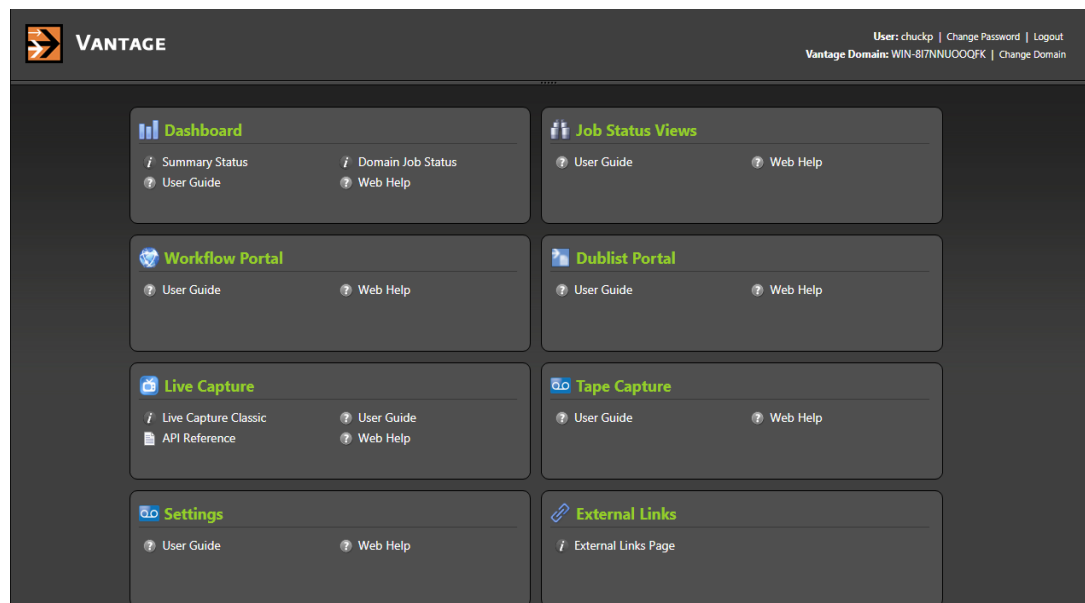
Listed apps vary depending on your domain settings and licenses. Click the web application you want to use.

You can also launch each web application directly, by using its URL:

- Dashboard—*http://<ServerName>/Vantage/Dashboard/*
- Job Status Views—*http://<ServerName>/Vantage/JobStatusViewer/*
- Workflow Portal—*http://<ServerName>/Vantage/Portal/*
- Dublist Portal—*http://<ServerName>/Vantage/DublistPortal/*
- Live Capture—*http://<ServerName>/Vantage/CapturePortal/*

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- Tape Capture—http://<*ServerName*>/Vantage/TapeCapture/capture/

- Settings—http://<*ServerName*>/Vantage/Administration/Settings.aspx

- External Links—http://<*ServerName*>/Vantage/ExternalLinks/ExternalLinks.aspx

Licensing Issues When Starting Workflow Portal

Workflow Portal is an optional, licensed web application. When you start it, if no license is available, it advises you, and operates in demo mode. When operating in demo mode, you cannot submit jobs or edit metadata labels.

You can also run multiple instances of Workflow Portal on a single computer, so that you can use more than one configuration at a time—and each running instance requires its own Workflow Portal license. For example, you may be reviewing and submitting assets in one configuration, and setting trim points in another.

Stopping Web Applications

To stop a web app, close the browser or the web page tab, or change web sites.

Logging In or Changing Domains from Web Applications

When you start a web application, you may need to complete additional tasks before you can begin working. If additional tasks are required, Vantage will prompt you to complete those tasks, which are described in the following topics:

- Selecting the Domain
- Logging In

Selecting the Domain

Each *Vantage domain* is a separate, independent Vantage system. As a Vantage user, you might need to select a domain for the following reasons:

- You are starting a web application for the first time on a given computer.

- Your work requires that you connect to a different Vantage domain.

After you log in to a Vantage domain, the web app remembers it and connects automatically each time you restart the program. You can change domains at any time.

To select a domain, do the following:

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1. In any web app where you want to change Vantage domains, select Change Domain in the application title panel.

The web application displays the Select Vantage Domain dialog.

Vantage domains on your network.
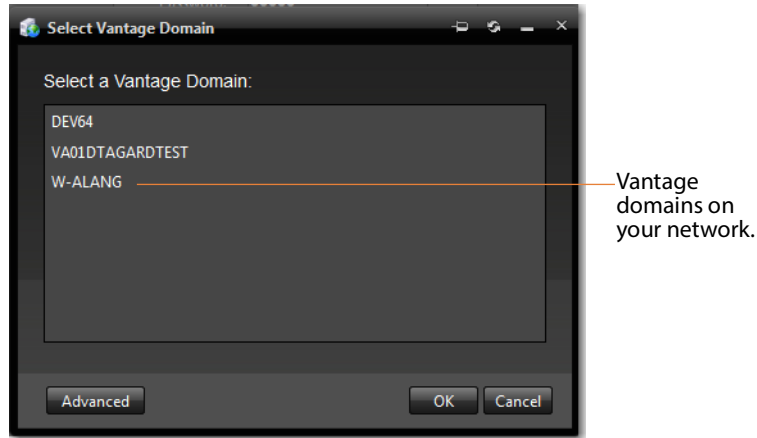
2. To select a listed domain, select a domain in the domain list, and click OK.

When you change domains, your web application closes its connection and connects to the new domain.

If your domain is not listed, or your connection attempt is unsuccessful, contact your Vantage domain administrator and refer to the following topics:

■ Connecting to an Unlisted Domain

■ To connect using custom login settings:
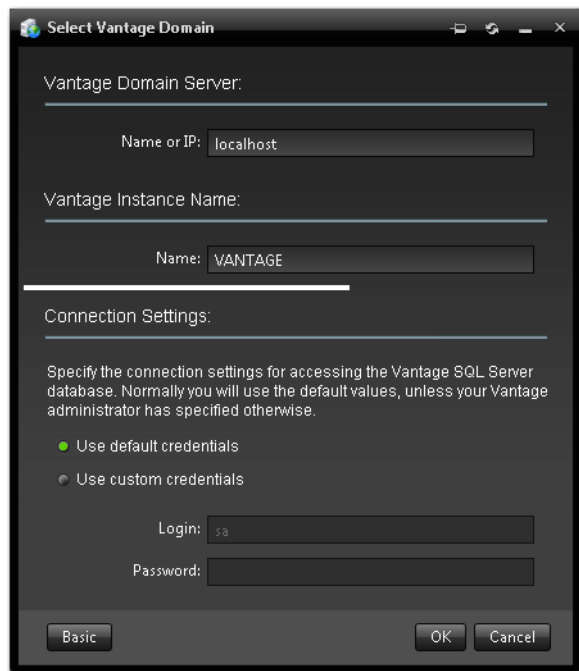
Connecting to an Unlisted Domain

If the domain you want to connect to is not in the list, click *Advanced*. To connect to an unlisted domain, do the following:

To connect to an unlisted domain, do the following:

1. In the Select Vantage Domain dialog, click Advanced.

2. If the domain is not in the list, click *My Vantage Domain is not Listed* to display the
Vantage domain server Name/IP field:

3. Enter) the domain database server's computer name (for example,
VantageServer203) or its IP address and click OK to connect.

4. Specify the name of the Vantage database instance, if different than the default
VANTAGE instance.

Connecting with Custom Login Settings
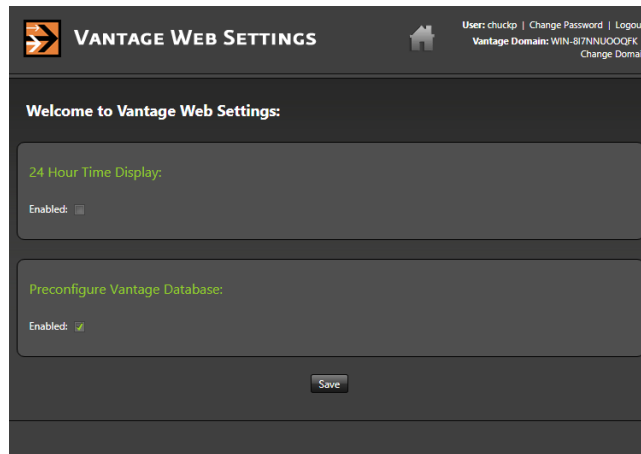
If the Vantage domain is installed on a SQL database where the default settings for the MS SQL server account were changed during installation, open Connection Settings to display the SQL Server login and password settings.

Select Use Custom Credentials, enter the Vantage database SQL server account user name and password (see your Vantage administrator), and click OK to connect.
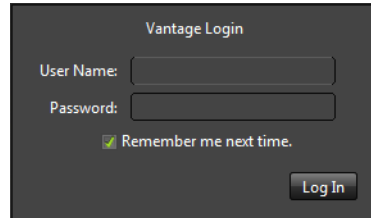
Bypassing Database Login

To keep database credentials secure and simplify operator login, an administrator can configure operator accounts to automatically log into the database without showing the login and password. To configure this option, log in as an administrator, select Settings, check (enable) Preconfigure Vantage Database, and click Save.

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Logging In

If you are accessing a Vantage domain for which user login is required, Vantage displays the Vantage Login dialog shown in this figure:

Note: If you do not have an authorized user name, contact your Vantage domain administrator.

To log in to the Vantage domain, do the following:

1. Enter your Vantage user name and password (if required) or use your Active Directory user name and password and click OK to connect. Your Vantage administrator will either give you a user name, or instruct you to use your Windows user name.

2. If you are prompted to select a domain, select the domain name, and click OK.

   The first time you connect to a Vantage domain from this computer (or after you delete browser cookies), select a domain from the list, and click OK to continue. Refer to *Logging In or Changing Domains from Web Applications* for more information.

3. Enter the user name and password assigned by your Vantage Administrator, then click Log In.

Note: The default user name is *Administrator* without a password.

4. Check *Remember me next time* to store the authentication token in a persistent cookie in the browser. This keeps you authenticated if you close your browser and reopen it again.

When you enter the Vantage web app home page's URL, Vantage displays the Vantage web app home page (see the figure following), so you can select any Vantage web application. Otherwise, your web application displays.

Returning to the Vantage Web App Home Page

To return to the web app home page, click the title panel's Home button. Note that the home page apps vary depending on your domain's configuration.

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If the title panel is hidden, click the show/hide control.
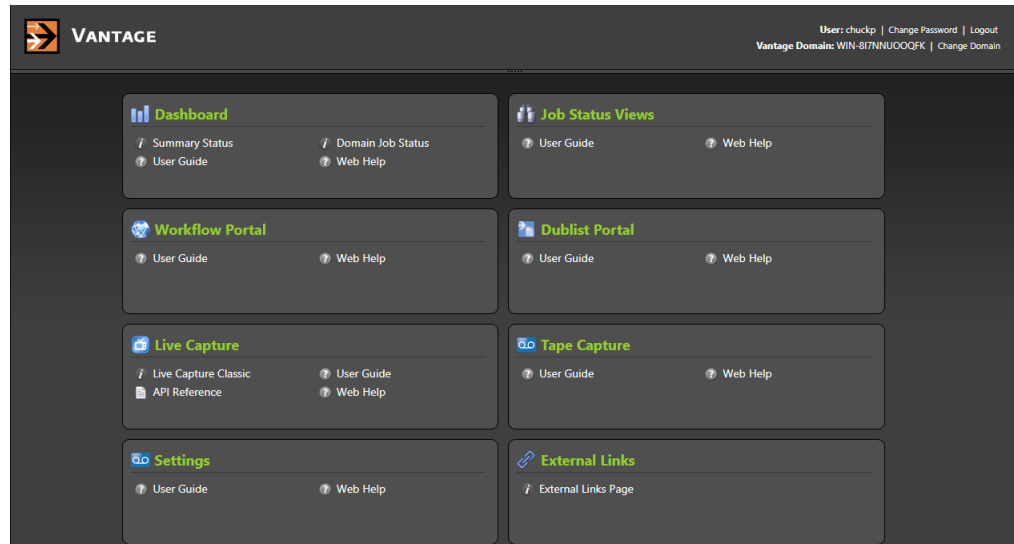
Logging Out of a Vantage Domain

If you are viewing information that is sensitive, or viewing an operational application (vs. a view-only application), you might want to log out when you leave your computer on and unattended. You must log out when you want to change domains.

To log out of any web application, click Logout in the title panel.

Changing Vantage Users in Web Applications

When you are logged in to a Vantage domain and User Administration is enabled (in the Vantage Management Console), you can change user names. To log in with a different user, do the following:

1. Select Log Out (upper right corner) to display the Domain Login dialog (in this figure, it depicts logging into the Dashboard as a sample).

2. Enter your user name, and password if required, and click OK to log in.

Changing Passwords in Web Applications

If you are logged in using a Vantage user name (not a Windows user name), you can change your password. Do the following:

1. Click Change Password (upper right corner) to display the Set Password dialog.
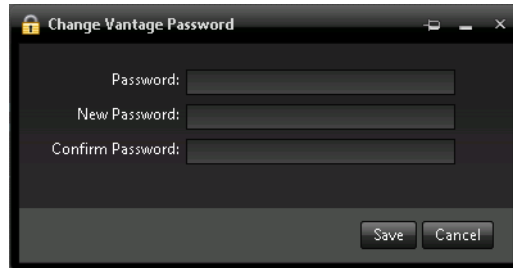
2. Enter your new password, confirm the password, and click OK to change it.

The next time you log in to the Vantage domain, use your new password.

Displaying Version Information

To display version information in a web application, click About in the Help menu.

Version Information
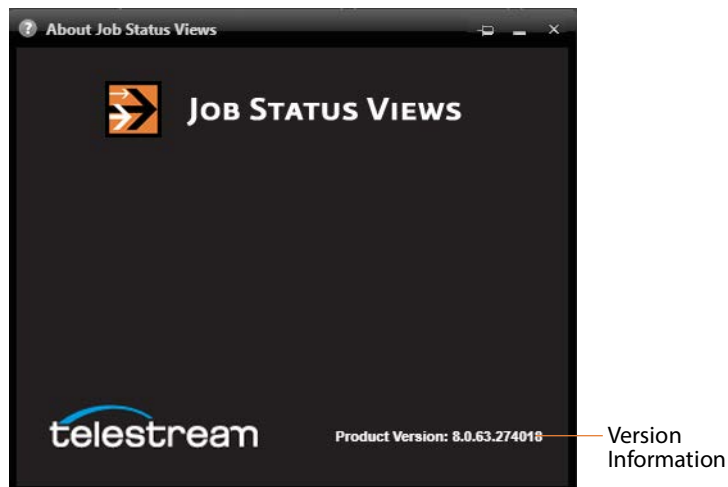
Accessing Vantage Help in Web Applications

The Help menu in the web applications is at the bottom of the left, command column.
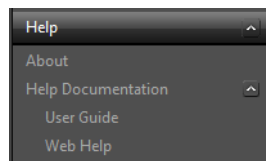
These menu items provide access to the following information and documents:

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- *About*—Displays the web application's version number.
- *User Guide*—Displays the *Vantage User Guide* (this guide) in PDF format. The PDF version contains bookmarks, and you can use the PDF search option to search for one or all occurrences of a term. This is also the best format for printing.l
- *Web Help*—Displays the *Vantage User Guide* (this guide) in HTML format. Web Help features include Contents, Index, Search, and Favorites pages. You can use Favorites to save links, so that you can quickly display an important topic.

To open the User Guide PDF or the web library, do the following:

1. Locate the Help menu in the left panel of the web application.
2. If no entries display under Help, click the control to the right to display the list.
3. To open the PDF version of this guide, click User Guide.
4. To open the web library, click Web Help.

You can also view help directly on the home page (applications that display depend on the licenses you own—Dublist Manager, for example).
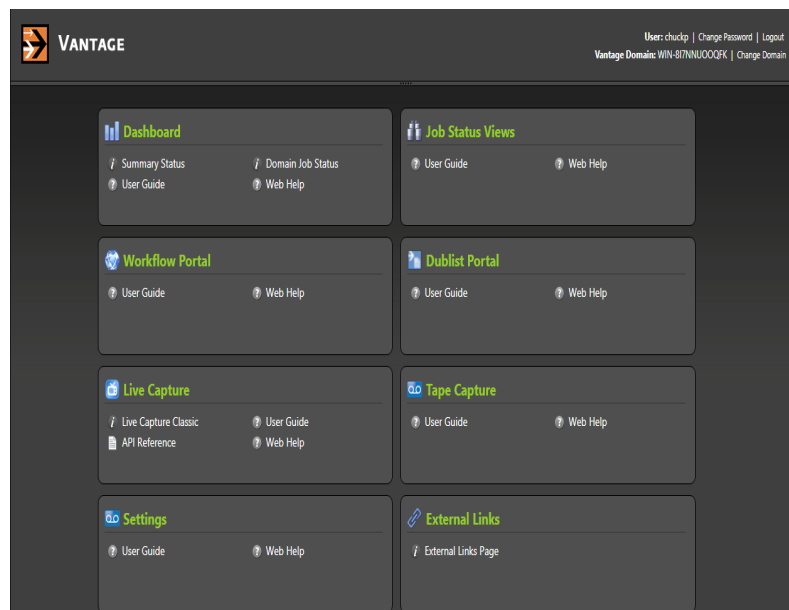
For each application, you can click on the User Guide, or click Web Help for the specific application you're interested in.

Paths for Vantage Storage Overview

Vantage *stores* are named locations for temporary files. They are used in Vantage to conveniently store and access working media and attachment files, and to write media and other output files. Many Vantage services require access to files; Windows clients such as Workflow Portal also read and write files. These programs (both Windows programs and services) may run on one computer. Usually, however, they are distributed on many computers in a Vantage array. In distributed Vantage arrays, file access must be managed to ensure that the all programs can function correctly.

Vantage stores can be specified on Windows computer using the following forms:

- UNC paths (shares): *ComputerName**Sharename*
- Drive-letters: *C:\folder\folder*

If all Vantage services, clients, Vantage stores and folders are on the same server (an All-in-one domain), you can use either form. However, Telestream recommends that you always use the UNC path form to reduce file access problems. It is a requirement when you are operating in a Vantage array.

Drive-letter paths are defined in the context of a local computer; it does not identify the computer that hosts the drive. This prevents them from being useful in arrays. For example, if you specify a Vantage store on drive C using a drive letter, and a Workflow Portal operator on a different computer tries to view files in that store, Workflow Portal will search for files on drive C on the operator's computer, not the Vantage server.

In another example, you create a workflow in Workflow Designer installed on Computer A. It has a Watch action, which is executed by a Vantage Monitor Service running on Computer B. You specify a hot folder (or *watched* folder) on drive C on Computer A, where Workflow Designer is installed. When the service executes the Watch action, it attempts to locate the hot folder on Computer B's C drive, which does not exist.

When any Vantage service or client program needs to access and use Vantage storage or a directory on a different computer, you must specify the path using the UNC form. When services or clients will access Vantage storage from another computer, the Vantage storage location or directory must be published as a share, and access must be granted to the appropriate Windows users. For more information, see Windows Authentication Guidelines in the *Vantage Domain Management Guide*.

When you want to use a SAN system, be aware that some SAN systems expose the shared drive as a letter (mapped) drive (for example, X:) that is visible on any client of the SAN. You can utilize SAN drives via a letter drive reference, provided that each Vantage server is a client of the SAN and that all mount points use the same letter.

Note: If you are creating a store to hold proxy files viewed in Workflow Portal, be sure to reference the store with a UNC path. Some SAN clients do not allow frame-accurate representation of proxies when using shared drives.

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Designing and Managing Workflows

Vantage Workflow Designer is the primary client program in Vantage: you use it to design and configure workflows to meet your media transcoding requirements. Workflow Designer combines a wide range of workflow design and media processing capabilities into a single program, enabling you to create, construct, and configure workflows to automate media processing tasks in your organization.

Workflow Designer also allows you to activate and deactivate workflows, submit media for processing, and monitor the jobs that are created as workflows process the media.

EDNOTE:

Topics

- Understanding the Types of Vantage Workflows
- Starting Workflow Designer
- Workflows Overview
- Using the Workflow Design Workspace
- Managing Workflows
- Constructing Workflows
- Configuring Actions
- Specifying Action Settings
- Implementing Processing Logic in Workflows
- Managing Vantage Folders
- Using Open Workflows
- Processing Cloud-based Media in Workflows
- Troubleshooting Workflow Designer

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Understanding the Types of Vantage Workflows

Vantage supports four types of workflows, all of which are created and configured in Workflow Designer. Workflows that execute completely or partially in Telestream Cloud require a Telestream Cloud account.

Note: The different types of workflows that you can create are not formally typed in Vantage. After importing a workflow into Telestream Cloud however, hosted workflows are actually referred to as *hosted*.

Two types of workflows may be utilized with or without Vantage Cloud mode enabled:

- **On-Premises Workflows**—are hosted in an on-premises Vantage domain, and do not include Cloud actions. These workflows may include cloud-capable actions with Vantage Cloud mode disabled, and all actions are executed by on-premises services.

  Jobs are submitted to on-premises workflows, via Workflow Designer, or a Vantage API-based client program.

- **Telestream Cloud Workflows**—are also hosted in a Vantage domain, but include the Cloud Qualify action | Cloud Speech action | Location action, which execute projects implemented directly in Telestream Cloud.

  Jobs are submitted to Telestream Cloud workflows on-premises, via Workflow Designer, or a Vantage API-based client program, though Cloud action execution occurs exclusively in Telestream Cloud.

When you enable Vantage Cloud mode, the scope of Vantage expands to Telestream Cloud, and these two types workflows may also be utilized:

- **Hybrid Workflows—**are hosted directly in an on-premises Vantage domain. In addition to Vantage actions that only execute on-premises these workflows include cloud-capable actions, which may execute in Telestream Cloud when in Vantage Cloud mode.

- **Hosted Workflows**—are workflows that have been exported to Telestream Cloud after being designed in Workflow Designer. They are capable of executing directly in the Vantage domain as well, and are not referred to as *hosted* in the context of Vantage. They are managed in the Telestream Cloud console after deployment in Telestream Cloud.

  Jobs to hosted workflows are either submitted via the Telestream Cloud's Vantage Cloud console or a Telestream Cloud API-based client program, and all action execution occurs exclusively in Telestream Cloud.

Note: For information about Vantage Cloud features and utilization, please refer to the Vantage Cloud User's Guide, available on the Telestream web site.

Starting Workflow Designer

To start Workflow Designer, do one of the following:

- Double-click its shortcut on your desktop

- Click Start > All Programs > Telestream > Vantage > Workflow Designer.

Next, select a domain and log in.

Note: For basic information on starting/stopping Workflow Designer, and changing domains and user names and passwords, see *Vantage Client Programs Overview* and *Windows Vantage Client Program Management*. For a comprehensive view of all of the action s that you can use to build workflows in Workflow Designer, see *Vantage Actions*.

Workflows Overview

A *workflow* in Vantage is a set of connected actions (each of which performs a specific task). Vantage provides over four dozen different actions, which you use as the building blocks of workflows. Workflows can be designed and configured to perform a controlled, automated media processing application. Workflow Designer organizes its actions by category (and incidentally, by the service which executes them), for ease of use. While most workflows center around the process of decoding and encoding video, you can also construct workflows that—while still media-centric—don't flip media. Instead, they might process metadata files, or perform other tasks.

These topics provide information about workflows you'll find helpful before starting the construction and configuration process.

- Workflow Basics
- Workflow Design & Configuration Overview

Workflow Basics

You construct and configure workflows in Workflow Designer using the Workflow Design workspace, by adding various types of actions (Watch action, Flip action, Copy action, etc.) and connecting them together to form a logical chain of successive tasks. Workflows are stored in the Vantage domain database, and actions in the workflow are executed by Vantage services.

A valid workflow must start with an origin action (for example, a Watch action or Workorder action—those actions in the Monitor category, plus the Receive action). For the Asset Monitor action and the Capture action, no additional actions are required for a complete workflow. For other origin actions, an additional connected action is required to complete the workflow.

Note: As mentioned above, the Capture action can be the single action in a workflow. This action enables SDI live streaming capture on a Live Capture server.

Workflows may have more than one origin action, but each origin action will function independently of the others. Multiple origin actions permit different methods (or locations) in which to submit jobs to the same workflow.

Workflows are not required to end with a terminating action—an action without an output pin. The only formal terminating action is the Forward action. The Forward action permits you to pass control directly from one workflow to another workflow, which must have a corresponding Receive origin action. This enables you to create simpler, general purpose workflows, and chain them together to provide more automation.

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Workflows are executed by jobs, which are created whenever a new file is discovered by the workflow's Watch (or other origin) action, or when you submit a job manually (*Manually Submitting Files Directly in Workflow Designer*).
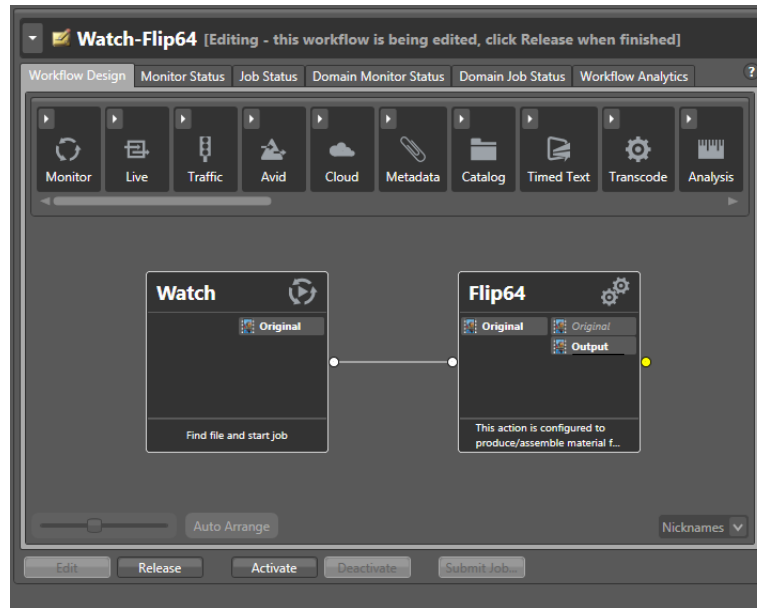
Generally, you construct a workflow in stages: first, conceptualize and design the workflow and then add the actions, connecting them together to control execution. Finally, you configure each action in the workflow to perform exactly the way you want. Now, you can test your workflow, and fine tune it as necessary.

Once you have constructed and configured a workflow, you click Activate so it can be utilized. To edit it again—or just disable it—you just deactivate it. Then, click Edit, and when you're done, you click Release. When you are editing a workflow, others using Workflow Designer can view—but not edit—the workflow. These buttons are all displayed at the bottom of the main window.

To activate, deactivate, edit, or release multiple workflows at one time, see *Performing Batch Workflow Operations*.

Workflow Design & Configuration Overview

Before constructing a workflow, it is helpful to have a solid understanding of its objective or application—what you want to accomplish with it. You'll have to determine what actions (tasks or steps) are necessary to implement the objective; where the media (and optionally, metadata and associated files) originate; what transcoding and metadata processing is required; where any new copies of media, metadata, and associated files should be stored or deployed, etc.

You should also know in advance what external systems these jobs will interact with (if any), and whether you want to register and track the output files and metadata related to each job in a Vantage catalog for future use; for example, a second workflow.

Armed with these details, you can construct the workflow, and configure each action to correctly perform its assigned task. Of course, if you don't have all this information at the start, you can configure the workflow later.

Once you have tested a workflow, you have to click Activate so it can be utilized. To edit it again—or just disable it—you just deactivate it. Then, click Edit, and when you're done, you click Release. These buttons are all displayed at the bottom of the main window.

Using the Workflow Design Workspace

This topic provides general information about using the Workflow Design workspace.

- Design Panel Overview
- Viewing and Specifying Workflow Details
- Displaying Nicknames, Variables, Run On Rules, & Perform On Settings
- Displaying Action Summary Information
- Showing and Hiding Grid Lines
- Using Annotations on Actions
- Moving the Workflow Around in the Design Space
- Centering a Workflow
- Zooming In and Out on a Workflow
- Scrolling Large Workflows with the Navigation Map
- Automatically Arranging Workflow Actions
- Automatically Validating Workflows
- Action Toolbar Display Options
- Using Context Menus in the Workflows Panel
- Controlling Workflow Status

Design Panel Overview

You use the Workflow Design workspace (click the tab or select File > Workflow Design) to view, construct, and configure workflows, and activate workflows for job processing.

The figure below illustrates the layout and main components of the Workflows panel.

Workflows panel—displays workflows by category.

Use the Workflow Design workspace to construct and configure workflows.

Workspaces (tabs) for each task.

Actions toolbar: Open services and drag actions onto the workspace to create workflows.

Nicknames | Variables | Run On Rules View

Zoom control
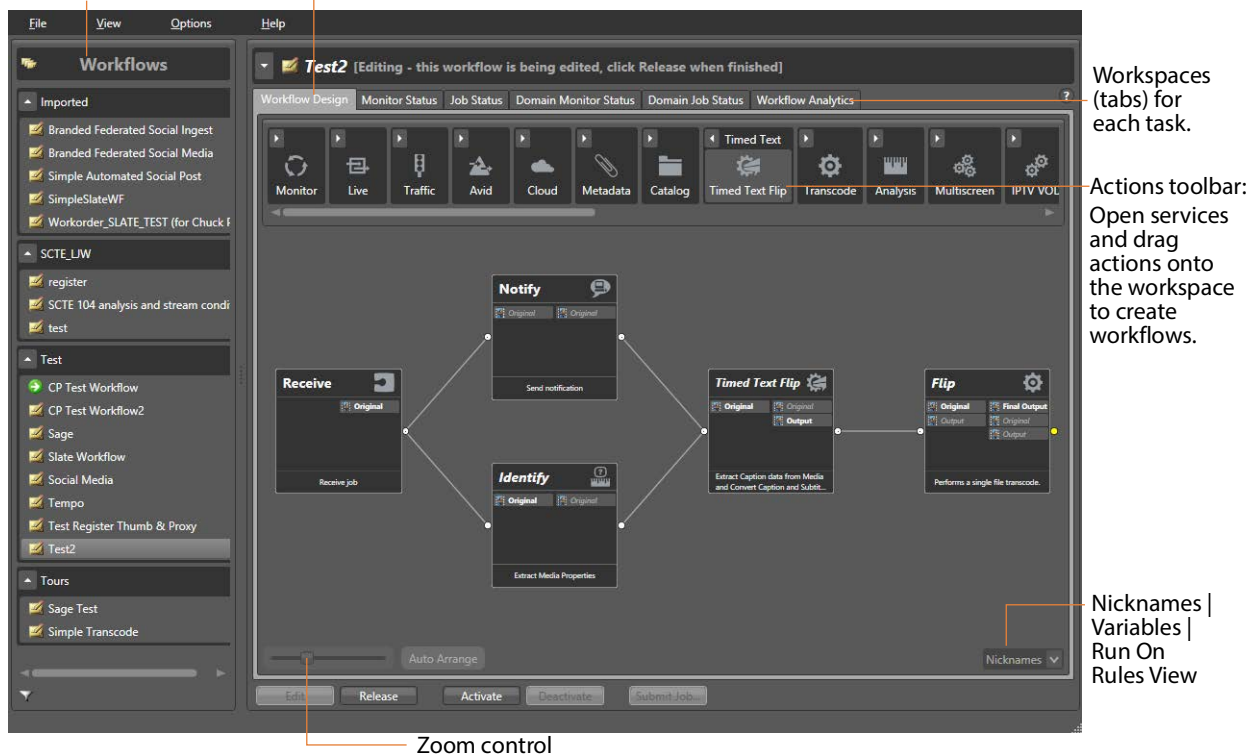
At the top of the Workflow Design workspace is the actions toolbar, categorized in groups by action type. To sort them, right-click in the toolbar and select Sort by Name or Sort by Behavior.

Click the arrow to open each action group and display the set of actions in this group.

Viewing and Specifying Workflow Details

To display or hide the selected workflow's details panel, do one of the following:

- Select File > Workflow Details Panel
- Click in the Workflow Design panel's title bar

This panel displays details and statistics about the workflow and its variables, plus settings you can configure:

- Configuring General Workflow Settings
- Enabling Automatic Job Reports
- Viewing Expected Variables

Configuring General Workflow Settings

Use the following controls to manage workflow information and settings:

- *Name*—Edit the workflow name.
- *Description*—Edit an optional description for the workflow.
- *Expiration*—Modify to configure the job and binder expiration time.
- *Options*—Check to enable open workflow mode, when enabled in the domain.

Click Apply to save your changes. Click Close to hide the workflow details panel.

Details that display directly below the Apply button include creation and modification dates, the current owner (which client is working with the workflow) and the workflow's GUID in the database, along with basic job statistics.

Note: For SDK submission, you can select the GUID and then copy and paste it into other applications as required.

Enabling Automatic Job Reports

You can configure a workflow to automatically generate a job report each time the workflow processes media. Each time a job is processed through the workflow, a new job row is automatically added to the specified report file(s).

Note: You can also manually generate a job report on any job in your job history (see *Generating Job Reports Manually*).

Job reports are based on a job report configuration created in Workflow Designer or the Vantage Management Console (see *Managing Job Report Configurations*).

To add an automatic job report for this workflow, do the following:

1. In the Workflow Details area (drop-down menu above the workflow), click Modify to display the Automatic Reports dialog.
2. Click the New Report button 🗒 in the toolbar.
3. Select the job report configuration you want to use from the Report menu. (Click the Browse button to display the Job Report Manager to create a new report configuration or edit an existing one (see *Managing Job Report Configurations*).
4. Browse or enter a Location where the job report file should be created or updated.
5. Optionally, click Filename Pattern to edit the pattern used to generate a name for the saved report files.
6. Check Enable to allow this report to be automatically generated for each job that you run using this workflow.
7. Click OK to save the automatic report.

   To delete a report, select the report and click the red delete ✖ button.

   To duplicate a report as the basis for a new report, click the duplicate 🖺 button.

Viewing Expected Variables

The Expected Variables table displays a list of variables that are being utilized by actions in this workflow and are not generated by upstream actions in the workflow itself. If a variable is utilized but not supplied—the setting in an action is bound to a variable—it displays here, along with its description, type, and default value.

The Expected Variables table can be used to determine which variables must be provided to the workflow from another workflow, a workorder, added to an upstream action; from Workflow Portal, or from a third party program using the Vantage API.

The Default Value column displays the current (static) default value for this variable. The value may change during the course of workflow execution.

Note: Variables that have been added to a workflow—whether they are utilized by any action in the workflow or not—are not displayed in this table.

To determine which actions use a given variable, right-click on the target variable and select Highlight Actions. Workflow Designer displays the Workflow Design tab and temporarily highlights each action where the target variable is used. Continue working to cancel the highlighting. You can highlight the actions that use a specific variable in other ways, too. See *Identifying Actions that use a Specific Variable*.

Displaying Nicknames, Variables, Run On Rules, & Perform On Settings

These settings are displayed directly on the face of each action, when the workflow is displayed in detailed action view. To enable/disable detailed action view, use these methods:

- Right-click in the workflow design workspace and select Detailed Action View in the context menu
- Choose View > Detailed Action View
- Press Ctrl+D as a shortcut.

When detailed action view is enabled, in the Workflow Design tab or either Job Status tab, a Detailed Action View options menu displays in the bottom right corner. Use it to choose what information to display directly on the actions:

- The nicknames of media files, attachments, and metadata labels that are available to the action
- Variables that are utilized in the action
- Run On rules that have been applied to the action (automatically or manually).
- Perform On rules that determine if an action should execute, based on post-execution state: Success, Failure, Ignore, or any of these states.

Right-click in the workflow design workspace to select Detailed Action View in the context menu or press Ctrl+D in any of these tabs to toggle it on and off.
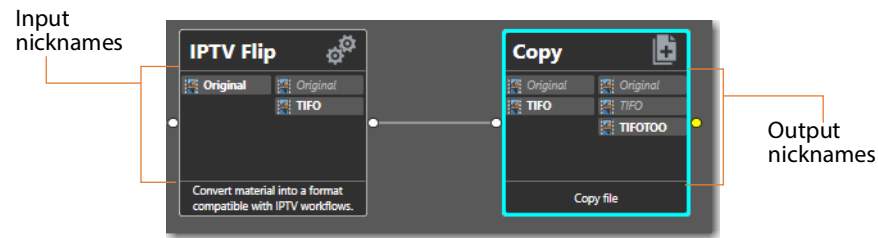
Nickname View

To display nicknames, select View > Action Details > Nicknames or select Nicknames from the menu in the bottom right corner of the Workflow Design panel. In Nicknames view, each action displays a list of file nicknames and metadata labels (in italics), plus attachments, that are available to the action before it executes (on the left), and those that are emitted by the action and available downstream when the action completes (on the right).

Nicknames (and labels) that are too long to display in the action display an ellipses (...). To view the full nickname, hover over it on the action.

Nicknames/labels displayed in bold indicate that they are utilized in that action; as input files on the left or output on the right. Nicknames in italic are not used, either as input or output, as indicated. Nicknames that are not used, either as input or output, are not displayed, although they are passed through.

In the example above, the Original nickname in the IPTV Flip action has been specified as an input file and is passed out. Likewise, the TIFO file has been specified as an output file in the IPTV Flip action. In Copy, Original is not used, but TIFO is specified as an input file. Original and TIFO are simply passed out, but TIFOTOO is specified as the output file.

Items on an action change color based upon the validity of the workflow.

"Technology preview" actions display the action name in yellow. A technology preview is essentially a beta version that you can test and use, but it is not yet released.

Nicknames displayed in red represent an error.

Note: Nicknames and labels that are used or affected by the action are highlighted. Nicknames and labels also change color indicating whether or not the workflow is valid.

For example, if you configure an action to utilize nickname *Copy7* provided by an earlier action and then delete the action that created *Copy7*, then *Copy7* displays in red on the now-invalid action.

Variables View

To display variables used in this action, select View > Action Details > Variables or select Variables from the menu in the bottom right corner of the Workflow Design panel. Unlike nicknames that are always displayed when available, variables are not displayed if they are not utilized directly in the target action. When Variables View is enabled, you can click on any variable and select Highlight Actions to see which variables use it in the entire workflow.

Variables that are too long to display are truncated, ending with an ellipsis (...). To view the full name of the variable, hover over it on the action.

Variables displayed in bold indicate that they are utilized in that action as input files on the left or output on the right. Variables in yellow indicate variables added using Add Variables in the action context menu. The yellow highlighting makes these added variables easier to recognize when modifying workflows.
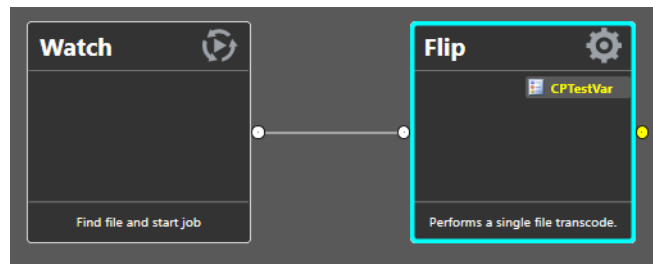
Run On Rules View

To display run on rules used in this action, select View > Action Details > Run On Rules or select Run On Rules from the menu in the bottom right corner of the Workflow Design panel.

Perform On View

To display the Perform On selection in each action, select View Perform On or choose Perform On from the menu in the bottom right corner of the Workflow Design panel. The Perform On selection is made by right-clicking an action and selecting a Perform On state in the context menu (see *Setting Conditional Action Execution* for details).

Displaying Action Summary Information

To display action summary data, hover over the Inspector button as shown here:
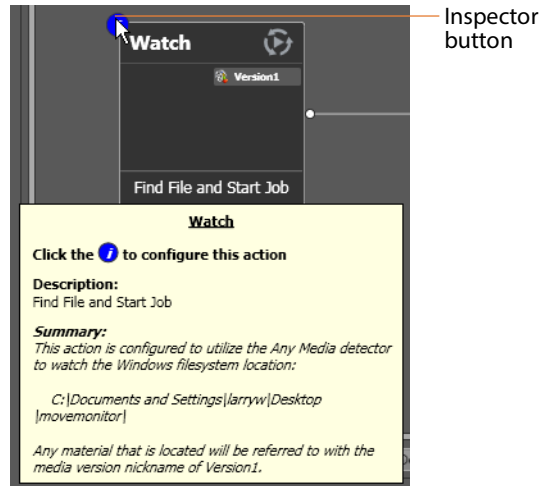
As you hover over the icon, a popup displays. It includes the action type, description (editable), and a high level description of how the action is configured.

Showing and Hiding Grid Lines

Workflow Designer provides an optional, visual grid of horizontal and vertical lines, which you can use to help you align and organize your workflow visually.

To toggle the grid lines on and off, do one of the following:

- Select View > Show Grid Lines (Ctrl+G).
- Right-click in the workspace (but not on an action) and choose Show Grid Lines.

Using Annotations on Actions

You can add annotations to any action, to describe or document your workflow more comprehensively. You can display or hide these annotations dynamically. In addition to annotations, each action provides a brief comment field (see *Creating a New Workflow*).

Displaying and Hiding Annotations

To toggle annotations on and off, do one of the following:

- Select View > Show Action Annotations (Ctrl+O).
- Right-click in the workspace (but not directly on an action within the workspace) and choose Show Action Annotations.

Adding and Editing Annotations

To add an annotation, right-click the action and choose Annotation. (You must be in edit mode in order to add annotations or make other changes to an action's configuration.) In the Action Annotation dialog, enter your descriptive text, up to 512 characters and click OK.this is

To edit an existing annotation, perform the same task—right-click the action and select Annotation. Edit the text and click OK.

Deleting an Annotation

To delete an annotation, right-click the action, choose Annotation and click Clear. Then, click OK.

Moving the Workflow Around in the Design Space

A workflow with lots of actions may be larger than your workspace when viewed at the zoom level you're using.

To move the workflow around in the workspace, click and hold anywhere on the design area other than directly on an action. The cursor displays as a compass: you can drag the workflow in the appropriate direction, and release it when done.

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Centering a Workflow

To center a workflow in your workspace, do one of the following:

- Right-click in the workspace and select Recenter Diagram (Ctrl+R)

- Select View > Recenter Diagram to center the workflow in the work area.

Note: When the *Unable to Activate Workflow* error message displays because of an incorrectly configured action, after you dismiss the message, the Workflow Designer automatically centers and selects the offending action in the workspace.

Zooming In and Out on a Workflow

You can zoom the design space based on the current position of actions, or you can select an action and center the design space on that action as you zoom.

Zoom in or out to get a better view of your workflow and actions.
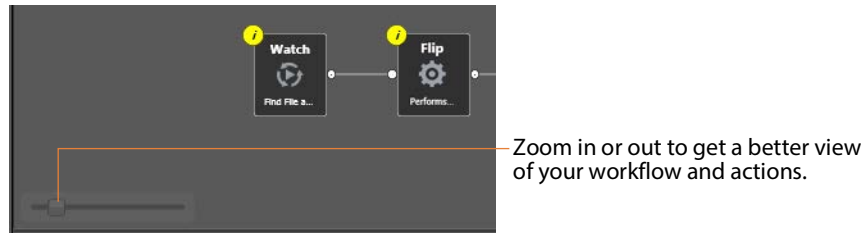
Zooming In—To zoom in on a workflow so you can better view details, do one of these actions:

- Drag the zoom slider bar to the right

- Select an action, press Shift, and drag the zoom slider bar to the right to zoom in directly on the selected action

- Select View > Zoom In

- Repeatedly press Ctrl++ (the Plus key)

- Press Control and roll the mouse scroll wheel up (forward)

Zooming Out—To zoom out on a workflow so you can see more actions, do one of these actions:

- Drag the zoom slider bar to the left

- Select an action, press Shift, and drag the zoom slider bar to the left to zoom out on the selected action

- Select View > Zoom Out

- Repeatedly press Ctrl+- (the Minus key)

- Press Control and move the mouse scroll wheel down (reverse)

Scrolling Large Workflows with the Navigation Map

The navigation map feature makes viewing and scrolling around large workflows easier by showing you where you are in the workflow. To enable this feature, pull down the *View* menu or right-click the context menu, and select *Show Navigation Map*.

The navigation map appears in the lower left corner of the Workflow Designer view or the Job Status view. The area surrounded by a white box is the area in view, and you can click and drag the white box to scroll the view to another part of the workflow.

To turn off the navigation map, uncheck *Show Navigation Map* in the View or context menu.
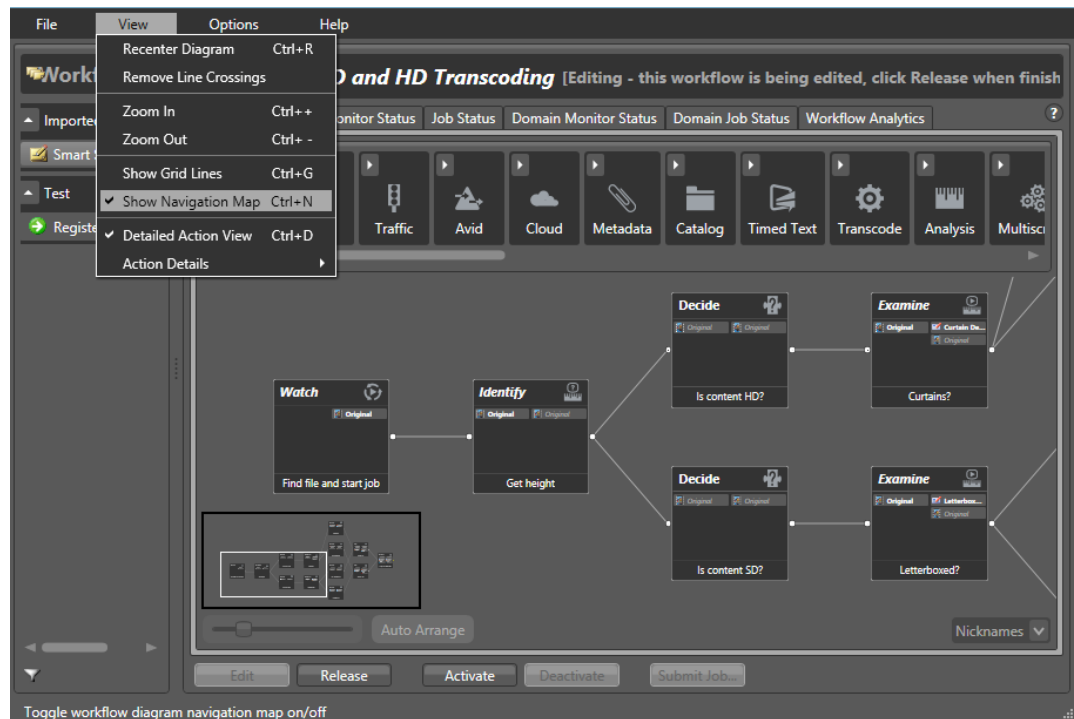
Automatically Arranging Workflow Actions

Use the Auto Arrange feature to assist you in visually optimizing and organizing the layout of actions in your workflow.

Enable or disable Auto Arrange to suit your construction style.
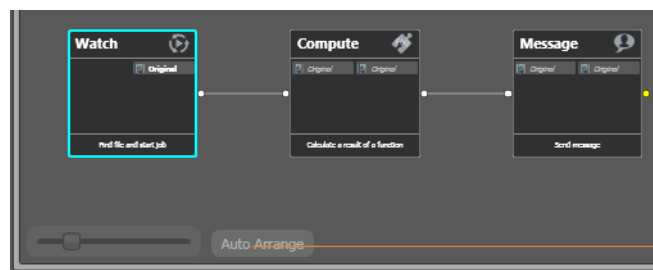
To disable automatic arrangement of actions while you're adjusting actions in a workflow, click the Auto Arrange button, located at the bottom of the Workflow Design workspace, to toggle it off. While Auto Arrange is off, the Auto Arrange button displays Auto Arrange SUSPENDED in yellow.

Click the button again to toggle auto arrangement back into effect.

Identifying Actions that use a Specific Variable

To identify actions in a workflow that utilize a specific variable, use these methods:

- From the workflow context menu, select Variables in Use to display the Variables In Use dialog. Select the variable you're investigating and click Highlight Actions. Workflow Designer closes the dialog and temporarily highlights in yellow the actions in this workflow that use the variable.

- Select View > Action Details > Variables to display the variables used in each action. Next, right-click on the target variable in an action and select Highlight Actions. Workflow Designer displays the Workflow Design tab and temporarily highlights each action in the workflow where the target variable is used.

- From the Expected Variables table in the workflow details panel, right-click on the target variable and select Highlight Actions. Workflow Designer displays the Workflow Design tab and temporarily highlights each action in the workflow where the target variable is used.

Continue working on your workflow to cancel highlighting.

Automatically Validating Workflows

By default, Workflow Designer monitors how actions are connected and organized in your workflow. Workflow Designer notifies you of problems, and prevents activation in the case of an improperly-organized or incorrectly configured workflow.

Disabling validation allows new actions to be connected or inserted in large workflows (those with about 30 or more actions) much faster. It also makes it faster to delete action connections.

To disable workflow validation, select Options > Auto Validate Workflow. Workflow Designer displays an orange status button at the bottom of the design space to remind you that validation is off.

When Auto Validate Workflow is disabled, validation is deferred until you open an action Inspector, activate the workflow, or switch workflows. In addition, an orange indicator displays at the bottom of the tab, which you can use to re-enable validation.

When you create a workflow with 30 actions or more, Workflow Designer displays a tip to inform you about the Auto Validate capability.

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Action Toolbar Display Options

Use the context menu to display the Action toolbar to suit your preferences. Right-click anywhere in the toolbar to select a menu item.
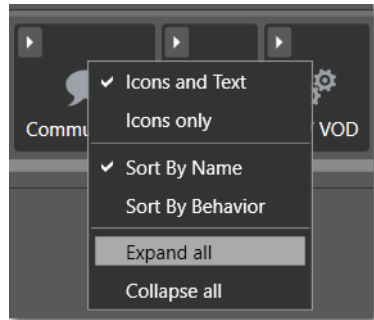
Toolbar Display Size—To reduce the size of the Action toolbar at the top of the design area, select *Icons only*. To display the action names (making the toolbar a bit larger), select *Icons and Text*.

Action Group Display Order—To display the action groups in alphabetic order, select Sort By Name. To display the action groups by functionality and (generally) in order of utilization in a workflow, select Sort By Behavior.

Expand/Collapse Option—To open all action groups, select Expand All. To close all action groups, select Collapse All.

Using Context Menus in the Workflows Panel

The Workflows panel's context menu displays in three variations, depending on the item you click on: title bar, category, or workflow. Here's an example:
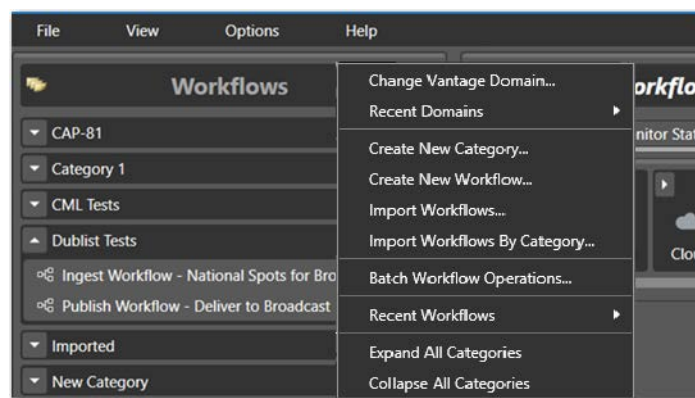
Right-click in the Workflows panel to display the following context menus, depending on where you click:

In the Title of the Panel

Click in the title bar (or the empty space below the list of categories) to use this edition of the context menu to:

- Change the Vantage domain
- Create a new workflow category or workflow
- Import individual workflows or categories of workflows
- Perform Batch Workflow Operations
- Open a workflow you've used recently
- Expand and collapse all of the workflow categories.

On a Workflow Category

When you right-click on a category, you can use this edition of the context menu to:

- Create a new workflow
- Rename or delete the category
- Import or export workflows to or from the category
- Perform Batch Workflow Operations.

Caution: When you delete a workflow category, all workflows in this category are permanently removed from the Vantage domain's database.

On a Workflow in the Workflows Panel List

Right-click directly on a workflow to use this context menu to:

- Change the status of the target workflow (Edit | Release | Lock)
- Activate or deactivate the workflow
- Rename, delete, move or duplicate the workflow
- Display the Details panel for more details about the workflow
- Print the workflow
- Export the workflow in XML format, typically for archiving or transfer to another domain
- Export as a Compiled Workflow Document (CWD) file, used to import into Telestream Cloud as a hosted workflow, for cloud execution
- Upgrade the workflow, if permitted.
- Manually submit a job if the workflow is activated.

For detailed explanations of all workflow operations, see *Managing Workflows*.

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Controlling Workflow Status

This topic describes the four workflow status commands and how and when to change a workflow's status. You change the workflow status via menu items in the File menu or by using the buttons at the bottom of the main window.
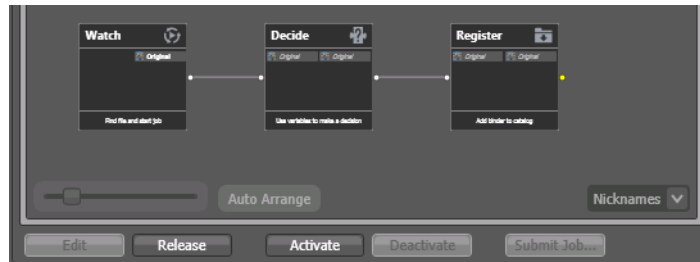
Each status has a unique icon (or combination), as shown below, in the   table.

Note: With user administration enabled, only Vantage users with Administrator authority can lock workflows in an idle or active state to prevent unauthorized changes or deletion. To lock a workflow, select File > Lock Workflow or right-click on the workflow and select Lock. Workflow Designer displays a lock icon beside the workflow. Locked workflows can be activated and deactivated. However, they can't be edited, updated, or deleted. When user administration is disabled, anyone can lock or unlock workflows.

Edit—Choose File > Edit Workflow or click the Edit button to modify the selected workflow. If the workflow is currently active (a Watch or Receive action is running and the workflow can process jobs), Vantage displays a warning dialog that it is about to deactivate the workflow. Click OK to continue. To edit or release multiple workflows at one time, see *Performing Batch Workflow Operations*.

The Actions toolbar displays at the top of the panel when in design mode, so that you can add new actions to the workflow.

When you are editing a workflow, other Workflow Designer users can view the workflow, but no one can edit, activate it or process jobs with it.

Release—When you're done editing a workflow, select File > Release Workflow or click the Release button. Released workflows can be activated, and can also be edited by others. To edit or release multiple workflows at one time, see *Performing Batch Workflow Operations*.

Activate—Select File > Activate Workflow or click the Activate button on a deactivated workflow to start a Watch or Receive action so that jobs can be submitted and processed by this workflow. To activate or deactivate multiple workflows at one time, see *Performing Batch Workflow Operations*. To automatically display the Monitor Status tab when you active a workflow, choose Options > Switch to Monitor Status on Workflow Activation.

Deactivate—Select File > Deactivate Workflow or click the Deactivate button to deactivate the workflow. New jobs cannot be submitted and media cannot be processed by the workflow in this status. Existing jobs using this workflow continue executing to completion. To activate or deactivate multiple workflows at one time, see *Performing Batch Workflow Operations*.

The table below shows the icon or icons associated with a given workflow status, and provides a general description.

Workflow State	Icon	Description
Idle		Indicates that this workflow is not being edited, but it is not running either. To set the idle status, either click the Release button (when editing), or click the Deactivate button (when the workflow is active).
Editing		Indicates that the workflow is being edited by you. To edit a workflow, click the Edit button. When you are editing a workflow, it cannot accept media and others cannot edit it.
Active		Indicates that the workflow's origin action is currently executing and the workflow will accept media and start jobs. When a workflow is active, it cannot be edited.
Editing by other user		Indicates that the workflow is being edited (and thus, owned) by a different user.
Locked		The workflow has been locked. With user administration enabled, only users with Administrator authority can unlock it. Locked workflows can be activated and idled, but not edited, deleted, or updated.
Idle, locked		The workflow has been idled. With user administration enabled, only users with Administrator authority can unlock it. Locked workflows can be activated and idled, but not edited, deleted, or updated.
Active, locked		The workflow has been activated. With user administration enabled, only users with Administrator authority can unlock it. Locked workflows can be activated and idled, but not edited, deleted, or updated.

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Managing Workflows

This topic describes how to organize, add, rename, and delete workflows and categories, change their status, and perform batch operations and other workflow-related operations.

Note: Whenever you are performing a workflow operation, you can select the workflow directly from the Workflow panel or select File > Recent Workflows, and select the workflow from the list.

- Managing Workflow Categories
- Creating a New Workflow
- Renaming a Workflow
- Deleting a Workflow
- Moving Workflows Between Categories
- Finding and Filtering Workflows and Categories
- Duplicating a Workflow
- Exporting Workflows for Archive or Transfer
- Importing Workflows
- Printing Workflows
- Exporting Workflows for Telestream Cloud
- Performing Batch Workflow Operations
- Deploying Upgrades via Update Packs and ComponentPacs
- Upgrading Actions After Installing a ComponentPac or Upgrading to a Newer Version

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Note: To set the status of a workflow, see *Controlling Workflow Status*.

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Managing Workflow Categories

Vantage provides workflow categories so that you can organize your workflows by categories that you design, and so that you can isolate and control workflows by Vantage user accounts (which is performed in the Management Console).

Note: Administrators can prevent Vantage specific users from seeing (and therefore using) workflows by category. To select workflow categories and specify which users have access to them, use the Vantage Management Console.

The following topics describe how to manage workflow categories:

- Creating a Workflow Category
- Renaming a Workflow Category
- Deleting a Workflow Category

Creating a Workflow Category

Create categories to store related workflows together.

Note: All workflows are stored in categories, so you must create at least one category before you can create a workflow.

To create a new category, do the following:

1. Select File > Create New Category, or right-click in the Workflows panel (left side of the main window) away from any categories or workflows, and select Create New Category to display the dialog of the same name:

2. Enter the name of the category you want to create, and click OK.

Workflow Designer creates the category in the database, and displays it in the Workflows panel.

Renaming a Workflow Category

To change the name of a category, right-click on the category name in the Workflows panel and select Rename. Workflow Designer makes the text editable so you can change it. Press Enter or just click away from the field when you're done.

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Deleting a Workflow Category

To delete a category, right-click on the category name in the Workflows panel and select Delete. Workflow Designer displays a warning that you are about to delete the category and all workflows stored in this category. Click OK to delete the category and its workflows, if any.

Caution: This action deletes all workflows in the category, and cannot be undone.

Creating a New Workflow

To create a new workflow, do one of the following:

- Select File > Create New Workflow
- Press Ctrl+W
- Right-click in the Workflows panel (on the left side of the main window) away from any category or workflow and select Create New Workflow.

Workflow Designer displays the Create New Workflow dialog:

Select the category where you want to save the workflow.

Enter the name of the new workflow and click OK.
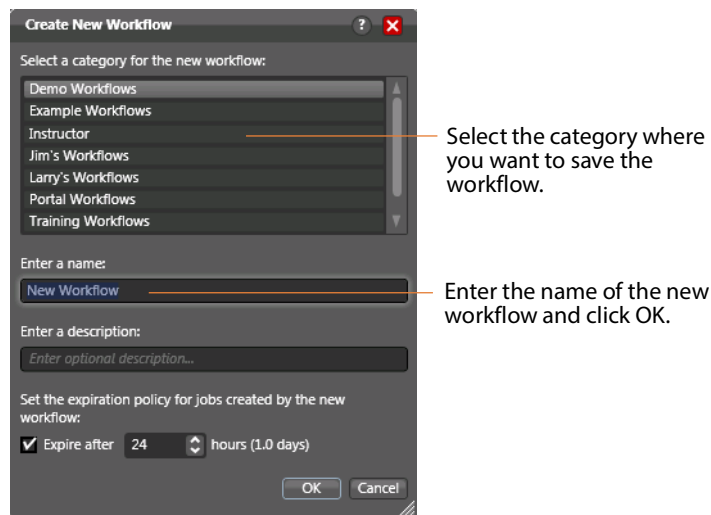
Category—Select the category for this workflow from the list at the top.

Name and Description—Enter the name of the workflow you want to create and an optional description in the Name and Description fields.

Expiration—When checked, specifies (in hours) the time that elapses before job records for jobs processed by this workflow that complete on SUCCESS are deleted from the database. The time for expiration is based on the last updated time in the job record—not the job submission time. Once the expiration period has elapsed, the jobs are subject to automatic deletion by the system.

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Note: Job that don't succeed are not controlled by this setting, and do not automatically expire. To expire FAILed jobs, in the Domain Management Console, check Settings & Options > General > Expire Failed Jobs.

OK | Cancel—Click OK to create the new workflow. Workflow Designer creates the workflow in the database, adds it to the specified category, and displays it in the Workflow Design workspace in edit mode—that is, deactivated and editable.

Renaming a Workflow

To change the name of a workflow, right-click on the workflow name in the Workflows panel and select Rename. Workflow Designer makes the text editable so you can change it. Press Enter or just click away from the field when you're done.

Note: You can only rename a workflow when it is in edit mode.

Deleting a Workflow

To delete a workflow, select File >Delete Workflow or right-click on the workflow name in the Workflows Panel and select Delete. Workflow Designer displays a warning that you are about to delete the workflow and all job history for this workflow. Click OK to delete the workflow and its history.

To delete multiple workflows at one time, see *Performing Batch Workflow Operations*.

Caution: This action deletes the workflow and its job history, and can't be undone.

Moving Workflows Between Categories

To move a workflow from one category to another, select File > Move Workflow or right-click on the workflow and select Move. Workflow Designer displays a Category dialog. Select the category you want to move the workflow to, and click OK.

To move multiple workflows at one time, see *Performing Batch Workflow Operations*.

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Finding and Filtering Workflows and Categories

To find workflows or categories by name—or to filter them by some phrase or string—click the Filter icon in the bottom left corner of the Workflows panel to display its controls:
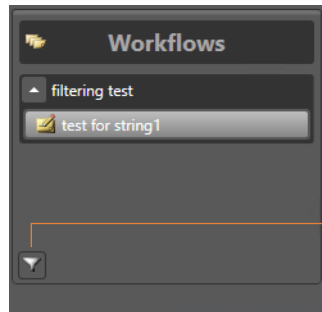
Click the Filter icon to display/hide the controls.

Workflow Designer displays the controls:
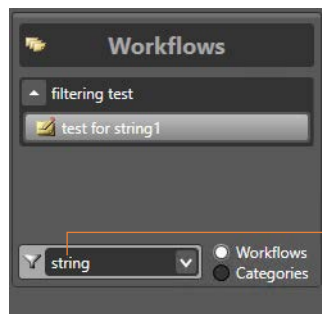
Use the Filter to display only workflows/categories with the specified phrase or string.

For workflow filtering, select Workflows; select Categories to filter categories. Next, enter a phrase or string, or select a previously-entered string. Workflow Designer displays only those categories or workflows/categories that meet the filter criteria.

Click the filter icon again to clear filtering and display all of the categories and workflows/categories in the domain.

Opening Read-Only Inspectors for Reference

You can open action Inspectors in read-only, or reference mode while you are configuring another action. This enables you to conveniently reference other action settings without closing the action you are working on. You can open reference inspectors from any workflow in the domain.

To open a reference inspector, click the R button in the inspector's title bar:
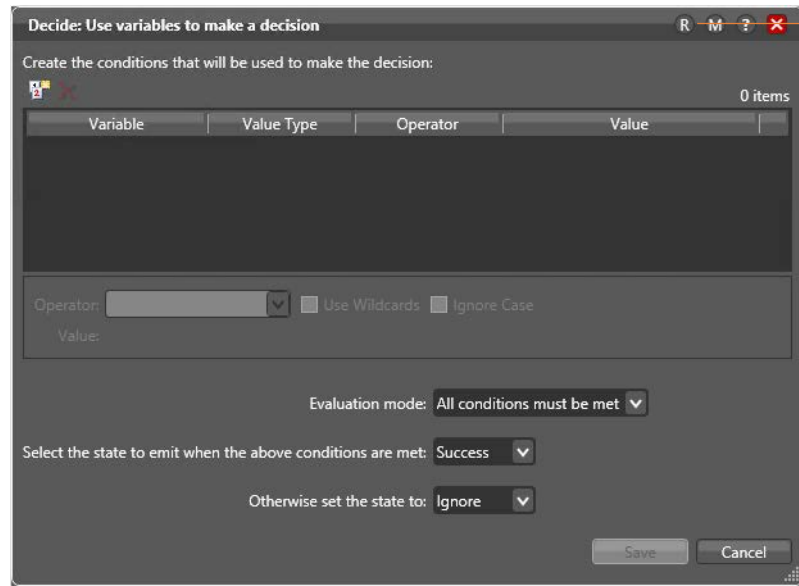
Click the R button to open the action inspector of another action you want to review, in read-only mode.

Workflow Displays a Read Only Open dialog:
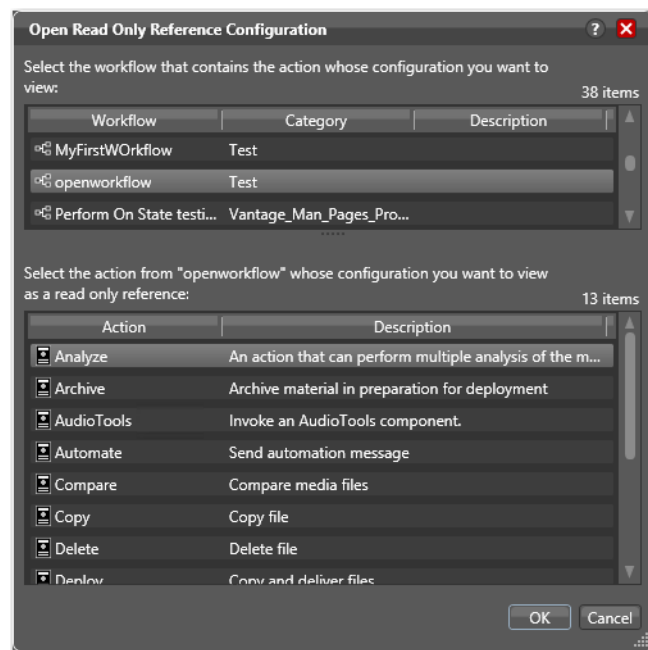
Navigate to the workflow containing the action you want to inspect and then scroll through the actions and choose the one you want to view and click OK.

Workflow Designer displays the action inspector in reference mode, as noted by the orange text at the top. When you close the action you're working on, the reference action is closed as well.

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Duplicating a Workflow

To duplicate a workflow, select File > Duplicate Workflow or right-click on the workflow and select Duplicate. Workflow Designer displays a Category dialog. Select the category you want to create the new workflow in, enter a name, and click OK.

Exporting Workflows for Archive or Transfer

You can export workflows in XML format, typically for archiving or for transfer to another Vantage domain. When you export workflows, the following items are also exported, if they are used in the workflow:

- Media nicknames
- attachment nicknames
- Variables
- Metadata labels
- Stores
- Output folders

Exporting a Single Workflow—To export the selected workflow, select File > Export Workflow or right-click on the workflow and select Export Workflow. Workflow Designer displays a File System dialog. Navigate and select the location where you want to save the workflow XML file, and click Save. Workflow Designer exports the workflow as an XML file.

Exporting Workflows by Category—To export all workflows in a given category, select File > Export Workflows by Category. Workflow Designer displays a dialog with all categories listed. Check the ones you want to export, and click OK. In the File System dialog, navigate and select the location where you want to save the workflows. Optionally, create a new folder, and click OK.

Workflow Designer creates a folder for each category in the domain, then exports each workflow in each category, as an XML file.

Importing Workflows

You can import workflows which have been previously exported (as XML files) from this or other domains.

You can import workflows into your domain that have the same name as another workflow in a different category. However, if you import a workflow into a category which already has a workflow with the same name, Vantage assigns the imported workflow an incremental copy number. You can't have two workflows of the same name in the same category.

Importing a workflow can create a problem with duplicate variables: The variable already exists, but the imported variable has a different default value. When this happens, the original value remains intact.

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Note: You cannot import a workflow that includes any action whose service is not running in the domain.

To import workflows, use any of the following options:

- Importing Workflows into a Category You Select
- Importing Workflows by Category
- Importing Workflows into a Specific Category

Importing Workflows into a Category You Select

Use this method when you want to select the workflow or workflows, and then select a category or create a new one:

1. Select File > Import Workflows.

   Workflow Designer displays a File System dialog.

2. Navigate to the directory where the previously exported workflows are located.

3. Select one or more workflows and click Open.

   Workflow Designer displays the Import Workflow Category dialog.

4. Select the category or check Use Folder Name to create a new category and click OK.

   Workflow Designer imported the selected workflows into the category.

Importing Workflows by Category

Use this method when you want to import a category or categories of workflows (for example, when importing all workflows you've exported from another domain). The workflows you are import should be organized into folders, with the folder name being the name of the category you want to use or create.

To import workflows by category, follow these steps:

1. Select File > Import Workflows by Category.

   Workflow Designer displays the File System dialog.

2. Navigate to the directory directly above the folders of exported workflows (where each folder is named the same as the workflow category) and click Select Folder.

   Workflow Designer displays the Import Workflows by Category dialog.

3. Check each folder that you want to import the workflows from and click OK.

   If a category already exists in this domain, the workflows in that folder are imported. If the category does not exist, a category of the folder name will be created, and the workflows imported.

Importing Workflows into a Specific Category

Use this method when you want to import selected workflows directly into a specific category:

1. Right-click on the category title in the Workflows panel, and select Import Workflows.

2. Navigate to the directory where the previously exported workflows are located.

3. Select one or more workflows and click Open.

Workflow Designer imports the workflow into the selected category. You can now rename and edit the workflow as appropriate.

Note: When importing workflows that have been created and exported from another domain, you may end up with duplicate variables in your domain. For example, you might end up with two *Agency* variables. This is typically not a problem. However, to determine which workflows use a particular variable—so that you can correct them to use only one definition of it—go to the Management Console > Workflow Design Items > Variables. Select the variable you want to search workflows for, and click the Find Workflows Using this Variable button in the toolbar (5th from left).

Printing Workflows

Select File > Print Workflow to print the selected workflow using the current workflow settings. The workflow is scaled to fit on a single page (with landscape or portrait mode preset based on workflow shape), unless the workflow is sufficiently large to make it difficult to read when scaled to a single page. Then, Workflow Designer provides you the option of printing across multiple pages.

Exporting Workflows for Telestream Cloud

You can export workflows in Compiled Workflow Document (CWD) file format, so that you can import them into Telestream Cloud, where they can be managed and executed.

Note: For complete details on using hosted workflows and Vantage Cloud in general, read the Vantage Cloud User's Guide.

To export a workflow for use in Telestream Cloud, follow these steps:

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After creating (or updating) your workflow and testing it for proper execution, choose File > Export Workflow for Cloud or right-click the workflow and choose Export for Cloud.
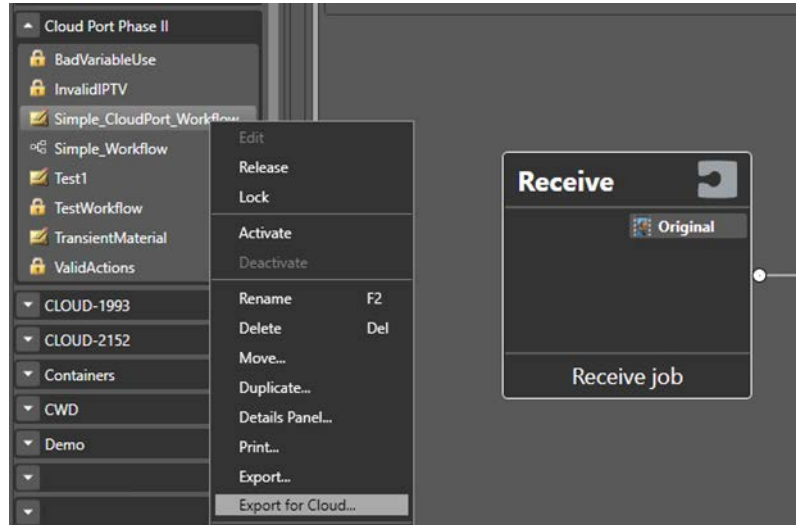
Workflow Designer automatically audits the workflow to determine if the actions and their configurations are supported for use as a hosted workflow. If it discovers an error, Workflow Designer displays an error message identifying the problem:
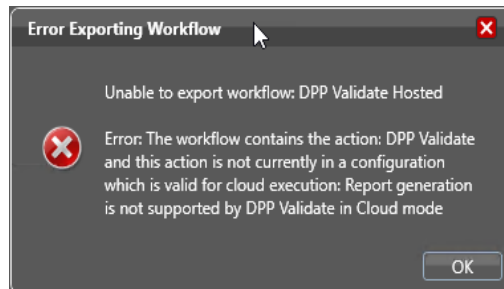
Fix the problem and retry.

When the workflow passes the hosted workflow audit and is validated for hosting and execution in Telestream Cloud, Workflow Designer displays a File Save dialog:
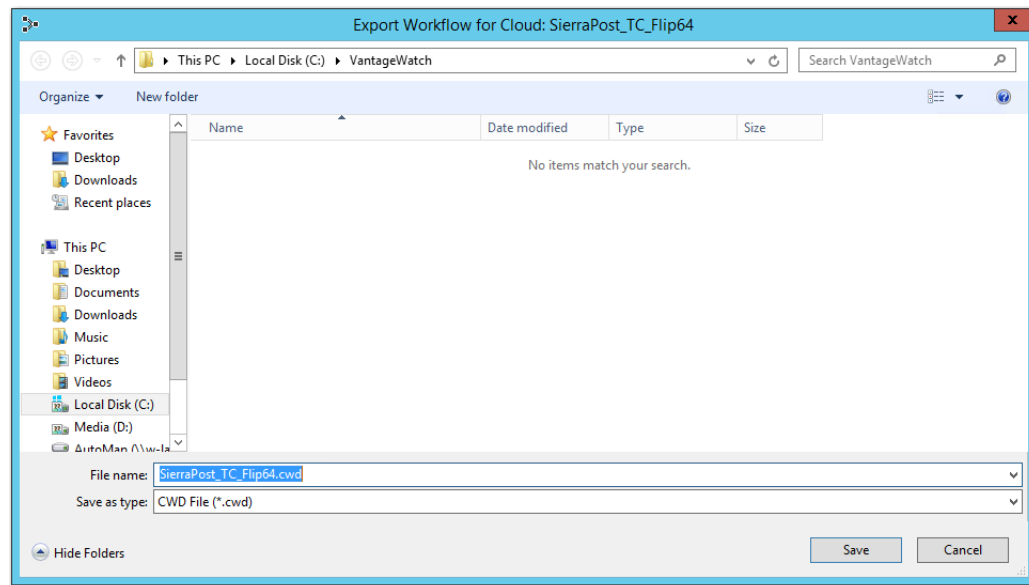
Browse to the local or network location you want the file exported to, name the file (with the CWD) extension and click Save.

Note: When the export is complete, your work in Vantage is complete. Log into your Telestream Cloud account to import the CWD file and prepare it for deployment and utilization in Telestream Cloud.

Performing Batch Workflow Operations

You can use the Batch Workflow Operations window to operate on several workflows at once. For example, you can select multiple workflows and initiate these tasks: edit/ release, lock/unlock, activate/deactivate, delete, move, or upgrade actions.

Secured Version Control allows you to upgrade workflows or lock workflows to prevent upgrades until you are ready.
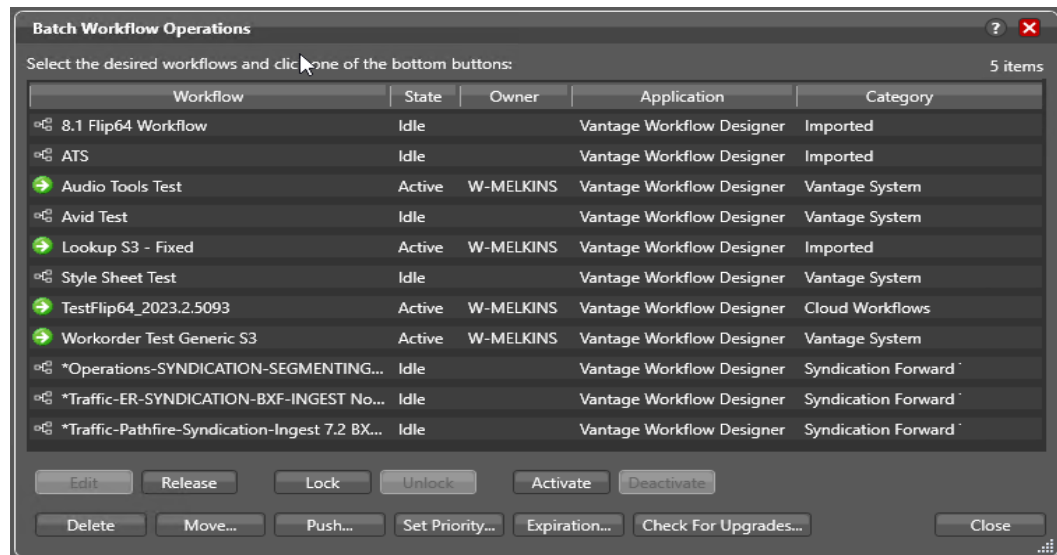
Note: If your domain has User Administration enabled, this feature is enabled only by users with Administrator privileges.

To change the status of (or operate on) multiple workflows, do the following:

1. Select File > Batch Workflow Operations.

   Workflow Designer displays the Batch Workflow Operations dialog, which displays every workflow in the domain.

2. Select one or more workflows (using Shift and Ctrl keys).

3. Click one of the buttons at the bottom of the dialog to perform the task. The function of each button is listed in the following table.

4. When you're done, click Close.

Buttons	Functions
Edit	Enables editing of the selected, released workflows.
Release	Releases the selected workflows to idle.
Lock/Unlock	Locks (or unlocks) the workflows to prevent editing.

Buttons	Functions
Activate/Deactivate	Starts (or stops) the workflows so that they can accept jobs.
Delete	Deletes the selected workflows. **CAUTION: When you click OK in the Continue? dialog, the workflow is permanently deleted.**
Move	Moves the selected workflows to another category. A Move Workflows dialog lets you select the category to move to. You can also use a Create New Category button to create a category and move the workflows into it.
Push	Pushes the selected workflows to another Vantage domain to make it easier to disseminate new or changed workflows. Use Search in the Select Vantage Domain dialog to find the target domain, or specify a domain name or IP. Change Connection Settings if the database login or password is customized; otherwise, use the defaults. When ready, click OK to push the workflows. CAUTION: When you click OK, the workflows are immediately pushed to the specified domain, and overwrite any workflows having the same workflow ID. Notes: 1. Workflows in separate categories can be named the same. 2. A push overwrites the correct workflow (same ID), even if it is renamed or moved to another category. 3. See the Workflow Details Panel for the ID. The ID uniquely identifies a workflow.
Set Priority	Specifies the priority for all origin actions in the selected workflows to ensure higher priority workflows execute first. Priorities can be changed only for workflows in Edit mode. Enter or select a number, and click OK. Higher numbers set a higher priority.
Expiration	When checked, specifies (in hours) the time that elapses before job records for jobs processed by this workflow that complete on SUCCESS are deleted from the database. The time for expiration is based on the last updated time in the job record—not the job submission time. Once the expiration period has elapsed, the jobs are subject to automatic deletion by the system
Check for Upgrades	Checks the selected workflows for available upgrades. Click OK to perform the upgrade.
Close	Click Close to close the Batch Workflow Operations dialog.

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Deploying Upgrades via Update Packs and ComponentPacs

Vantage can be upgraded in several ways:

- Major (X.0) and minor (X.1) new version releases replace previous versions. For example, you can install Vantage 8.0 to upgrade from Vantage 7.1 or 7.2.

- Update Packs are sometimes issued between releases. Update packs are added to your existing Vantage domain to provide small new features and fix bugs.

- ComponentPacs that are included in your Vantage domain define the operation of a particular Vantage service or action. Telestream may send out new Component-Pacs at any time to fix or upgrade a specific Vantage service or action.

Instructions for deploying upgrades of all types may be provided as manuals, application notes, or readme files included with the upgrade, and often they are also made available on the Telestream.net web site, or by calling Customer Support. These instructions tell you how to install the upgrade while preserving and migrating your existing workflows and other Vantage workflow components.

Upgrading Actions After Installing a ComponentPac or Upgrading to a Newer Version

During a Vantage upgrade (you are converting your domain to a newer version) or after installing a ComponentPac, some actions may have new or modified features—for example, a Flip64 action with an updated x265 encoder, or an Analyze action with a new filter. You can update the copies of these actions in your existing workflows as well, although you are not required to.

Actions implemented by the following Vantage services can be upgraded:

- Analyze
- Capture
- Edit
- Flip64
- IPTV Flip
- Multiscreen Flip
- Tape Capture
- Timed Text Flip
- Tempo

Actions with only changes to the action interface itself (a new check box, for example) upgrade automatically, when a new version is installed. When you open a workflow,

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Workflow Designer, checks to make sure that the actions are current. If not, the action's title displays in italics to indicate that you can upgrade it.

When the title is displayed in italic, right-click and select Upgrade.

Note: In addition, you can hover over an action to display the tooltip, which indicates which ComponentPac version is being used.

Right-click the action and select Upgrade to upgrade it. Or, right-click outside of an action and select Upgrade to upgrade all upgradeable actions in the workflow. Then, open the Inspector and review your configuration, making changes as appropriate, based on the action's new or changed controls.

The Upgrade menu item is hidden when there are no upgrades available (for any actions in the workflow). The Upgrade menu item is grayed out when upgrades are available, but can't be performed now (for example, when the workflow is not editable).

To upgrade multiple workflows at one time, see *Performing Batch Workflow Operations*.

Note: Once an action is upgraded it can't be directly downgraded. However, you can restore workflows by importing the automatic backup copy that Vantage places in the C:\VantageWorkflowBackup directory (local to the Workflow Designer client). A log file describing the upgrades is also included in that directory.

Note: If you want to change the location of automatic ComponentPac backups, open the Vantage Management Console, select *Settings and Options*, and browse for a new *Location for workflow backups*.

Note: During service startup, if multiple ComponentPacs are present, the service uses the highest-versioned ComponentPac to populate the action template in the database. This process updates default action configurations and also ensures that newly created actions always use the latest ComponentPac.

Constructing Workflows

The following topics describe the operations you'll use to construct workflows, which is done by creating actions, arranging them in order of execution, and connecting them together. One operation—exporting an action—can only be performed on Flip actions. It is used in conjunction with implementing an SDK-based Vantage application.

Note: Before you can edit a workflow (work with actions or change configuration), it must be deactivated and editable. When you first create a new workflow, Workflow Designer places it in edit mode automatically.

- Adding Actions
- Controlling the Order of Action Execution
- Deleting Actions
- Removing Line Crossings
- Re-ordering Actions

Adding Actions

There are several ways to add actions to a workflow, depending on the situation.

New action—to add an action, open the appropriate category in the Actions toolbar and drag the desired action onto the design area. When you drag an action from the toolbar, it must be configured before you can use the workflow.

Action template—Vantage allows you to create templates from your configured actions so that repetitive action configurations can be saved and reused. For details, see *Creating Action Templates*.

To add an action template to a workflow, click on the action in the action group, select an action template from the list, and drag it onto the workflow.
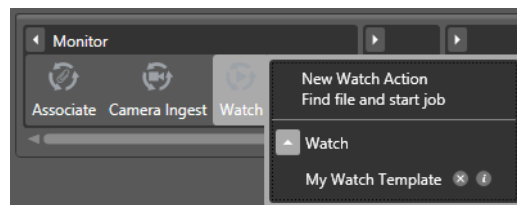
Copy and paste—to copy and paste actions in a workflow, first right-click the action you want to copy and select Copy. To select multiple actions, Ctrl+click and drag across the desired actions in the design work space.

Next, right-click on the design area, right-click and select Paste to add the copied action or actions to the workflow.

To paste an action's *configuration* into an action of the same type, right-click and select Paste—this configures the action identically with the copied action.

Note: An origin action (Watch or Receive action) is required as the first action in a workflow, even if you plan to manually submit jobs to this workflow.

When you drag an action onto the design area, Vantage may automatically align it near where you dropped it (unless auto-arrange is off; see *Automatically Arranging Workflow Actions*). Until you connect an action to other actions, you can move it anywhere you want on the work area. If you bump the action you're adding right next to an existing action, Workflow Designer will automatically connect the two.

Generally, it's easiest to drag and drop actions in a pattern similar to the flow of the desired workflow, working from left to right (on each branch, if more than one). However, you can drag actions anywhere, and connect them as desired later.

Vantage will tidy up actions—moving them and organizing them by column. Once an action is connected, you can move it vertically (up or down) but it cannot be moved from its column. Alternatively, Vantage can also attempt to optimize the workflow, removing as many line crossings as possible.

Controlling the Order of Action Execution

You connect actions together linearly in a workflow to control the order of execution relative to other actions in the same workflow, and to control the flow of variables and files from one action to another.

Job execution proceeds action by action, from left to right: When a workflow executes, the origin action (at the far left) executes first to start the job, and each action following the previous action executes next.

Connecting Your Actions Together

You connect actions together from the output pin (right-side) of one action to the input pin (left side) of the action you want to execute next in the workflow.

Actions can only be connected from an output pin (on the right side of the action) to an input pin (on the left side of the action), and control (file or logic) flows from output to input—from left to right.

Here are ways you can connect actions together:

- Click and drag a connecting line from one connector pin to another
- Click and drag an action (either from the actions toolbar or one already in the work area) and bump it into the edge of the action you want to connect it to—until a pale blue vertical line displays. (You must drag your mouse pointer up to the edge of the action you're connecting to).
- Copy an action, and right-click on a connector line and select Paste to add the copied action between the two actions. Or, drag an action onto a connector line until it displays as a larger line. Then, drop it to connect it between the two actions.

Certain connections are not permitted:

- You cannot form recursive loops, by connecting actions to themselves or to the input of preceding actions in the workflow.

- You cannot connect one input (left) pin to another input pin, or one output pin (right) to another output pin.

Note: When you connect actions by clicking and dragging a connection, Workflow Designer can display a popup message that provides connection details. To enable or disable this feature, select Options > Show Connection Helper.

You can connect one action to multiple succeeding actions, creating logical branches, as shown in the figure following. When you do, none of the actions you connect can execute before the preceding action upon which they depend completes.

When you have branches in a workflow, you can optionally, use a Synchronize action as a visual connector at either end of the branches, to better organize them. Synchronize does not perform any special task, it merely aids in design. In this example, three Copy actions execute in parallel after the Watch action completes.
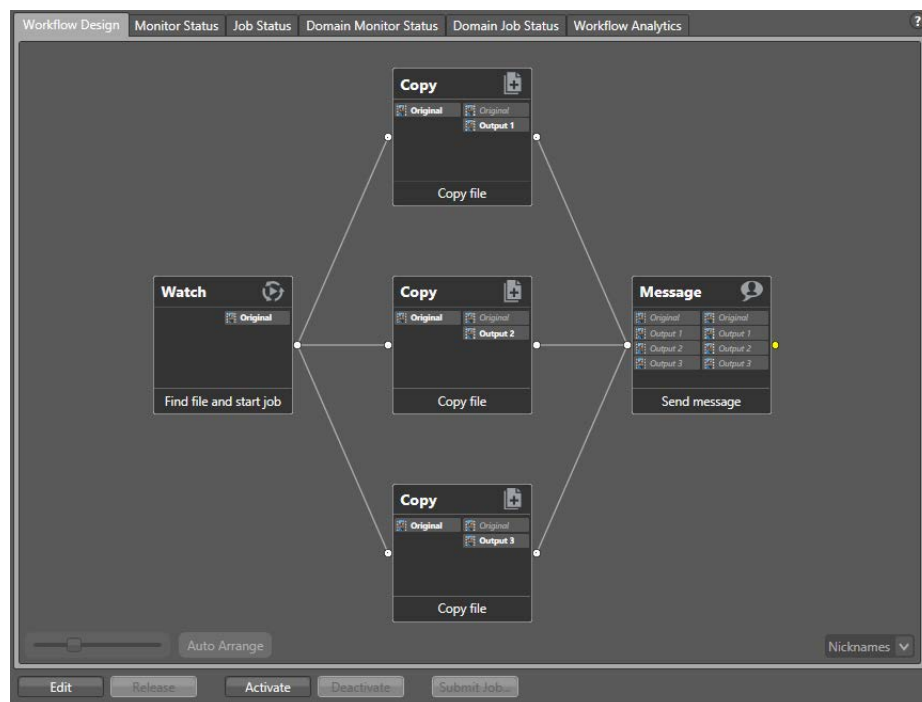
These three Copy actions execute independently of each other, and their start time and completion time relative to each other is indeterminate. They execute in parallel from the perspective of the actions which precede and follow these actions.

You can also connect multiple actions (branches) back to a single succeeding action, as shown. When you do, each of the actions you connect must execute before any succeeding Common action can execute. In this example, all Copy actions must execute before the Message action executes.

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You can also create multiple, independent action branches—each branch starting with an origin action. Each origin action creates its own job. Although this is not generally recommended, you may have situations where it is the best solution.
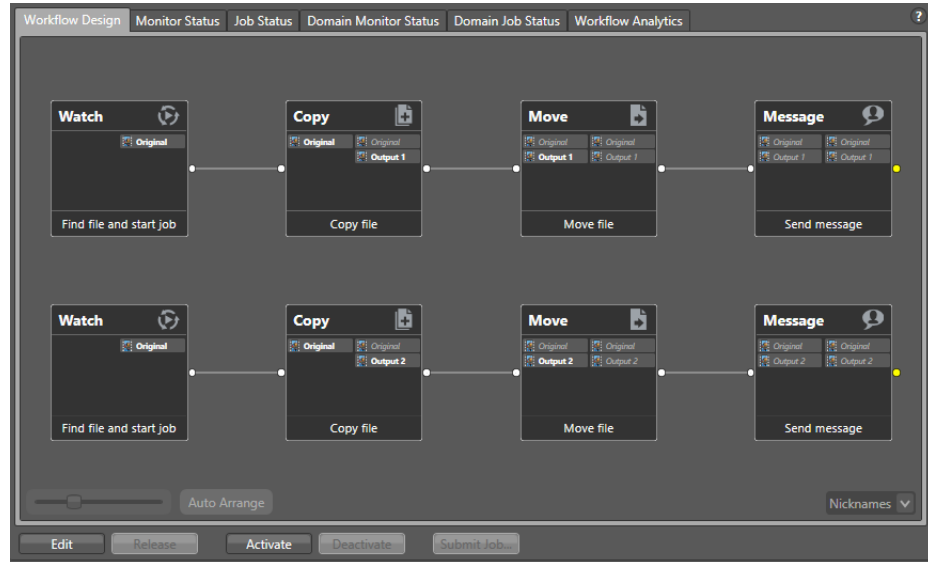
In this example, two independent sets of actions are in this workflow. As each origin action detects new files to process, a separate job is initiated.

Note: Although this is a legitimate workflow, it is an unusual configuration. Typically, two completely independent processes would be better defined as two separate workflows.

Deleting Actions

To delete an action, select it and press Delete or right-click the action and select Delete. When you delete an action, Workflow Designer connects the preceding and succeeding actions, unless you uncheck Fill connections after delete in the Delete confirmation dialog.

To select multiple actions, Ctrl+click each additional action or Ctrl+click and drag across them in the design work space. When the appropriate actions are selected, delete them using one of the following options:

- Press Delete.
- Right-click one of the selected actions, and select Delete.

Removing Line Crossings

On occasion, you might connect two actions on rows in the layout that are more than one row apart—resulting in an unintended line crossing. To manually optimize the workflow layout, select View > Remove Line Crossings or right-click and select Remove Line Crossings. Workflow Designer reformats the workflow and optimizes the layout of the actions in a grid.

Re-ordering Actions

To re-order actions vertically, drag one or more of the actions up or down in the design area to the location where you want it. To select multiple actions, Ctrl+click each additional action or Ctrl+click and drag across them in the design work space. Workflow Designer adjusts the other actions to accommodate the manual placement of the other action.

Configuring Actions

Each action (except the Synchronize action, which is simply a common connecting point for branches in a workflow, with no user configuration) has an action Inspector for setting up the action to perform in a particular way in this workflow.

Most action Inspectors use the Wizard model; a series of one or more panels, with standard Previous, Next, Finish, and Save buttons.

The Flip action is unique in its design because of its unique, transcode-centric functionality.

The remaining media processing action inspectors—specifically, the Flip64 action, and other Telestream Media Framework-based transcoding actions such as the Multiscreen action—display the entire inspector in a single, multi-paneled window.

The panel's organization and the layout of building blocks is pretty simple. The different controls in editor panels is insignificant. What matters is that you use the panels to select inputs, encoders, and outputs and configure filters, select nicknames, and make other selections specific to the formats you've chosen.

■ Displaying the Action Inspector

■ Using the Flip Action Inspector

■ Using the Telestream Media Framework Action Inspectors

■ Using the Filename Pattern Editor

■ Binding Settings to a Variable

Note: Detailed, context-specific help (as shown above) is available on each inspector panel: Click the [M] icon to display its man page. Click the [?] icon to display this topic (the one you're currently reading) in the *Vantage User Guide*. Once in the guide, you can also search for other topics. You can also hover over any control for a tooltip.

Displaying the Action Inspector

To access the Inspector on any action, choose one:

- Click the inspector button (the round *i* button), which displays on the upper left corner of each action

- Double-click the action

- Right-click the action and select Configure.

Unconfigured actions display the inspector button in yellow.
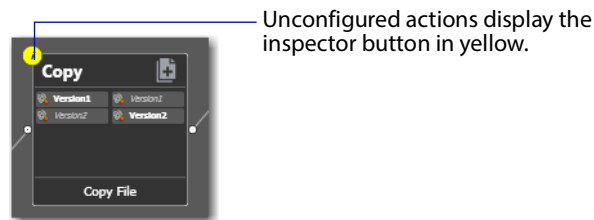
Until an action has been configured correctly, the inspector button displays yellow; a workflow cannot be activated until all actions have been configured correctly and no yellow inspector icons display. When an action is correctly configured, the inspector button disappears. When you hover over the top left corner, the inspector button appears in blue with a summary of the action.

The inspector panels vary, depending on the type of action, and the configuration choices you make. For example, here is a simple inspector—the inspector to configure a Copy action:
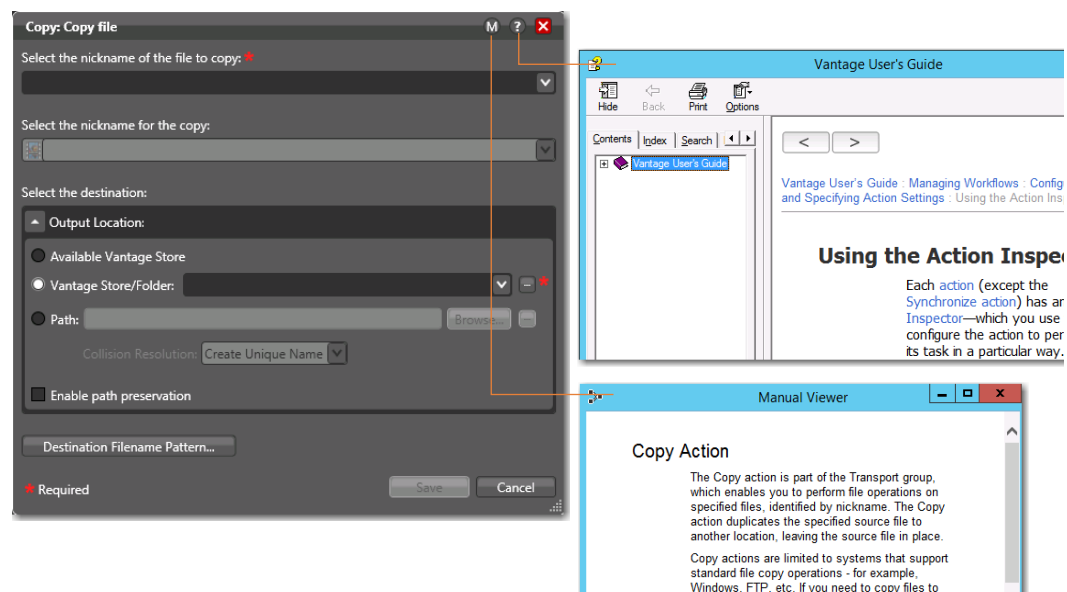
However, the Inspector for a Watch action typically consists of about 7 or more panels, depending on the file system you're configuring it to monitor.

When you're viewing an inspector of an action in a workflow that is activated or someone else is editing it, the term *Read Only* displays in the inspector's title bar. Also, if

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you have changed the configuration, an asterisk (*) displays immediately before the action name: For example, *Watch*.

Using the Flip Action Inspector

The Flip action Inspector is unique in Vantage, and comprehensive. It contains a variety of general settings, a graphic representation of the transcoding process comprised of building blocks, and a settings detail panel for configuring each building block the way your require it for your application.
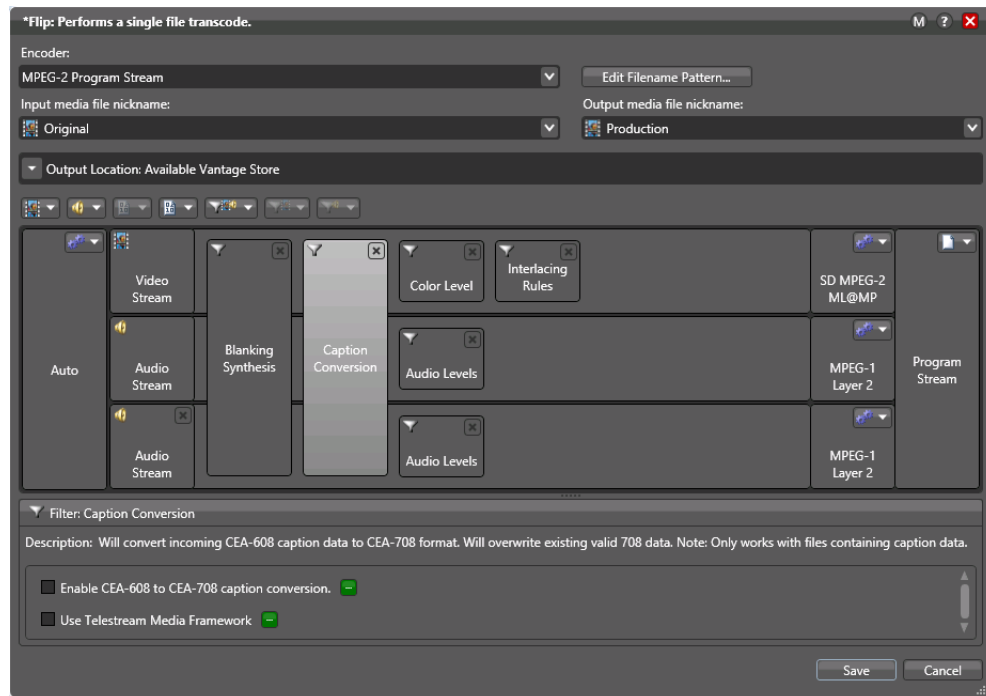
The general Flip action controls at the top of the inspector window enable you to select an encoder and create a file name pattern for naming the encoded file (for details, see *Using the Filename Pattern Editor*). You must specify an input and output media nickname. You use the Output Location controls to specify where to write the output media file. For details, see the man page.

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The media file panel is comprised of building blocks, and a toolbar for adding other streams and filters.
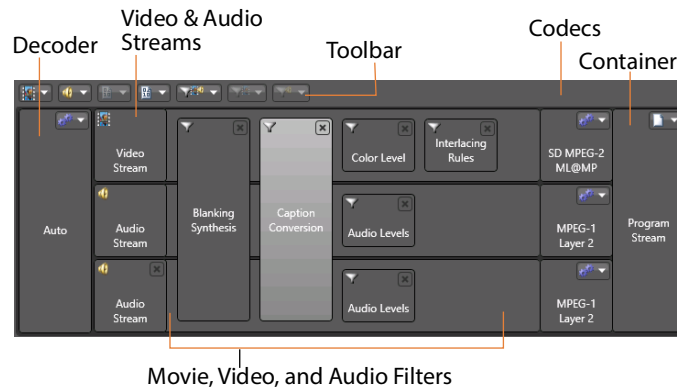
Here are the building blocks (ordered left to right):

- *Decoder*—on the left edge of the stream panel; you can use the auto decoder or, under certain circumstances, select a specific decoder for specialized decoding.
- *Video and Audio Streams*—to the right of the decoder, as supported by the selected encoder.
- *Movie, Video, and Audio Filters*—a wide variety of filters, overlaid on video and audio streams; added using the toolbar.
- *Codecs*—at the right side of the video and audio streams, listing all supported codecs for the selected encoder.
- *Container*—at the far right of the stream; specifies the container /file format for the media.

Below the stream panel is the setting details panel. It displays the settings for the selected building block: decoder, various movie, video, and audio filters, codecs, etc. In this example, the Caption Conversion filter is selected and its controls display in the setting details panel.

Using the Media Stream Toolbar

Use the icons in the toolbar to add streams and filters; the list varies by encoder.
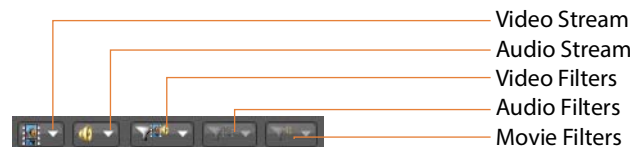
To add any supported type of stream for the encoder, select it from the toolbar. To add a filter, select the video stream or audio stream and then add the selected movie, video, or audio filter from the list.

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If you directly click on the icon, it will add the next available filter at the top of the drop down list. If you click on the menu arrow on the right side of the icon, the list will displays and you can select the appropriate filter.

To remove any building block, select it and then click the Delete icon or just select it from the list again.

Using the Telestream Media Framework Action Inspectors

Vantage includes several Telestream Media Framework transcoding actions, including Flip64, Multiscreen Flip, IPTV Flip, Post Producer Conform, and others. Each action's Inspector is designed to enable you to specify the discrete components required in an action's functionality (inputs, converters, transcoders, etc.) on the left side, and detail panels for configuration of the selected components (and the streams inside them) on the right.
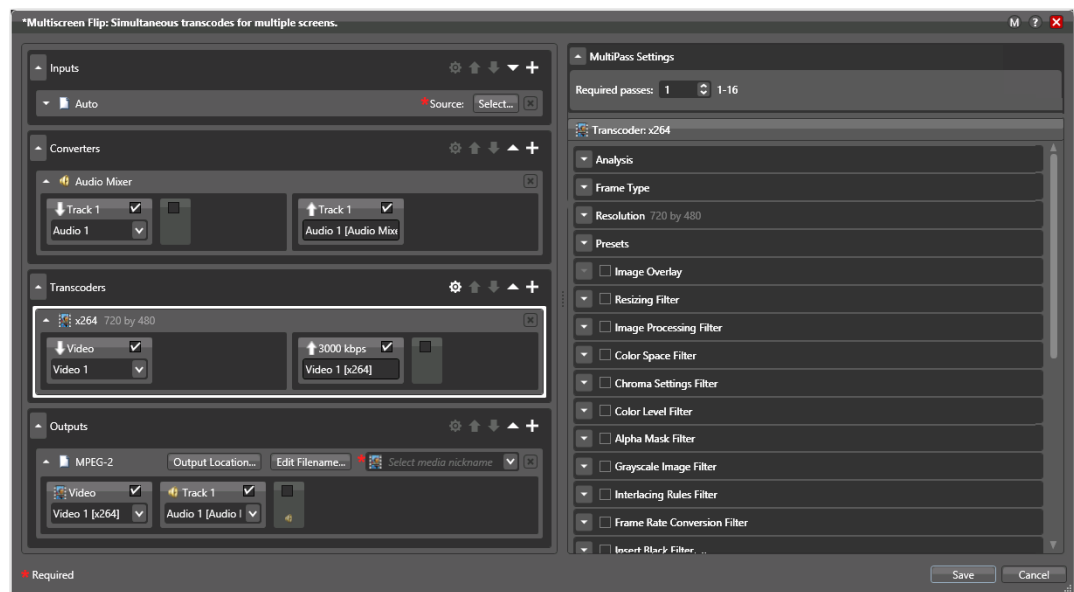
Each type of action's components vary. The categories are represented by a panel—in this example there are four categories of components: Inputs, Converters, Transcoders, and Outputs. You can add one or more components to each category, depending on the action. For example, in the Multiscreen Flip action you can add several input processes, an Audio Mixer Converter, one or more transcoders and one or more outputs.

To remove any component, select it and then click the Delete icon.

Configuring Components

Each component you add displays its own panel, including the video and audio streams, as appropriate.
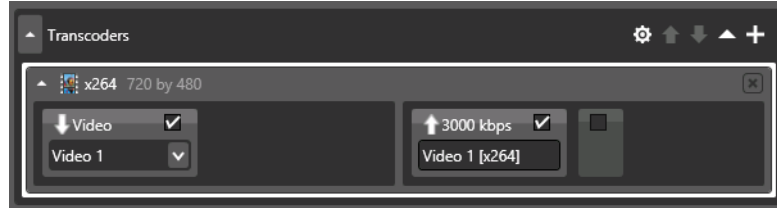
To configure the component, click to select it (as shown above, with the white border).

The setting details panel displays on the right, enabling you to configure it.

Use the same process to configure each video and audio stream.

Specifying and Configuring Transcoder Filters

Transcoder components enable you to specify filters that you want to enable. To manage filters, select the transcoder. The Inspector displays the filters in the settings detail panel on the right.
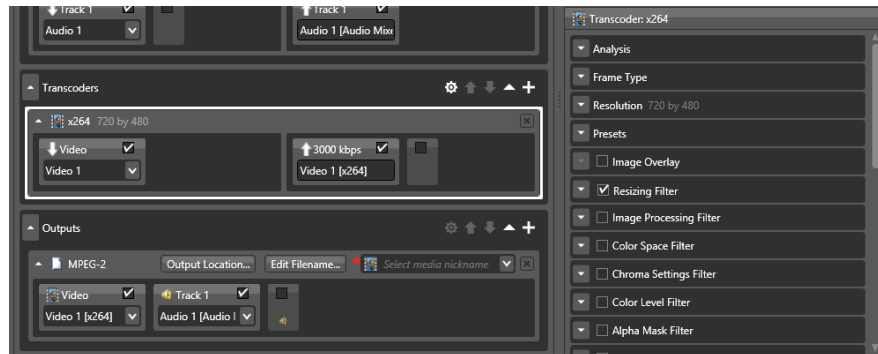
Check each filter that you want to enable.

To configure the component, click the expander button to display its settings.
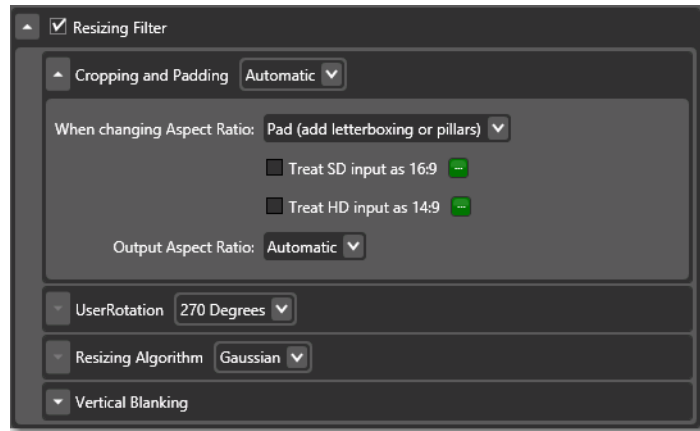
Configure the settings as required to accomplish your workflow requirements.

Using the Filename Pattern Editor

Actions that create new files often provide a filename pattern editor, so that you can customize the pattern for file name generation, based on the task and workflow requirements. The filename pattern editor is implemented in transcoding actions such as Flip64, IPTV Flip, and Conform, and in file operation actions including Move, Copy, etc.

Here's an example—the Edit Filename button—displayed in the Outputs panel in a typical action:
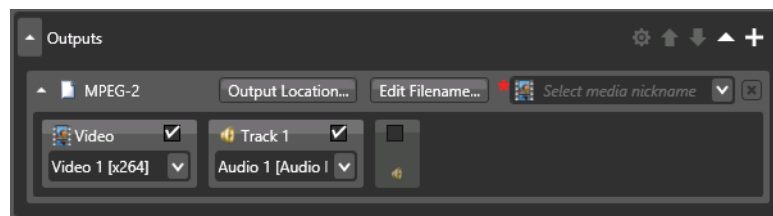
To display the editor, click the Edit Filename button:
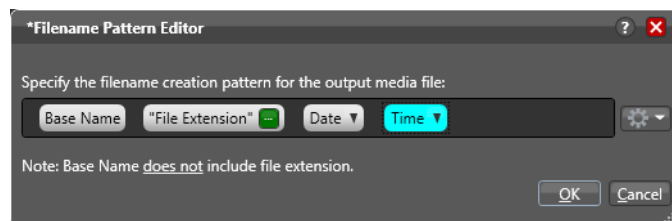
To produce the name generator pattern you require, you can include raw text (for example, *.xml*) and any combination of the following tokens: base name, any supported variable you want to select, plus date and time. The Date token includes variations of

month, day, and year. The Time token includes variations of hours, minutes, seconds, AM/PM, and Time zone offset. Hover the cursor over each selection to see a tool tip description. Once a token is added to the pattern, you can move it to a different position within the pattern field by clicking and dragging it.

Note: In all transcoding actions, the Base Name element is the base name of the source file without the extension (for example, *myfile* for a file named *myfile.mpg*). In file operations actions (Copy and Move, for example), the Base Name is the full name of the file, including the extension. For example, *myfile.mpg*.

Binding Settings to a Variable

Most settings in an action are configured with a static value—one that doesn't change from job to job. For example, you configure a Watch action to poll a specific directory—and job after job, this directory never changes—that is, the fully-qualified path string is a *static* value.

However, many actions also have settings whose values *do* change from job to job—typically, based on the media being processed.

For example, you have a Message action that sends email—the To address should be the address of the producer, which is provided in metadata and assigned to a variable in a previous action. Or, a variable is updated by an Analysis action to specify the number of black lines are at the top of a frame; a crop filter in the workflow uses the variable to crop the video appropriately for that job.

To support dynamic values, Vantage enables appropriate settings to be bound to a variable, allowing the workflow to dynamically update the value on a job-by-job basis.

Settings that can be bound to a variable display a green Browse button:
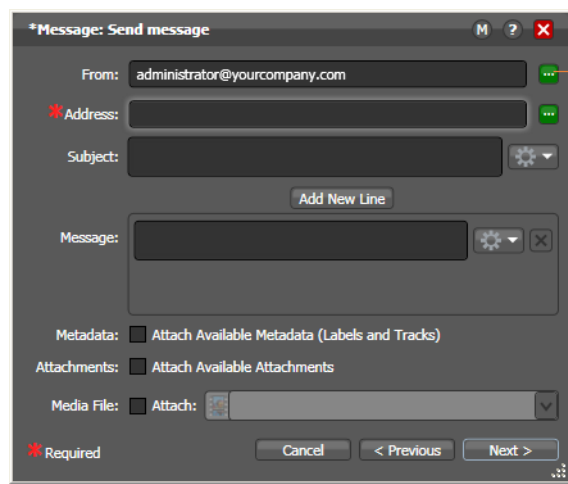
Click the green variable browse button to select a variable to supply the variable's value to this control. In this case, an email address.

Click the green Browse button to display the Select Variable dialog, shown here.
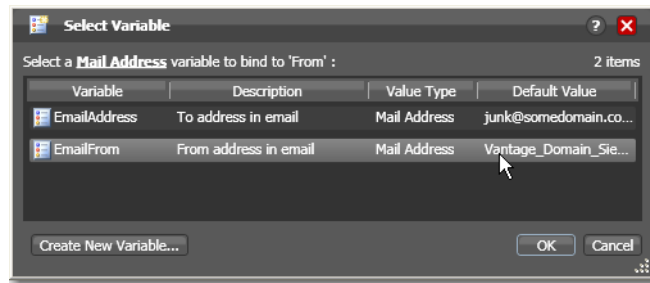
The list of variables includes those variables of the appropriate type (text, true/false, etc.) in the domain. For example, the subject line only accepts text variables; the email address only accepts email address variables.

Select the variable to bind to this setting, and click OK.

Note: Click Create New Variable to if you need to make a new one. For details, see *Creating New Variables*. (You can also create variables in the Management Console.
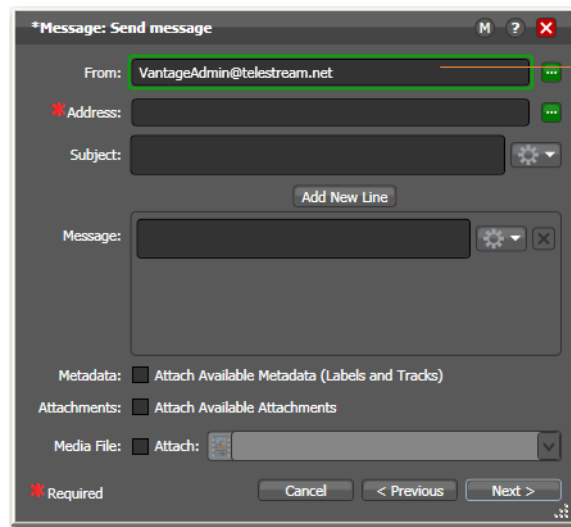
Settings bound to a variable display a green border.

Click the button again to unbind a variable or change the variable you want to use.

You can hover over a bound setting to display information about the binding—for example, the name of the variable.

Now, the setting displays with a green border, indicating that its value is derived from the current value of the variable instead of the setting (in the case of a check box or radio button) or a manually-entered or selected static value.

When you bind a setting to a variable, the value or state displayed is the default for the variable definition in the domain and the value is read only. If you remove the binding, the value returns to the setting's original editable value.

Creating New Nicknames

In actions that utilize nicknames, you can create a new nickname by selecting <<Create New Nickname>> at the top of the nickname list.

The inspector displays the Create New Nickname dialog:
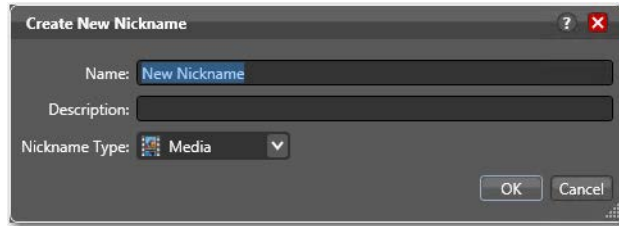
Configure the new nickname as follows:

1. Enter an appropriate name for the nickname in the Name text box.

2. Enter a description in the Description text box. (This is optional.)

3. Select a nickname type from the Nickname Type menu.

4. Click OK to save the nickname.

The inspector uses the nickname you just created, inserting into the control you're updating.

Specifying Action Settings

The following topics describe how to specify action settings. These settings differ from configuration, which controls how the action performs its task. These settings control the conditions in which an action executes: are all accessed by right-clicking an action and selecting the setting from the context menu.

- Setting Conditional Action Execution
- Utilizing Variables in an Action
- Configuring an Action's Run On Rules
- Configuring an Action's Fallback Rules
- Specifying Automated Retry Settings
- Modifying Resource Costs
- Generating Execution Metrics
- Changing Action Descriptions
- Highlighting a Branch in a Workflow
- Highlighting a Branch in a Workflow
- Creating Action Templates
- Exporting a Flip Action

Note: Not all actions provide each of these settings.

Setting Conditional Action Execution

You can configure most actions to execute only when the upstream action passes a specific, post-execution action state to the downstream action. Obviously, you can't test action states or set conditional execution in origin actions—the first action in a workflow.

- Action States Overview
- Setting The Perform On State

Action States Overview

After execution, an action's state is assigned: Success | Failure | Ignore, and is passed to the next action in the workflow. The state is tested in the following action (using the Perform On function—see *Setting The Perform On State*) to determine whether or not it should execute.

For example, if an action succeeds, the next action inherits the Success state and by default, executes—unless its Perform On state is set to Failure. Or, for example, if an action fails, the next action inherits the Failure state and won't execute—unless its Perform On state is set to Failure.

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Some actions can be configured to set the Ignore state. The next action inherits the Ignore state and will likely not execute (unless it has been explicitly set to execute on Failure). Most actions, such as Message, can be configured to perform on certain states—this allows workflows to send an email if they detect a failure.

By default, actions only execute when the action state (as set by upstream actions) is Success. Success means that the upstream actions have completed normally and the incoming state is Success.

The Failure state indicates that at least one action has executed and failed to complete normally or completed normally, but was explicitly set to Failure. If you have an action configured to execute on Failure, it only executes if at least one upstream action has reported a failure.

Post-execution states have priority: If an action receives states from two incoming actions (at a merge of two branches), then:

- Failure has precedence over all action states—If at least one incoming state is Failure, regardless of other incoming states, the action will inherit the Failure state.

- Success has precedence over Ignore state—If there is no Failure, but at least one Success state, then the action will inherit the Success state.

- Ignore is the lowest precedence—Only if all incoming states are Ignore, will the action will inherit the Ignore state.

Setting The Perform On State

To set the state under which an action will execute, right-click and select Perform On > Success | Failure | Ignore | Any.

The Any option is not a state—it is a selection to indicate this action should execute regardless of the state passed to it.

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Utilizing Variables in an Action

Sometimes, you need to provide information to one or more actions (or directly to a job, when you're manually submitting it) that is independent of the functionality of the action.

For example, you can add a variable to set the execution priority of one workflow branch to high, and another to low. Or, you can collect frame rate and frame size information from an incoming file, save the values in variables, and pass them on to a specific encoder action, based on the type of media: SD/HD/4K, etc.

Vantage provides a rich set of built in variables, and you can create variables of your own to suit your requirements. You can add variables to an action in two ways: by adding them manually or by copying them from other actions, which speeds workflow design in large workflows.

- Variables Overview
- Adding Variables Manually
- Creating New Variables
- Copying and Pasting Variables

Variables Overview

In Vantage, a variable is a container for temporary job information—a symbolic name (or identifier) which contains some data: a quantity, string, or element of information; a value. You use the variable name to reference the current value; this separation of name and content allows the name to be used independently of the information it references.

Each variable has a name (such as *Number of Audio Channels*), a type (*Integer Number*, for example), and a default value, all of which are defined when the variable is created.

Note: To display variables used in your actions, in detailed action view, select View > Action Details > Variables or select Variables from the menu in the bottom right corner of the Workflow Design panel.

You can change variable values in a variety of ways. For example, a variable value can be set by default. Or, it can be assigned a new value in actions that are designed to use variables, such as the Analysis, Populate, Watch and Associate actions. Variable values can also be changed when manually submitting a job or using Workflow Portal to submit jobs.

Variables are passed from action to action according to the action connections. When an action creates a given variable, all downstream actions that use variables can access the variable and its current value.

Variables are used by some actions to control their functionality and execution—and thus, implement workflow logic. (Variables are also used by Vantage services as defined by the Vantage domain administrator.)

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Many settings in an action can be *bound* to a variable, allowing the workflow to dynamically update the settings on a job-by-job basis. For details on binding settings to variables, see *Binding Settings to a Variable*.

When a variable is set to a specific value, that variable value is only available to actions within the same branch as the one that set the variable and actions in downstream branches.

Note: If two branches merge to a Common action, and both have set a value for the same variable, then the last upstream action to finish executing will set the variable for the common action. The last action to finish can not be determined from job to job.

Adding Variables Manually

To manually add a variable to an action in a workflow, right-click and select Add Variables. Workflow Designer displays the Add Variables window.

Add Variable & Delete Variable toolbar buttons.
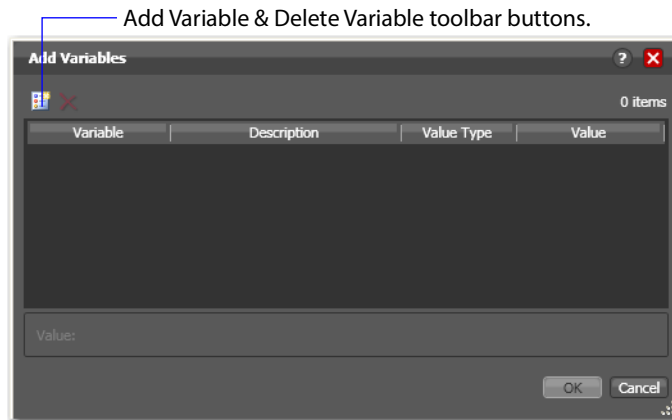
In the Add Variables window, you can add variables to the action prior to execution. Values set in this window are available to this action, and all downstream actions (including actions in connected workflows). Variables added using the Add Variables context menu appear in yellow in the action variable list.

Click the Add Variables button in the toolbar to display a list of variables.
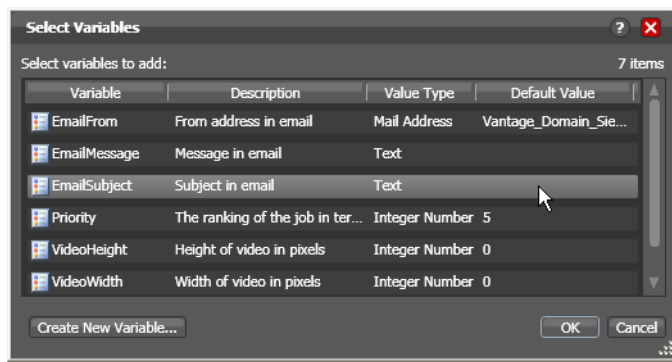
Select the variable to add and click OK.

Note: Click Create New Variable to create a variable if you need a new one. For details, see *Creating New Variables*.

Next, with the variable selected, modify its default static value if necessary, and click OK to add it to the variable for use in the workflow.

Creating New Variables

Vantage includes some default variables, and you can create variables directly in Workflow Designer. Vantage domain administrators can also create variables using the Vantage Management Console (Workflow Design Items > Variables).

On variable selection windows in Workflow Designer, click the Create New Variable button. Workflow Designer displays the Create New Variable dialog shown here.
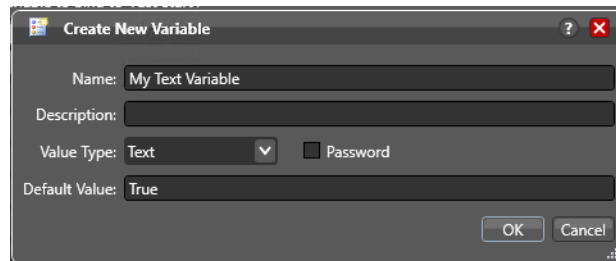
Configure the new variable as follows:

1. Enter an appropriate name for the variable in the Name text box.
2. Enter a description in the Description text box. (This is optional.)
3. Select a variable type from the Value Type dropdown list.
4. Enter a value for this variable in the Default Value text box.
5. (Optional) Enable password encryption for Text variables.
6. Click OK to save the variable.

Copying and Pasting Variables

In the action Inspector, you can copy and paste variables in controls which use them, instead of creating and configuring them manually.

Copying and pasting variables simplifies designing large workflows, in which many actions may need to utilize the same variable. Copying and pasting variables eliminates opening the variable picker and searching for the desired variable and configuring it repeatedly in many actions.

For example, consider this Construction action, which is configured to create a specific text string and store the result in a variable named *JobNameVar*.
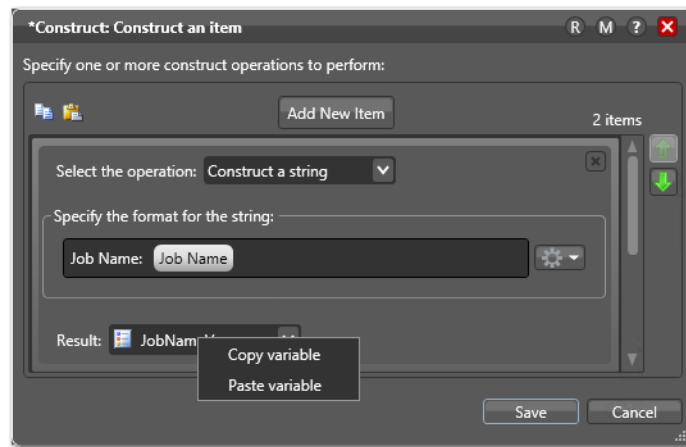
After configuring this variable, you can copy it, making it available to paste into other controls which utilize variables, in this or other actions. After adding a new item, and pasting the copied variable into the text field, the inspector displays the variable, bound to the original, as shown here:
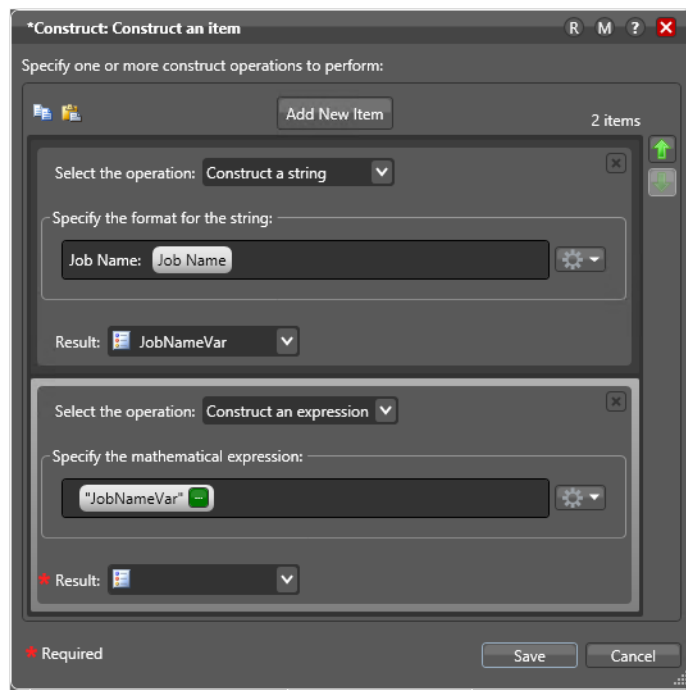
Note: The variable is still in the Vantage (not system) clipboard, so that you can create or open another action and perform the paste operation again.

Copying and pasting variables speeds the process of creating complex, large workflows by reducing repeated manual configuration tasks.

Configuring an Action's Run On Rules

Most actions have a set of rules called run on rules, which can be configured to determine if its service has the features or characteristics which enable it to execute the action. Unlike qualification rules, which are service-centric, run on rules are action-centric.

Note: To display the current run on rules used in actions in your workflow, in detailed action view (Ctrl+D) select View > Action Details > Run On Rules or select Run On Rules from the menu in the bottom right corner of the Workflow Design panel.

Run on rules provide explicit control over which service can execute this action in a workflow. As you design a workflow, you can indicate that you need to have the action executed by a specific service (or set of services) based on workflow state criteria. To implement this, you assign a True/False variable the value of TRUE to indicate that the service must satisfy the requirement. Assign this variable to the Vantage service or services that qualify, in the Vantage Management Console > Services > Variables.

For example, you are designing an HD transcoding workflow, and the Flip action must be executed by a Transcode Service deemed HD-capable—that is, it is running on a server with a processor set capable of adequately handling HD media transcoding. For this example, it's a server named *Vantage_HD_Transcoder*.

Note: In addition to setting up specific rules on an action, Vantage domain administrators can set up service-based qualification rules using the Vantage Management Console.

Creating Run On Rules

You can create new run on rules directly in an action or you can copy user rules (not automatic rules, which are action-type based) from other workflows and modify them as needed.

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In Workflow Designer, open your workflow, right-click on an action and select Run On Rules to display the Run On Rules dialog:
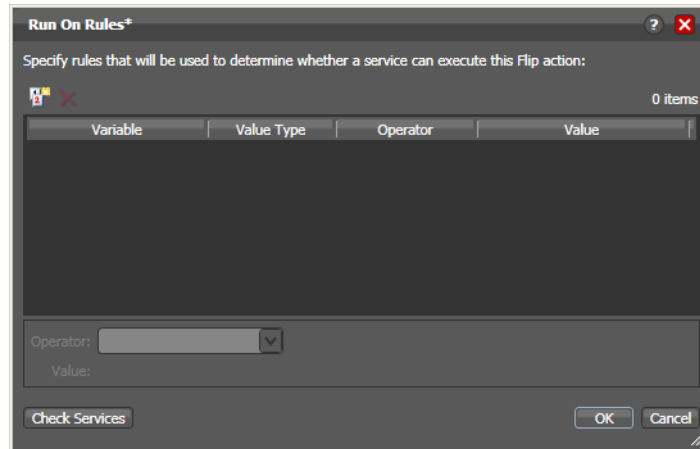
Click the Add Run On Rules icon in the toolbar to display the Run On Rules dialog:
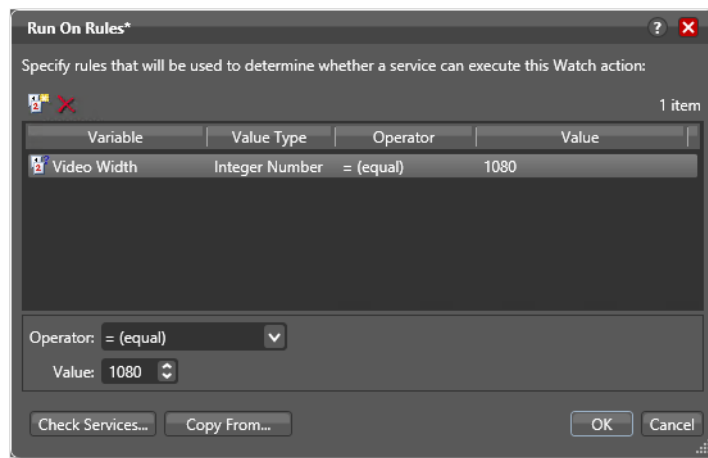
Add one or more rules (selecting a variable or creating it if needed) and select an operator and value to configure them.

OR

Click Copy From to display the Run On Rules Copy From dialog. Navigate to the workflow you want and then select the action to copy from and click OK.

Next, click OK to create this rule, and click OK to save the Run On Rule.

In the Vantage Management Console, select Services > Variables and add the variable(s) that you have used in your rules to each Vantage Service you need to query. In an array, the same service may be hosted on multiple nodes.

Note: When a variable is added to a service, that variable is added to the job automatically, if it contains an action that the service executes. Be careful about which

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variables you use for run on rules, and which are used for decision-making; generally you will want to use different variables.
Run on rules *only* analyze variables explicitly set by a service. They do not analyze variables set in a job. This ensures that run on rules only execute actions on a service that explicitly sets them.

Now, return to Workflow Designer and display the workflow again. Right-click on your target action and select Run On Rules to display the Run On Rules dialog.

Click Check Services to verify that the service now responds correctly to variable analysis. For example, *HD-capable* = TRUE.
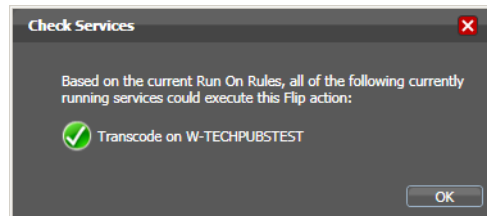
Configuring an Action's Fallback Rules

Actions that have been configured to utilize the Lightspeed Server (for example, by selecting the Lightspeed Accelerated VPL), by default, will fall back and use the (non-Lightspeed) Legacy Telestream VPL under these circumstances:

- No services are available to run the Lightspeed Accelerated VPL.

- The queue length of jobs waiting for Lightspeed Servers is larger than a configurable number.

To enable and configure Lightspeed fallback rules, right-click on the action and select Fallback Rules to display the Fallback Rules dialog.

Check the Fallback if Queue Greater than option, and select the maximum number of actions already in queue you will accept, before running this action on a capable service running on a standard Vantage server. The rule will be activated if every capable service has a queue length greater than the number you have selected.

Note: In Open Mode, Lightspeed fallback doesn't occur until the action completes. This is by design. Fallback occurs only when Vantage determines that the action cannot run, and this condition will not happen until the previous action completes in this scenario. In this scenario, the action should be configured to explicitly use the multi-core mode.

Specifying Automated Retry Settings

Certain actions (typically, those that deal with files or other network-accessible computer systems) which may fail due to file system latency or network delays, can be configured to automatically execute multiple times in an effort to overcome a temporary problem, according to user-specified parameters, called retry rules.

Actions that support Retry Settings have a Retry Settings menu item in the actions' context menu.

Retry Rules Overview

Default retry rules are set for each action *type* by the Vantage domain administrator. For example, the Vantage domain administrator might specify a default retry rule (in the Vantage Management Console) so that all Flip actions retry one time after five minutes.

The default retry rules can be modified for an action in Workflow Designer, and the action retry rules override the default rules. For example, you might specify that a specific Copy action in a workflow should retry three times: once after five minutes (in case of a SAN blip), once after an hour (in case of Internet congestion), and up to a certain number of times after two days (in case of complete Internet failure).

It is important to keep in mind that individual action retry rules specified in Workflow Designer override the default retry rules specified in the Vantage Management Console. If an action does not have override retry rules, the default retry rule for the

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action type is used instead. If there are no override rules specified for an action, and no default rules for its action type, then a failed action is not retried.

Each time an action is executed, it may be executed according to either task scheduling rules or resource cost settings, depending on what type of load balancing is enabled in the domain, and it may be assigned to a different service for execution.

If you restart a job that is in the Stopped by User or Failed state, the actions execute as a first-time execution. For example, you have an action with retry after 4 hours. Restarting this job results in immediate execution, because the action is executing on its first try.

Configuration Details

Right-click on an action and select Retry Settings to view or configure retry rules. Workflow Designer displays the Automated Retry Settings dialog.
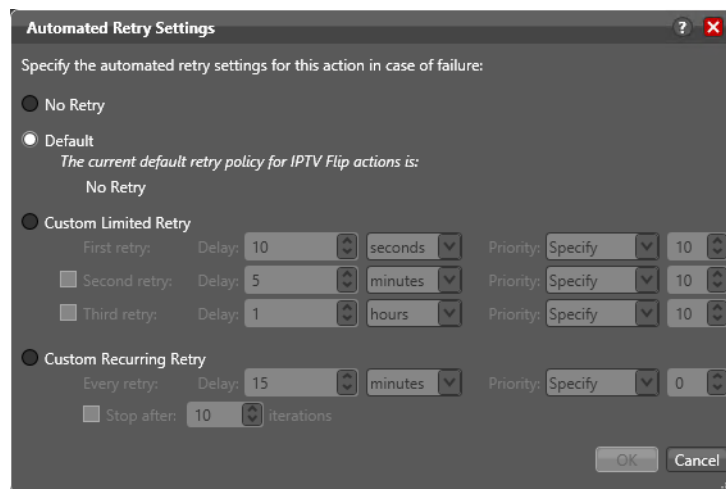
This dialog supports the following options:

- *No Retry*—Override any default retry settings, and not retry execution on failure.

- *Default*—Utilize the default retry settings specified by the Vantage domain administrator.

- *Custom Limited Retry*—Configure up to three retry settings. Specify the duration of each delay, and select *Specify* to set a specific retry priority for this action; select *Use Existing* to use the default Retry Priority value (which is specified in the Vantage Domain Console > Workflow Design Items > Action Defaults) for this action type.

- *Custom Recurring Retry*—Configure the time and priority (which is optional) between retries, and optionally, stop after a certain number of iterations. Specify the duration of each delay, and select *Specify* to set a specific retry priority for this action; select *Use Existing* to use the default Retry Priority value (which is specified in the Vantage Domain Console > Workflow Design Items > Action Defaults) for this action type.

Modifying Resource Costs

When you right-click an action, Resource Cost is among the selections. The following topics explain the Resource Cost selections.

■ Cost-Based Load Balancing

■ Task Based Load Balancing

■ Setting Action Resource Costs

Cost-Based Load Balancing

Cost-based load balancing is a legacy load balancing system available with the Advanced Task Scheduling license and is disabled by default. To determine if cost-based load balancing is enabled, contact your Vantage domain administrator.

Note: When cost-based load balancing is disabled (the legacy, default setting), Vantage uses session-based load balancing and resource cost settings are ignored. For information on configuring load balancing, see the *Vantage Domain Management Guide*.

When cost-based load balancing is enabled, each action has a default cost and a custom cost. The default cost value is defined by the Vantage domain administrator. The custom cost is defined by the workflow designer in the workflow itself. When you define a custom cost, that cost overrides the default value.

Cost-based load balancing provides a way to control how action processing is distributed among multiple services. During workflow processing, the action cost defines the relative resources that must be available on a Vantage service to process the action. If there are multiple services that can process an action, and if one service does not currently have the resources to process that action, another service with available resources will process the action.

The resource cost is an integer value that has an ordinal relationship to the other action costs and to a *target resource usage* value defined by the domain administrator. A higher resource cost in an action means that fewer actions can run simultaneously on the same service. A lower resource cost allows more actions to run simultaneously. The actual values you enter for a workflow action must conform to the service settings defined by the Vantage domain administrator. To determine the range of resource cost settings available to you, consult with your Vantage domain administrator.

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Task Based Load Balancing

Task Based Load Balancing is Vantage's most advanced load balancing capability and augments the existing Vantage Session Based Load Balancing and the Vantage Cost Based Load Balancing. Task Based Load Balancing ensures that all Vantage servers remain fully utilized, maximizing server efficiency and increasing workflow throughput. Task Based Load Balancing also helps avoid the situation where some Vantage servers are over-utilized and others are under-utilized.

The older cost-based method discussed previously is limited to a single service on a single machine. This method can prevent a service from becoming overloaded, but it cannot effectively balance between different types of actions on a single machine, and it does not offer a global way of managing sessions across multiple machines.

Task Based Load Balancing is a separately licensed option that provides a single set of metrics shared across all services for scheduling tasks and balancing workload on a single machine or all the machines in a domain.

These are the key features:

- Each metric can be edited and has machine scope (across all services on the machine) or global scope (across all services on all machines).

- Each metric has two inputs: Cost (set for each action) and Capacity (set per machine, or globally). You can edit both on a per-machine basis (for per-machine metrics) or for the entire Vantage Domain (for global metrics).

- A default metric called System Resources is pre-configured to provide a per-machine metric. This metric cannot be deleted and must remain per-machine. However, you may set the capacity for this metric on each machine, and you may remove the metric from an individual action.

- You can create and name your own new metrics.

- By default, each metric has machine scope, but you can edit this after creation.

- The default capacity is 100 "units" for each machine, allowing each cost to indicate the resource percentage an action will use. The capacity can be changed.

- You can choose which metrics are relevant to an action, and you can set the cost for each action.

- When executing a task:

  Vantage evaluates all metrics that you attach to the action. If a metric is not attached to an action, it is not considered.

  Vantage tracks the aggregate cost of all executing actions on a machine, across all machine-based metrics, and will track the aggregate cost of executing actions across the entire system for global metrics.

  Vantage only executes an action when the aggregate cost of executing current actions, plus the new task, does not exceed the capacity of any of the metrics attached to the task.

Vantage will never execute a task when the aggregate cost of executing actions, including the new task, would exceed the capacity of any metrics attached to the task.

- When tasks are queued, they may be preempted only by higher priority actions:

  Certain high priority tasks will pause low priority tasks (executing on the same service on the same machine) to free up sufficient resources across all metrics, to allow that high priority task to execute. If doing so would exceed the maximum number of paused jobs specified by the user, then the high priority task will wait until a different set of tasks are present which may be paused. Pauses will not occur across multiple machines; they occur only for actions hosted by the same service.

Task Based Load Balancing allows you to define custom task scheduling rules which allow jobs to be controlled/allocated based on criteria on a given machine or across an entire domain.

Task Based Load Balancing is enabled via the settings panel in the Vantage Management Console. As with other system level settings, when Task Based Load Balancing is enabled (or changed), services must be restarted.

Task Based Load Balancing includes capabilities that replace and extend the Cost Based Load Balancing. The capabilities replace the existing action cost mechanisms, and are used in-conjunction with the existing service capacity to provide more granularity on when and where an action may run.

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Setting Action Resource Costs

The preceding topics about Cost-Based and Task-Based Load Balancing provide the background you need to make action Resource Cost decisions, as this topic explains.

1. Right-click the action and select Resource Cost.

2. Select either Resource Cost Settings or Configure Task Scheduling.

    a. If you select Resource Cost Settings, Workflow Designer displays the Resource Cost Settings dialog, shown here. Select Default to use the default resource cost. Select Custom to set your own resource cost.
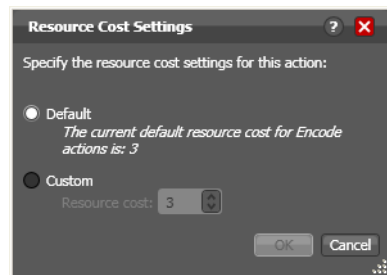
    b. If you select Configure Task Scheduling, the Task Scheduling Rules dialog opens. Select Default to apply existing system rules, or select Custom and choose the custom rules you've created that you wish to apply. Also specify a cost and click Done.

       For details about creating Task-Based rules using the Vantage Management Console, refer to the *Vantage Domain Management Guide*, "Managing the Vantage Domain" chapter.
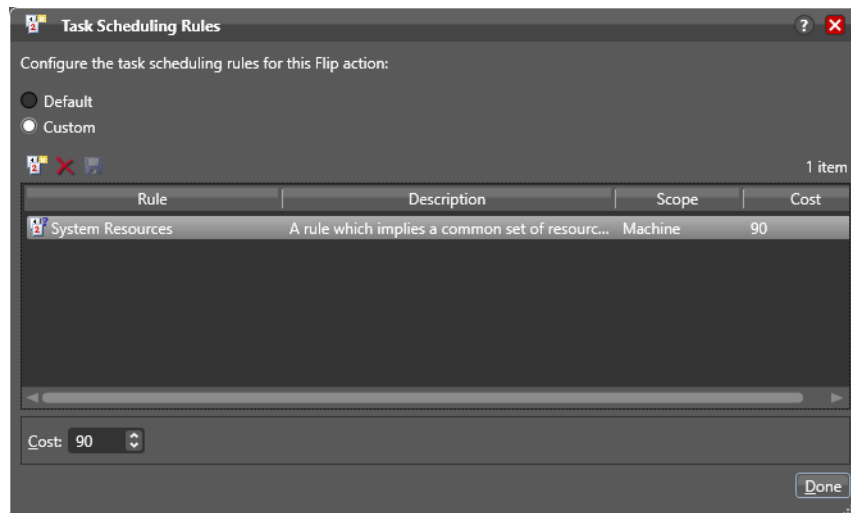
3. Click OK to save.

Generating Execution Metrics

For most actions, you can collect execution metrics, and assign them to variables for processing downstream. For example, you can generate start and end times, total elapsed time, and final action state, among other values. You can use these metrics to enhance your ability to fine tune your system, and improve throughput, or identify bottlenecks.

To generate execution metrics for a given task, right-click the task and select Execution Metrics. Vantage displays the Execution Metrics dialog.
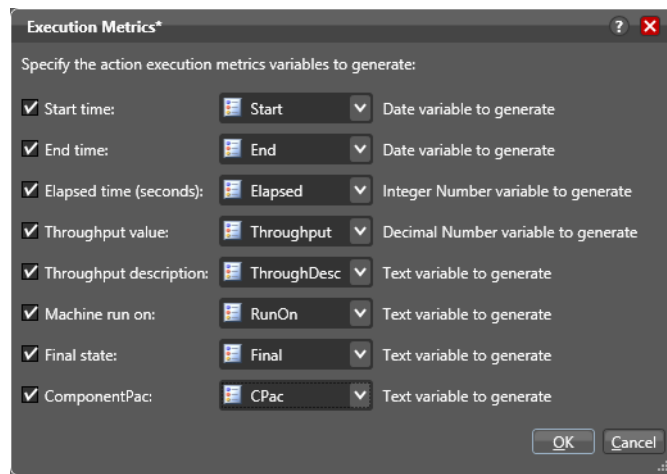
Check the metrics you want to collect, and assign each one to a variable. Then, downstream you can access these variables for analysis.

Changing Action Descriptions

You can change an action description by directly clicking on the description text field at the bottom of the action, or right-click and select Description. Enter the new text and then click away.

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Highlighting a Branch in a Workflow

In a complex workflow, it might be difficult to determine at a glance exactly which actions are in a specific branch of the workflow. To see all of the actions which will execute on a given branch clearly, right-click on the farthest downstream action that you want to see in the context of its branch and action execution path, and select Highlight Path. To turn highlighting off, left-click on the same action.

All of the actions in this branch that precede the target action are temporarily highlighted in yellow so that you can identify them.

Creating Action Templates

Vantage allows you to create action templates to make workflow construction easier. With action templates many of the repetitive steps of action configuration can be saved for reuse. To create an action template, follow these steps:

1. Add an action to a workflow.

2. Configure it as appropriate.

3. Edit the description (at the bottom of the action), used to name the action template.

4. Right-click and select Create Template to save the selected action as a template.
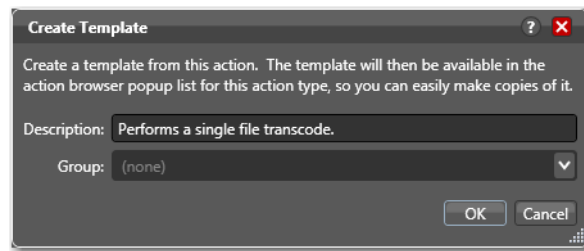
5. Enter a description (this is optional).

6. Add or select a group, or select None and click OK.

Grouping allows you to organize your action templates. If you want more than one level of grouping, separate each group with a vertical bar (|)—for example, *Broadcast Servers | Grass Valley*. The description of the action displays as the name of the action template.
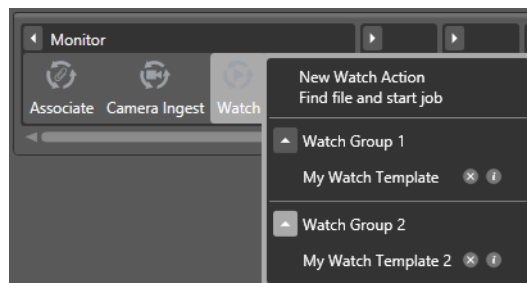
The action template is added to the template list, and can be selected by clicking on the action.

Exporting a Flip Action

When you are creating a custom Vantage application using the Vantage SDK, you can create and configure a Flip action and then export it as an XML file, for use as a template in your application.

To export a Flip action, first create and configure the action to meet your requirements. Next, right-click the Flip action and select Export. Workflow Designer displays a File Save dialog, where you can navigate and save the XML file with a name you choose.

You can use this XML file (which contains a definition of your Flip action) in your Vantage SDK-based application. You can also edit the XML file separately from Workflow Designer, of course.

Note: Only Flip actions can be exported using this feature.

Implementing Processing Logic in Workflows

Many workflows consist of several actions connected in a single line—thus, each action is executed, in turn, for the entire workflow.

However, you may want to create branching workflows that are intelligent and flexible, so that they can process media files with differing processing or output requirements automatically. These workflows can extract information about the media or container at runtime (using the Analyze action, for example), and store that information in variables. Then, you can add a Decide action to examine the variable values in and pass control to one branch or the other, based on the value. (You can also use the Compute action to perform string processing and math operations on the metadata.)

Generally, controlling the flow of media through a workflow is achieved by adding variables and assigning them values, using a Decide action to evaluate them, then setting an action state that follows the Decide action. For many decisions or multiple levels, the decisions and their variables can be combined in a single Multi-Decide action. The outputs of Decide and Multi-Decide actions serve as the input for subsequent actions or entire branches of workflow processing. The Decide or Multi-Decide ensures that only the appropriate branch for a specific set of detected conditions executes. For example, you can detect an aspect of the video or audio, such as SD or HD or bitrate, and route the media to different processing branches depending on what is detected.

You can add as many decide actions and branches as you need in order to further refine your processing choices.
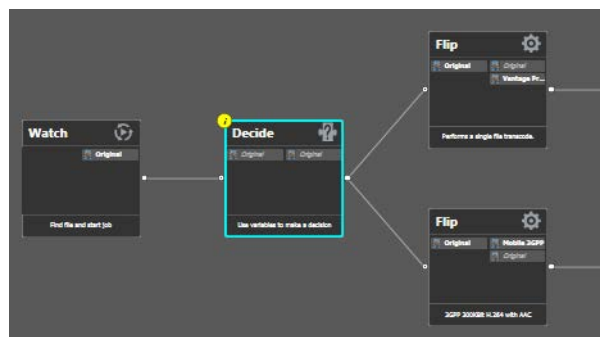
In this example, some metrics about the input file are being examined by the Watch action—file modification date, for example. The Decide action determines if the date is prior to or later than a given date, and sets Success or Failure, based on the answer.

The top branch's Flip action only executes on Success (processing those files whose modification date is prior to the test date), and the lower branch's Flip action only executes on Failure (processing those files whose modification date is later than the test date).

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Managing Vantage Folders

Vantage folders are aliases (or alternate names) for specific file system directories or folders, on any supported file system in Vantage. You can create (and name) Vantage folders as URLs, UNCs, or drive letters to identify specific paths you use frequently. Vantage folders simplify directory referencing by allowing you to specify a short, descriptive folder name instead of a long, complex file path. Vantage folders also allow you to update a path or credentials once, and automatically update all actions using that Vantage folder.

For example, you might have a folder on a given server for HD MPEG2 content: *\\voyager\SunupCampaign\Darwin\WaitingApproval\HDMPEG2*. You can create a Vantage folder in the Vantage folder address book for this path, and name it *SunupHDWaitingApproval*. If you need to change the path or any password associated with the address later, you can simply change it in the address book and all actions will automatically update.

When you create a workflow that accesses a folder for a file or generates media you want saved in this folder path, you simply select *SunupHDWaitingApproval* in the action's Inspector.

For Windows, Telestream recommends using UNC paths instead of drive letter paths, and it is required in Vantage arrays. For a detailed discussion, see *Paths for Vantage Storage Overview*.

You can also create Vantage folders in the Address Book to identify buckets in your Cloud accounts—Amazon AWS or Google Cloud, for example.

You can create Vantage folders in both the Vantage Management Console and in Workflow Designer.

To create and manage Vantage folders in Workflow Designer, do the following:

1. Click on the browse ▣ button to the right of any location field that accepts Vantage folders.

   For example, open a Flip action and open the Output Location panel, which displays a Browse button to the right of the Vantage Store/Folder field.

2. Select Vantage Store/Folder and then click the Browse button. Vantage displays the Vantage Folder Address Book, shown here:
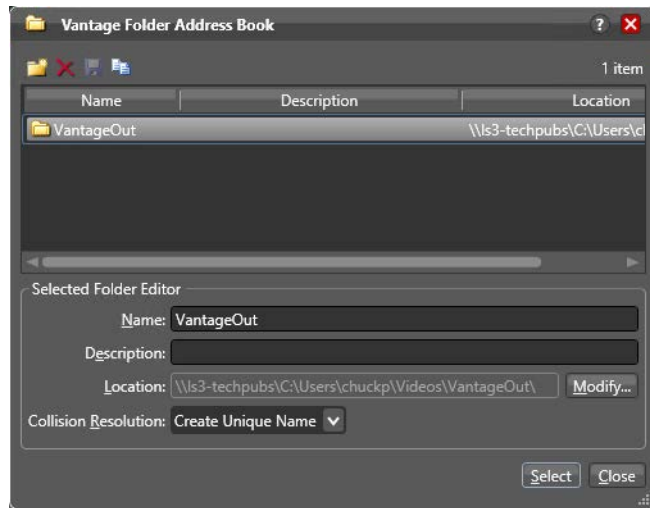
3. Click the Add Folder toolbar button (the new folder button at far left).
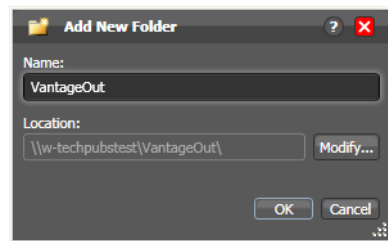
4. *Name*—Enter the Vantage folder name.

5. *Location*—Click Modify to display the Folder Location Editor dialog, which presents you with a list of all supported file system types in Vantage.
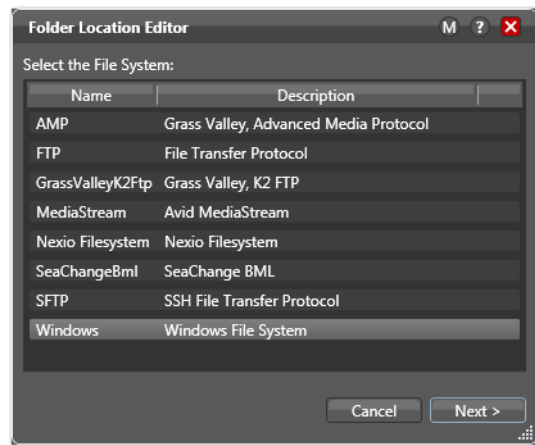
6. Select the file system where the Vantage files will be stored, then click Next.

7. Configure each field or control in each panel to set up the folder address—panels and controls vary by file system, of course.

8. To specify a Windows directory with a UNC path (recommended), do the following:

a. Click Browse to display the Browse for Folder dialog box.

b. Open Network, open the computer name, and then select the root directory for the folder.

c. Click OK.

You can also type a UNC path in the Location text box. For example, *Computer-Name\Sharename.*

9. To specify a Windows directory with a drive letter path, do the following:

a. Click Browse to display the Browse for Folder dialog box.

b. Select a local folder.

c. Click Select Folder.

You can also type a drive letter path in the Location text box. For example, *C:\folder\folder*.
For a detailed discussion, see *Paths for Vantage Storage Overview*.

10. Click Finish to close the Folder Location Editor dialog. (You may have to click OK on the local folder warning dialog.)

11. Click OK to add this new Vantage folder address to the domain and close the Add New Folder dialog.

12. *Description*—Enter the description, purpose, or use of this folder address.

13. *Collision Resolution* (not supported on all file systems)—Specifies the action Vantage takes when it saves a file with the same name of a file that already exists.

– *Create Unique Name*—Workflow Designer adds a suffix to the filename, making it unique, then saves the file in the location.

– *OverWrite*—Workflow Designer deletes the current file and saves the new file in the location.

– *Set Failure State* —Workflow Designer does not save the file; it sets the action state to Failure so that downstream actions may detect the error and perform a specified task under this condition.

14. To test your connection speed to this location and optimize the block size for file transfer, click the Advanced button.

15. Click the Disk icon in the toolbar to save changes to this new Vantage folder address.

16. Click Select to close the dialog and use the currently-selected folder address, then press OK to save changes. Click Close to simply close the Vantage Folder Address Book dialog with changes.

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Using Open Workflows

The Open Workflows licensed option provides a way to gain much greater processing efficiency and speed from Vantage workflows. Open workflows can run many times faster on the same hardware because of concurrent processing.

- ■ Licensing Requirements
- ■ How Open Workflows Work
- ■ Open Workflow Indicators
- ■ Open Actions
- ■ Open File Formats
- ■ Creating Open Workflows

Licensing Requirements

A license is required to utilize open workflows. Licenses may be enabled for an entire domain, or for individual nodes within a Vantage array so that jobs requiring open workflow processing can be submitted to these specific nodes.

How Open Workflows Work

Open actions in a workflow run in parallel, unlike the serial operation of traditional Vantage workflows. The ability for actions to execute concurrently is constrained by media processed within a file, not by file processing itself. That is, multiple actions can independently utilize a file that is currently being processed by other actions, without waiting for previous actions to complete and close the file. This removes the inherent latency associated with the discrete steps of a traditional closed workflow.

Consider this example:

Closed Workflow
- Existing Vantage behavior   • Actions execute sequentially
- Throughput is constrained   • Run time is cumulative

Open Workflow
- Optional open capability   • Actions may run concurrently
- Throughput is dynamic   • Run time is greatly reduced
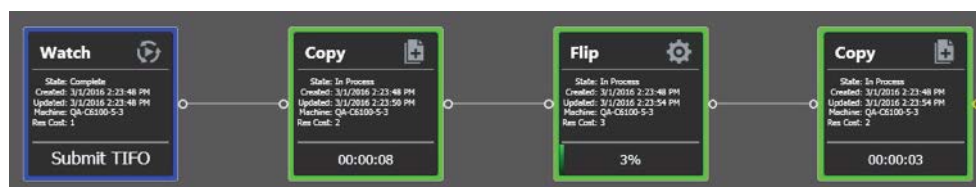
In the figure above, the upper workflow is executing serially. While the Flip action is executing, the second Copy action waits for it to finish. In the lower workflow, the open Copy and Flip actions run concurrently. Once the media blocks have been written to disk in the first Copy, the Flip action is able to read these media blocks and begin the transcoding process. When the Flip action finishes processing and writes the resultant transcoded media blocks to disk, the final Copy action moves them to the appropriate destination.

In this example, the first Copy action takes 10 minutes. However, since the Flip action and the final Copy action can begin processing the incoming file almost immediately, the overall job will be completed in approximately 12 minutes. The figure below illustrates the concurrent nature of this execution:

Open Workflow Indicators

Open workflows include certain visual characteristics so you can recognize open actions. As shown below, connectors are hollow, and the nicknames are italicized if an action is operating in open mode. Actions in closed mode look the same as they always have, with filled connectors and regular type.
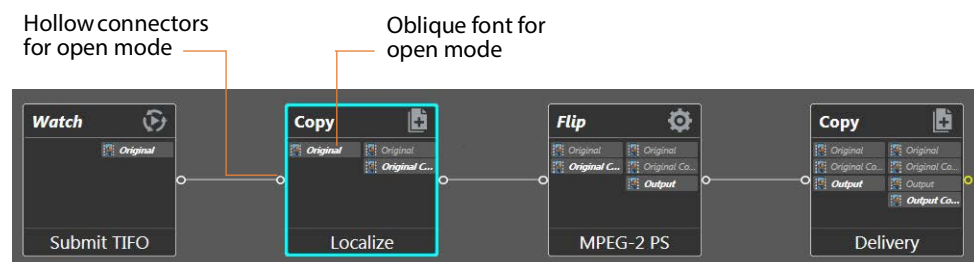
Open Actions

Many actions can execute in Open mode—but not all. Additionally, in some instances, the inbound processing to the action may be open but the outbound is closed, and vice versa. The following table summarizes the actions supported by open workflows.

Service	Actions	Open Inbound	Open Outbound	Notes
Monitor	Watch	N/A	Yes	On Windows, the file being submitted can be an open, growing file (one that is being written). On other file systems, the file must be complete and closed before it can be submitted.
Transport	Copy	Yes	Yes	Input and output may be TIFO, Transport Stream or Program Stream files; only valid when using the Windows File System.
Transcode	Flip, Flip64	Yes	Yes	Input only for supported file formats (below)

Note: In order to localize a file from a file system other than Windows in open mode, the file must already be complete. For example, in the following workflow: Watch (FTP) > Copy (local Vantage store) > Flip, the Copy and Flip actions will run in open mode when the source file on the FTP server is a complete, closed TIFO file, since the Flip action only supports TIFO open inbound.

Service	Actions	Open Inbound	Open Outbound	Notes
Multiscreen	Multiscreen Flip	Yes	No	Input only for supported file formats (below).
IPTV	IPTV Flip	Yes	Yes	Input only for supported file formats (below).
Edit	Tempo, Conform	No	Yes	Input only for supported file formats (below).
Live	Capture	No	Yes	Outbound only.
Metadata	Populate, Transform	Yes	No	Instantaneous, no media dependency; XML files are closed.
Common	Compute, Construct, Decide, Delay	Yes	Yes	Instantaneous, no media dependency, actions will not run until input variables are all available.

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Open File Formats

Only file formats that are able to be read while being written (aka *growing* files) are supported by Open workflows. This is fundamentally controlled by both the file wrapper and the codec utilized for transcoding the media.

Note: In order for a transcoding action to ingest media an input in open manner, the decoder must be configured for a format that supports open workflows.

The following file formats are supported for both reading and writing in all open transcoding actions listed in the preceding table:

- All actions that are Open Workflow-capable support open TIFO for inbound, outbound, or both depending on the action
- Open Transport Stream is only supported for IPTV Flip and Flip actions outbound
- Open Program Stream is only supported for Flip actions outbound
- Flip actions only support PCM audio for inbound

Choosing an appropriate file wrapper greatly enhances the speed of execution for an open workflow. The Telestream Intermediary Format (TIFO) offers a good choice for file wrapping as it supports open workflows and all codecs. When you are capturing live content from a Telestream Pipeline HD Dual or the Lightspeed Live Capture server, the media can be a TIFO wrapped file that can immediately be consumed by an open workflow for extremely fast live content deployment.

If you need additional speed, adding a Telestream Lightspeed Server will further increase processing speed and reduce the time to produce media assets.

Open workflows are ideal for scenarios where media residing on external systems (S3, FTP and Aspera servers) is to be localized, processed, and delivered to external storage locations. Files processed on S3, FTP or Aspera systems are limited to complete, closed files in TIFO format.

Open workflows are also ideally suited for Vantage workflows in which one action is creating a mezzanine file for the purpose of a second action creating a specific rendition. For example, Post Producer might create a high resolution mezzanine file followed by the Cable IPTV Flip to produce a vendor specific Transport Stream.

Detecting an Open Workflow Error State

An *Error* state may occur for both actions and jobs. If an action running in open mode catches a critical error (that would be shown in the session log view), but must wait until the open block completes before failing, the user is alerted as follows:

- The action border displays light orange in the Job Status view
- The job status transitions to *Error*, in light orange text.

The Error state indicates that the action and the job are going to fail when the upstream open actions complete.

Note: The Error state is only displayed when a service become aware of a critical error. It is possible that a condition introduced during execution (full disk, network interruption, etc.) may cause the service to encounter an error that is not reported to Vantage until completion. However, if a critical error is propagated to the session log during execution, the Error state is triggered to alert you.

Creating Open Workflows

You create an open workflow using the Workflow Designer in the same way as a standard workflow. However, open workflows must be enabled in three places:

- Enable domain level in Vantage Management Console *Settings & Options > General*
- Enable workflow level in Workflow Designer, workflow drop-down
- Enable action in context menu (right click) Workflow Mode

These are the steps to create your first open workflow:

1. Open the Vantage Management Console, select Settings & Options, select the General tab, and check Enable Open Workflows.
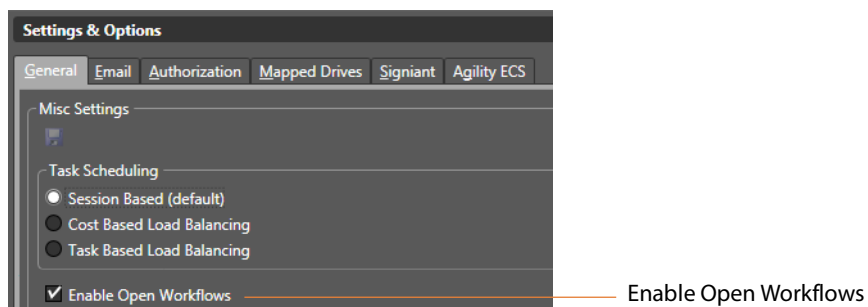
2. Open the Workflow Designer and create a new workflow, such as this one.
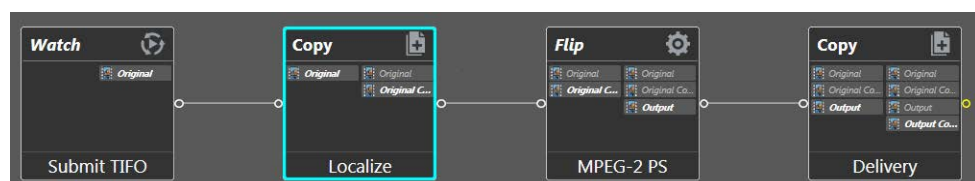
3. Select the workflow drop-down menu, and check Options: Open mode.
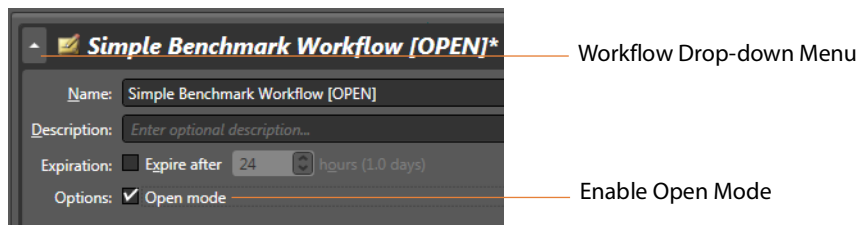
4. Right-click each action in your workflow, select Workflow Mode, and check Open.
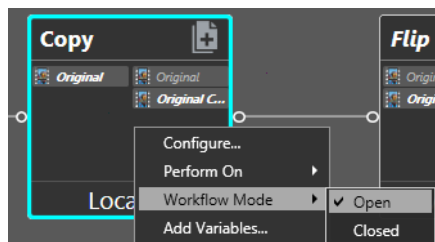
This completes Open mode configuration. You can submit jobs and use the workflow as you normally would. Notice that the Job Status shows some of the open actions operating simultaneously.

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Processing Cloud-based Media in Workflows

Vantage Cloud is a set of containerized Vantage actions that execute in Telestream Cloud, which are executable by workflows in locally based Vantage domains or entirely deployed in Telestream Cloud as hosted workflows. You create a Vantage Cloud account at cloud.telestream.net to leverage additional, cloud-based media processing on demand.

Implementing Vantage Cloud in your Vantage domain enables you to rapidly deploy a Vantage Engine Container and processes the media in the cloud using the Cloud-capable actions in your workflow.

Vantage workflows can be configured to process media in the cloud, whether it is stored locally or in third-party Cloud storage such as Amazon AWS, Microsoft Azure, or Google Cloud Storage. Media that is in the cloud, stays in the cloud. Local media is transferred automatically to the cloud for cloud processing.

This topic describes licensing requirements and Workflow Designer features related to Cloud-based media processing.

Note: Information about using Vantage Cloud is described in the *Vantage Cloud User's Guide*, including an overview, configuring, and using Vantage Cloud to process cloud-based media. For information about Vantage Cloud features and utilization, please refer to the Vantage Cloud User's Guide, available on the Telestream web site.

■ Licensing Requirements

■ Vantage Cloud Mode Transcoding Actions and Functionality

■ Enabling and Configuring Vantage Cloud Mode and File Lifespan

■ Specifying Output File Lifespan (Hosted Workflows Only)

■ Correcting Unsupported Action Configurations

Licensing Requirements

Using Vantage Cloud in your Vantage domain requires the following:

■ A license for Vantage Transcode (V-XCODE-SW) or higher.

■ A Telestream Cloud account (https://cloud.telestream.net). Cloud-capable actions operating in the cloud include licensing in the per-minute execution price of Vantage Cloud.

■ A storage account with AWS, Azure, or Google.

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Vantage Cloud Mode Transcoding Actions and Functionality

The following transcoding actions can be executed in Vantage or in Telestream Cloud:

- Analyze
- Conform
- Flip64
- IPTV Flip
- Multiscreen Flip
- Tempo
- Timed Text Flip

When an action is placed in Vantage Cloud mode, the following functionality applies:

- Execution of the action occurs in the specified cloud account and is executed by the Cloud Service; not by the service it is normally executed by.
- A *vcp-uploads* bucket is automatically created in the specified Cloud storage, where binders are created to contain local files that have been uploaded for processing.
- The Output Location settings (which pertain only to Vantage execution) are disabled; the Cloud Store settings are used to identify the output bucket. Transport actions (Move, Copy, etc.) must be used to perform file operations.
- Open workflow-capable actions don't operate in Open Mode in Telestream Cloud.

Enabling and Configuring Vantage Cloud Mode and File Lifespan

Note: Vantage Cloud mode settings only apply to Cloud-capable actions in hybrid workflows executing in Vantage. When you export a workflow into Telestream Cloud—creating a *hosted* workflow—it executes independently of Vantage, and these settings must be specified directly in Telestream Cloud.

Cloud-capable actions display a Telestream Cloud badge when Vantage Cloud mode is enabled:

Vantage Cloud mode badge (displays when Vantage Cloud mode is enabled.
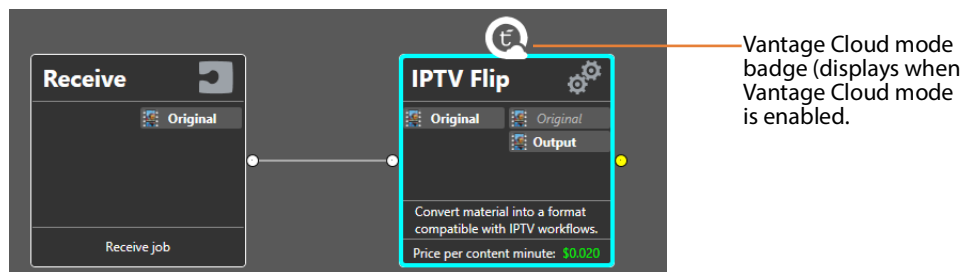
To enable Vantage Cloud mode and configure the settings, right-click on the action and select Vantage Cloud Mode > Configure Vantage Cloud Mode to display the Vantage Cloud Setup dialog.
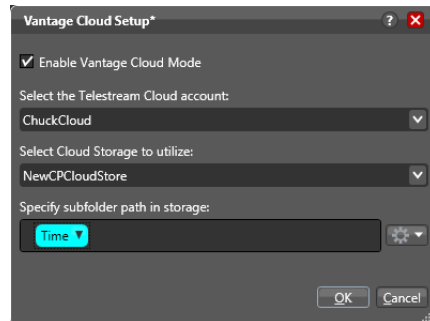
Configure the following settings:

Enable Vantage Cloud Mode. Check to enable Vantage Cloud mode for this action.

Select the Cloud Account. Specifies the Cloud account to utilize, which must be specified in the Vantage Management Console (Settings & Options > Cloud tab).

Select Cloud Storage to Utilize. Specifies the cloud storage bucket to utilize, which must be specified as an address in the Vantage Folder Address Book.

Note: The folder you create in the Vantage Folder Address Book must use exactly the same name as the storage you identify in the Telestream Cloud account. This is required to provide translation of the signed URL specifying the cloud-stored media's location to a URL usable by the subsequent action.
If matching entries are not included in the Vantage Folder Address Book, the URL translation does not occur, and downstream actions may fail. See *Managing Vantage Folders* for configuration details.

Specify Subfolder Path in Storage. Specifies an optional subfolder (bucket) path to use when writing files. May be statically specified and/or variables, date and time tokens may be applied.

If Vantage displays an error when you attempt to enable Vantage Cloud mode, make sure you have added a Vantage Cloud account in the Vantage Management Console (Settings & Options > Cloud tab).

Also, you may have configured a Vantage Cloud mode action incorrectly:
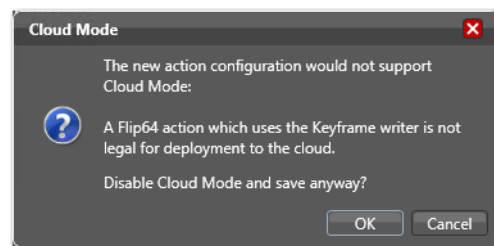
Determine the configuration error and retry.

Specifying Output File Lifespan (Hosted Workflows Only)

In hosted workflows, generated files created by an action, by default, have a permanent lifespan and can only be deleted beyond the scope of the workflow. To delete temporal output files that you do not want to exist beyond the duration of the job, right-click on the action and choose Vantage Cloud Mode > Output Lifespan.

In the Output Lifespan dialog, choose:

- *Transient*—choose when the material created by this action should be deleted immediately after the workflow has completed.

- *Permanent*—choose when the material should be retained (not deleted) after the workflow has completed. In this case, file management is beyond the scope of the workflow, Vantage, or Telestream Cloud.

Click OK to save the setting and close the dialog.

Correcting Unsupported Action Configurations

On occasion, you may configure an action in such a manner or specify a certain action plugin (an encoder for example) that can not execute in Telestream Cloud. In these situations, Vantage displays an error similar to this:
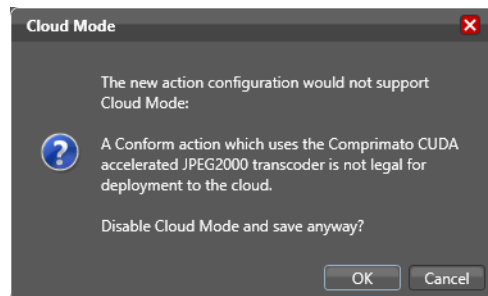
Reconfigure the action in a way (or using another plugin) to enable it to run in the Cloud or process the media locally.

Troubleshooting Workflow Designer

The following topics describe Vantage conditions and behaviors that you may encounter, together with suggested solutions.

Domain name doesn't display at login

When opening Workflow Designer for the first time, depending on the design of your network and the location of your workstation and Vantage database server, the Domain login dialog may not display the domain. If this is the case, you can log in by using the name or IP address of the server.

Workflow waits indefinitely

Vantage qualification rules can cause an action to fail and the workflow to wait indefinitely. This is intended behavior, but if it is troublesome, one workaround is to set the qualification rule to OPTIONAL rather than REQUIRED. To do this, open the Vantage Management Console and select Services and the desired service. Select the Qualification Rules tab for the service and the affected variable in the list. From the Qualifier drop-down menu, select *Optional*.

Note: For customer service, see *Contacting Telestream*. You may use the *Data Collection Utility* (Vantage Management Console > Support Utilities > Data Collection). You may also use the *Change Log* or *Error Log* utilities to provide information during your service call.

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Vantage Actions

This chapter describes each of the Vantage services (action groups) and their actions, by the type of tasks being performed. Workflow Designer groups actions according to the service that executes them (except for actions in the Common group which can be executed by all Vantage services).

Some actions are optional and require a specific license.

Note: For detailed help describing specific settings for each action, open the action Inspector and click the ▣ icon to display its manual page.

Topics

■ Tasks—What can you do in a Workflow?

■ Services and Actions

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Tasks—What can you do in a Workflow?

When you begin using Vantage Workflow Designer for the first time, your first question is probably, "What can I do with a workflow?" This topic provides a list of many tasks you can perform, and the Windows services and actions you use to accomplish them.

The list is not comprehensive, but it leads you quickly to the most common ones. Some actions are available only with an optional licenses, such as Post Producer, TrafficManager, Live Capture, Tempo, and others. Contact Telestream Sales or Support if you have any questions.

Monitoring Folders and Ingesting Media and Files

You can monitor folders and ingest media or files for processing from a comprehensive range of file storage systems

Industry Standard File Systems

- Watch action (Monitor group)—Watch a folder for media or attachments.
- Workorder action (Monitor group)—Perform automated submission of multiple jobs in batches based on CSV workorder text files that describe media files, attachments, and variables.
- Associate action (Monitor group)—The Associate action ingests files associated with a job and assigns a user-specified nickname.

Special-Purpose File Systems

- Camera Ingest action (Monitor group)—The Camera Ingest action monitors a target device or directory for new shot files from supported cameras and formats and initiates a job each time a complete shot is discovered.
- Capture action and Tape action (Live group option)—Using a Lightspeed Live Capture Server, captures streaming video from live or tape playback sources and saves to files.

Advertisement and Commercial Processing Platforms

- Catch action (Traffic group option)—Monitors a target Traffic directory for media associated metadata files and initiates a job when a new media file is discovered.
- Dublist action (Traffic group option)—Monitors the target Traffic directory on the specified file system for new dublist files and initiates a dublist processing job each time a new dublist file is discovered.
- Syndicate action (Traffic group option)—Transforms sidecar metadata from supported providers (for example, PitchBlue) into a mezzanine format attachment (used by the Syndicate action) that contains episodic metadata information including segment timing information.

- Syndication Forward action (Traffic group option)—processes incoming jobs from a traditional syndication source, such as a catch server, and allows for automatic forwarding of a CML file to a publishing workflow which performs segment extraction and processing. This removes the step of manual Workflow Portal interactions involving a typical Syndication action workflow in cases where an automated process is required or desired.

Avid Platforms

- Asset Monitor action (Avid group option)—Monitors the specified Avid folder for new or modified assets to ingest and generates a metadata and/or Telestream MP4 media file. The Asset Monitor action initiates a job each time a new media asset is discovered and generates the required output.

Transcoding Media

Transcoding actions convert media between formats and manipulate media essences (digital baseband video and audio). Various transcoding actions provide transcoding for different applications, both on-premises and in Telestream Cloud:

- Conform action (Edit group option)—Renders multi-layer video compositions (as defined in a Composition Markup Language (CML) file with transition and image effects, graphic overlays, and conformed audio. The output is encoded in the specified CML media format.

- Flip action (Transcode group)—Mainline, industry standard transcoding of decoded digital baseband media into another media encoding format. Includes exporting configurations for use in SDK applications. Open Workflow capable.

- Flip64 action (Transcode group)—A 64-bit multi-core-optimized encoder that transcodes media from SD to UltraHD and 4K in a broad range of file formats, from QuickTime to MPEG-4 and TIFO, including encoding for x264, x265 (H.265 HEVC), MXF, and more. Open Workflow capable except when executing in Vantage Cloud mode.

- IPTV Flip action (IPTV group option)— Converts media files to formats for cable/IPTV/VOD/set-top box applications. Open workflow capable.

- Multiscreen Flip action (Multiscreen group)— Generates Adaptive Bitrate packages from media files. Optimizes and delivers multiple bit rates and/or multiple resolutions that may be selectively displayed by the client of a streaming media server. Open workflow capable.

- Tempo action (Edit group option)—Re-times file-based media and adjusts the running time of shows and segments while maintaining program quality. Newly-timed media is encoded into the CML-specified output video format.

Transforming Attachment Files

- Syndicated Media—The Syndicate action (Traffic group) transforms sidecar metadata from supported providers (for example, PitchBlue) into a mezzanine format.

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The mezzanine file contains the relevant episodic metadata information including segment timing information. The mezzanine attachment can be utilized by Vantage Portal in Syndication mode (Syndication Workflow Portal) or consumed directly by other Vantage components.

- Catch action (Traffic group option)—Monitors a target Traffic directory for media associated metadata files and initiates a job when a new media file is discovered.

- Dublist action (Traffic group option)—Monitors the target Traffic directory on the specified file system for new dublist files and initiates a dublist processing job each time a new dublist file is discovered.

Captioning

The Cloud Speech action submits media from Vantage workflows via the Cloud Service and the Telestream Cloud API to the Telestream Cloud for speech-to-text conversion. To use the Cloud Speech action you must have a Telestream Cloud account and enter the account credentials in the Vantage Management Console Settings to enable Vantage to access the account. When the Cloud Speech action executes, the input file is uploaded and processed according to the Cloud Timed Text Speech project chosen in the Cloud Speech action, and the results are returned to the workflow for downstream use.

Analyzing Media

Use the actions in the Vantage Analysis Service to perform essence-level operations (black detection, interlace, PSNR, Telecine, etc.), perform DPP validation, etc. and report the results for QA and intelligent branching within a workflow to deal with media essence non-conformity and other issues.

Manipulating Metadata

You can process metadata label to extracting, creating, and transforming them using these actions:

- The Extract action identifies and extracts specific values from structured metadata and populates variables for use in downstream actions. The Extract action enables you to identify the location in the structured data where the value is located.The workflow can ingest an XML or JSON file during job execution or by making web service calls. The Extract action automatically generates XPATH or JSONPath references from the structured metadata in these files to extract the data, and populates a variable with the value. During execution, each extraction path is evaluated against the input and the associated variables are populated for use in downstream actions. This action is open workflow capable.

- The Populate action enables you to bring media and other files into workflows, create metadata labels and variables from file names and labels. You can also transfer metadata from job-related system information to variables.

- The Transform action enables you to transform metadata using XSLT, and to transform metadata between attachments and Vantage labels.For example, you can

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transform a given XML file (attachment) with the specified XSLT to generate another XML attachment. Or, you can convert a Vantage label from one form to another.

Note: You can only use style sheets that have been implemented in the Vantage domain database—you can't select an XSL style sheet from a file system. You manage your XSL style sheets using the Vantage Management Console (Vantage Domain > Workflow Design Items > Style Sheets). Before the Transform action can execute, it must be configured using the Inspector. This action is open workflow capable.

Performing File Operations

Most of these actions perform file operations on industry-standard file systems, such as Windows and FTP, etc. To perform file operations on platforms including Avid and others, use Deploy.

- The Copy action duplicates a file (by nickname) to another location, leaving the source file in place. Use the Copy action when you need to replicate a file from one server or path to another. For example, you have a workflow that is monitoring an FTP site for incoming media—but opening and reading a file directly from an FTP server by the Flip action is not permitted.

- The Delete action erases the file (or the asset's file set) identified by nickname from its location. The file must have been ingested or created by an upstream action in the workflow in order to obtain the nickname.

- The Move action replicates the file (or the asset's file set) identified by nickname from its location to another location, and upon completion, deletes the original. The file must have been ingested or created by an upstream action in the workflow in order to obtain the nickname. Copying and deleting separately achieves the same goal.

- The Deploy action supports the delivery of files or file groups to major platforms, where standard file operations are not allowed. These include Avid and social platforms such as Facebook, Vimeo, Twitter and others.

- In addition to supporting major platforms, interaction with many other media-centric platforms is supported.

Communication with External Systems

Vantage actions include a comprehensive set of utilitarian actions for communicating with external systems of all kinds:

- You can use actions in the Automate group to communicate with automation systems including AdID, ASDB, Bxf, Itx, Florical, Pebble Marina, Sundance and others

- Send automated emails pre-formatted for messages, HTML content, and send metadata, media and other file attachments, and apply style sheets.

- Transform files into ZIP and TAR files and deliver them to other systems.

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- Externalize data to a wide variety of systems, including automation systems, Dolby DP600, Avid, NexGuard, and SeaChange.
- Generate XML and JSON files, and generate text and CSV files.
- Invoke shell scripts, communicate with HTTP servers, and invoke Web Services.

Interacting with Media-Centric Platforms

Vantage enables workflows to interact with a wide variety of media-centric platforms, including:

- MediaMate
- Faspex
- Cerify
- Signiant
- FileCatalyst
- AudioTools
- MediaInfo

Services and Actions

The following topics list each Vantage service and its actions, which are organized by group in Workflow Designer. Each action is described under the service that executes it.

Note: For detailed help describing the functionality in detail, and each setting for the action, open the action Inspector and click the ▣ icon to display its man page.

- Alchemist Service
- Analysis Service
- Aspera Service
- AudioTools Service
- Aurora Service
- Avid Service
- Baton Service
- Live Service
- Catalog Service
- Cerify Service
- Cloud Service
- Common Group
- Communicate Service
- Edit (Post Producer) Service
- emotion Service
- FileCatalyst Service
- IPTV VOD Service
- MediaMate Service
- Metadata Service
- Monitor Service
- Multiscreen Service
- Nexidia Service
- Publish Service
- Pulsar Service
- Signiant Service
- Staging Service
- Timed Text Service
- Traffic Service
- Transcode Service
- Transport Service
- VidChecker Service

Alchemist Service

The Alchemist service contains the *Alchemist File Action*.

Alchemist File Action

The Alchemist File action allows Vantage to interact with an installation of the Grass Valley Alchemist software. For configuration and set up details, see the *Alchemist File* app note available on the Telestream website.

Analysis Service

Use these actions (executed by the Analysis Service on behalf of the Telestream Transcode & Analysis Engine) in workflows when you want to perform measurements on media files, compare media files, or identify the characteristics of media files, and publish the results as variables or metadata labels, or set the state of the workflow based on the results.

You can publish analysis results in a metadata label within the binder, or you can publish results as variables so that they can be used for decision-making, or to supply values to settings in other actions. In some cases, you can also set the action state of the action based on the results of the measurement.

- Analyze Action
- Compare Action
- DPP Validate Action
- Examine Action
- Identify Action
- MediaInfo Action
- Report Action

Analyze Action

Use the Analyze action to perform analysis on media using a variety of analysis tools, and variables for use downstream, with the result of the analysis. This action is Vantage Cloud-capable.

Compare Action

Use the Compare action to examine two media files and determine their differences.

DPP Validate Action

The DPP Validate action is part of the optional DPP license. You can use the DPP Validate action to confirm compliance of a DPP metadata XML file. If the XML file passes validation, TRUE is generated; otherwise FALSE is generated. You can test the results of

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the action downstream to change the workflow's actions based on the validation results. Optionally, you can also generate a report.

Examine Action

Use the Examine action to analyze the video and audio of a media file, by selecting a given analyzer (black detection, macro-blocking analysis, slate detection, etc.).

Identify Action

Use the Identify action to examine and identify certain media characteristics, or extract the properties of a media or attachment file (for example, file name, extension, size, or path) or to generate an MD5 hash of a media or attachment file, which you can use to compare two files downstream, or in other workflows.

You can also extract metadata (such as Author or Title) from media files.

In addition, you can extract a comprehensive set of properties from media files (for example, frame size, frame rate, codec, bitrate, number of audio channels, etc.).

Extracted values are assigned to variables (which you create in Vantage Management Console or directly in Workflow Designer), for use later in a workflow. You can also set the workflow state as a result of execution conditions.

MediaInfo Action

Use the MediaInfo action to perform 2 tasks, based on its analysis of the media file and its streams: Create variables from properties via the MediaInfo API, and create a report of the properties and their values.

In each category, you can produce variables of selected metrics with the results the analysis.

Report Action

Use the Report action to generate a report file which contains a list of variables and their values.

Aspera Service

The Aspera service contains the *Aspera Faspex Delivery Action*.

Aspera Faspex Delivery Action

The Aspera Faspex Delivery action is an optional, licensed feature in Vantage. Aspera servers and applications enable secure, high-speed batch file transfers of various file types, including media and metadata files. The Aspera Faspex Delivery action is an optional, licensed feature in Vantage; it is used to deliver media or other files to Aspera systems.

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The Faspex Delivery action is used to deliver media or other files to Aspera Faspex drop boxes and users.

Aspera Faspex 5 Delivery Action

The Aspera Faspex 5 Delivery action is an optional, licensed feature in Vantage. Aspera servers and applications enable secure, high-speed batch file transfers of various file types, including media and metadata files. The Aspera Faspex 5 Delivery action delivers media or other files to Aspera Faspex 5 systems.

The Aspera Faspex 5 Delivery action is used to deliver media or other files to Aspera Faspex drop boxes and users.

AudioTools Service

The AudioTools service contains the *AudioTools Action*.

AudioTools Action

The AudioTools action is an optional, licensed feature in Vantage. It uses the AudioTools Service to enable Vantage workflows to utilize and interact with various AudioTools products from Minnetonka Audio Software. The AudioTools Custom Workflow executes a selected, pre-defined AudioTools Server workflow. AudioTools Loudness Control executes the typical loudness processes, including hitting multiple target parameters using an iterative processing pass.

Aurora Service

The Aurora service contains the *Aurora Action*.

Aurora Action

The Aurora action is an optional, licensed feature in Vantage. It uses the Vantage Aurora Service to utilize and interact with various QC tests provided by the Digimetrics Aurora software. The tests provide the ability to determine whether a particular input media (specified by nickname) either passes or fails a particular QC check. Each test also generates a report file that may be utilized during later stages of the workflow.

Avid Service

Use these actions (executed by the *Vantage Avid Service*) in Vantage workflows to process media interactively with Avid servers:

- AAF Action— Ingest incoming AAF files and process the MXF folder referenced in the AAF file.
- Asset Monitor Action—Ingest into Vantage new media stored on an Avid server.
- Media Creation Action—Check in media created in a Vantage workflow to an Avid server.

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Before you can use these actions in a Vantage workflow with a given Avid server, you must first create and configure an Avid connection in the Vantage Management Console > Settings & Options >Avid panel.

AAF Action

The AAF action ingests incoming AAF files and processes the MXF folder referenced in the AAF file. Avid Media Composer then utilizes Persistent Media Record (PMR) files for information about the online status of file Media Object information (MOB). Each PMR file provides an index in a form that an editor can quickly load all the file MOBs and their associated media files in the media directory in which the PMR file resides.

Media Creation Action

The Media Creation action delivers new media to the specified Avid server and issues Interplay commands to check the file into the Avid server. Settings in the action determine which file nickname to look for and specify the Interplay server details to allow logging in and placing the file.

Asset Monitor Action

The Asset Monitor is an Open Workflow capable origin action that monitors the specified Avid server for new files to ingest. When a new file is discovered, the Asset Monitor action submits the file as a job for the workflow to process. The action generates the processed output in a CML (Interplay Metadata) or MPEG-4 Reference file media descriptor format.

Settings in the action specify where on the Avid server to find the file, which file type to look for, how often to scan for new files, and so on. The Outputs section includes settings to specify the CML (Interplay Metadata) or MPEG-4 Reference file format, the output location, file name, and nickname.

Baton Service

The Baton service contains the *Baton Action*.

Baton Action

The Baton action is an optional, licensed feature in Vantage. It uses the Baton Service to enable Vantage workflows to utilize and interact with various QC tests provided by the Baton software. The tests provide the ability to determine whether a particular input media (specified by nickname) either passes or fails a particular QC check. Each test also generates a report file that may be utilized during later stages of the workflow.

Live Service

The Live service contains the *Capture and Tape Actions* and the SubClip action.

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Capture and Tape Actions

The Capture and Tape actions are origin actions. Capture actions are executed by the Vantage Live Service on a Lightspeed Live Server equipped with the Live Capture option. Capture actions support Open Workflows on the outbound side and are used to capture Lightspeed Live Capture server's live SDI input or an IP media stream delivered over Ethernet, and output captured media files to Live Storage using the specified output container and encoder.

The Capture action may be included in workflows created in Vantage domains with the Live Capture option installed on a Lightspeed Live Capture server. The Capture action Inspector allows you to select and configure live streams for processing, filtering, transcoding, and output. See the Lightspeed Live Server Guide for more details.

The *Tape* action is used to start SDI tape capture workflows created in a Vantage domain installed on a Lightspeed Live server. The Tape action Inspector allows you to select and configure VTR sources for processing, filtering, transcoding, and output. You can also use the action to add metadata labels.

SubClip Action

The SubClip action allows for sub clip editing of high resolution files based on edit decisions made from within the Live Edit web app user interface. The SubClip action is used with media created by a Capture action. The Live Edit web app UI utilizes an HLS proxy created by the Capture Action and served to the Live Edit UI via an Origin server.

This action is open workflow capable if the Open Workflows license is installed; right-click the action and select Workflow Mode > Open. Open Workflows must also be enabled for the current workflow and in the Vantage Management Console Settings.

Catalog Service

Catalog actions enable you to query a Vantage catalog to determine if a binder exists, and also to register a binder in a catalog. These actions executed by the Vantage Catalog Service:

- Remove Action
- Exist Action
- Register Action

Remove Action

A Remove action is executed by the Catalog Service, and is used to permanently remove a binder from the catalog and set the associated file resources to expired. If the action succeeds, it emits an action state of Success; otherwise, Failure.

This action is Open Workflow capable if the Open Workflows license is installed.

Exist Action

Use the Exist action to determine if a binder of the same name already exists, thus indicating that a job has already run on the same media file.

This action is Open Workflow capable if the Open Workflows license is installed.

Register Action

The Register action adds the workflow binder generated by each job to a specified Vantage catalog. This allows Vantage to preserve the binder—and all files it references—even after a job expires (which deletes the associated binder by default). This is also how binders become accessible to operators in Workflow Portal. For details about Workflow Portal, see *Using Workflow Portal*.

This action is Open Workflow capable if the Open Workflows license is installed.

Cerify Service

The Cerify service contains the *Cerify Action*.

Cerify Action

The Cerify action is an optional, licensed feature in Vantage. The Cerify action enables Vantage to interact with the Tektronix Cerify suite of QC components.

Cloud Service

The following actions utilize the Cloud Service and the Telestream Cloud API to provide interactive processing with the Telestream Cloud.

- Cloud Speech action
- Location action
- Cloud Qualify action

Cloud Speech action

The Cloud Speech action submits media from Vantage workflows via the Cloud Service and the Telestream Cloud API to the Telestream Cloud for speech-to-text conversion. To use the Cloud Speech action you must have a Telestream Cloud account and enter the account credentials in the Vantage Management Console Settings to enable Vantage to access the account. When the Cloud Speech action executes, the input file is uploaded and processed according to the Cloud Timed Text Speech project chosen in the Cloud Speech action, and the results are returned to the workflow for downstream use.

Location action

The Location action, part of the Cloud group and executed by the Cloud Service, generates Boolean variables indicating a media file's storage location in the cloud or on

premises. This information may be used to execute a given branch based on location. The Location action can also generate pre-signed URLs for files in cloud or object storage.

Cloud Qualify action

The Cloud Qualify action, part of the Cloud group and executed by the Cloud Service, provides quality control functionality using the Encoding.com cloud platform and content present in cloud storage.

Common Group

Common actions are light-weight, short duration, utilitarian actions that are implemented in multiple Vantage services (Catalog, Communicate, Staging, and Metadata) so that any of those available services can execute them quickly and efficiently.

- Compute Action
- Construct Action
- Decide Action
- Delay Action
- Forward Action
- Multi-Decide action
- Receive Action
- Synchronize Action
- Utilization action

Compute Action

A Compute action is a Vantage Cloud-capable action. It uses variables to set other variables. For example, you can use Compute to add two numbers and assign the result to the selected variable. Compute can perform mathematical operations such as addition, subtraction, division and multiplication. It can also convert variables between types (such as converting a time code to a string), string manipulation, such as appending strings together into an output variable, and comparison functions.

This action is Open Workflow capable if the Open Workflows license is installed.

Construct Action

A Construct action is a Vantage Cloud-capable action. It enables you to construct complex strings, paths, and math expressions from literals, variables, and tokens, for use in downstream actions.

This action is Open Workflow capable if the Open Workflows license is installed.

Decide Action

A Decide action is a Vantage Cloud-capable action. It sets the action state based upon variables. It is commonly used to determine whether or not a branch in a workflow should execute (it sets the Success state) or not (it sets the Ignore state).
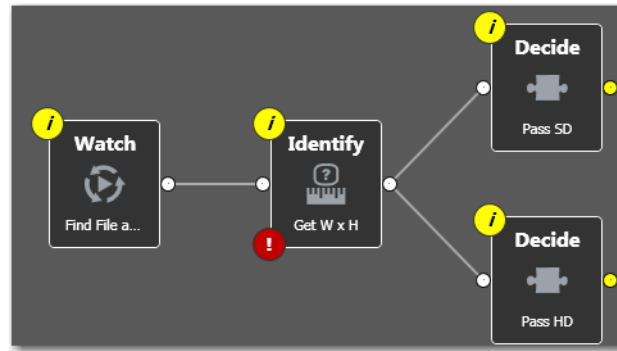
For example, if one branch is for HD, it will start with a Decide action that will set the state to Success for HD content, ignore otherwise; if another branch is for everything else, it will start with a Decide action that performs the opposite behavior.

Delay Action

The Delay action provides the ability to delay the workflow for a fixed number of seconds before continuing. The Delay action operates in Open Workflow mode; for example, if you set a 60 second delay, the action will turn green, delay 60 seconds, then propagate the Open signal to the next action.

Forward Action

A Forward action starts a new job for the target workflow, delivering a binder and all current variables from the originating. A Forward action can only be added to the end of a workflow, and requires that the target workflow has a Receive action as its first action.

The Forward action is the only terminating action in Vantage—it does not have a connecting pin on the right side. Thus, once you add a Forward action to a workflow (or branch in a workflow), you cannot add any more actions, because control has passed to another workflow with a Receive action as its origin action.

Typically, workflows are created with a Receive action when they are intended for execution by another workflow that immediately precedes this one. This ability to chain workflows enables you to create run-time customizable workflows consisting of smaller workflow building blocks.

Multi-Decide action

The Multi-Decide action is a Vantage Cloud-capable action. It simplifies a branching Vantage workflow by allowing multiple phases of Boolean logic called Decision Groups to be implemented within a single action. One Multi-Decide action can evaluate many

different groups of variables and set a Result variable to represent the evaluation result for each group.

A key feature is that the Decide Groups defined in the action can be chained together, similar to Compute and Construct actions, so that the Result variable of one group within the action can feed the input conditions of a subsequent group within the same action. This provides powerful internal logical processing within a single Multi-Decide action. The variable values resulting from a Multi-Decide action can trigger any of several branches in a workflow.

As an example, a Multi-Decide action can implement internal logic as follows to trigger downstream workflow branches: IF the Video Format is MXF AND the Video Framerate is 60, THEN IF the Bitrate is 35 MB/sec, trigger branch 1; IF the Bitrate is 50 MB/sec, trigger Branch 2; otherwise, Trigger Branch 3. IF the Video Format is NOT MXF or the Framerate is NOT 60, Trigger Branch 4. The Multi-Decide greatly reduces the number of Decide actions required per workflow because many expressions can be grouped into a single action.

Receive Action

The Receive action is a Vantage Cloud-capable action. It is similar to a Watch action in that it starts jobs. Unlike a Watch action, it allows you to ingest a file from an external program and submit it for processing.

Methods you can use to submit jobs to a Receive-based workflow:

- Another workflow
- A Vantage SDK-based program
- Workflow Portal

Like a Watch action, you can also drag and drop a file on it to start a job.

The ability to chain workflows enables you to create run-time, customizable workflows consisting of smaller workflow building blocks. When you chain workflows, you can also pass binders and variables between them.

Note: An origin action is required as the first action in a workflow, even if you plan to only manually submit jobs to this workflow.

Synchronize Action

The Synchronize action is a Vantage Cloud-capable action. It is used in workflows where multiple actions connect to multiple subsequent actions. Synchronize provides a common connection point, where all upstream actions need to be connected to all downstream actions.

Utilization action

A *Utilization action* enables users to determine the relative load on the domain as well as transcoding services within the domain. Other downstream actions can then make

intelligent branching decisions based on that information: Cloud versus on-premises transcoding of media, for example.

Communicate Service

Communicate actions are used to communicate with external systems. They are executed by the Communicate Service.

- Automate Action
- Message Action
- Notify Action

Automate Action

The *Automate action*, which is executed by the Communicate Service, is similar to the Notify action. It contains system-integration extensions which are relevant to TrafficManager workflows, enabling you to save job or other metadata to a file and interface/integrate with external automation systems. This capability ranges from writing XML-based material to a file system to direct integration with specific automation systems.

In TrafficManager applications, this action is useful to notify automation systems that a commercial has been processed and is available for air. For example, a Notify action can create text or CSV dublists and provide them to automation systems that are capable of processing dublists in that format.

Each extension has specific features which are detailed in the manual page for the extension.

Message Action

A Message action enables you to generate and transmit an electronic message—an email, for example. You must configure Vantage to use an SMTP server before email can be utilized; this can be done in the Vantage Management Console.

This action is Open Workflow capable if the Open Workflows license is installed.

Notify Action

A Notify action transfers job information to external systems via Web Services or other methods to transfer data. The job information may also be transferred via an XML file or files of other formats. You can also use the Notify action to invoke a command shell.

This action is Open Workflow capable if the Open Workflows license is installed.

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The Notify action is extensible, and can communicate with a wide variety of systems and generate various files as well as invoke services. These are the available functions:

- – Automation File Notifier—Creates a notification file based on specific criteria.
- – BXF File Notifier—Creates a BXF file based on specific criteria.
- – Cloud Notifier—Post notifications from Vantage workflows to cloud aggregation endpoints.
- – Dolby DP600 Notifier—Submit work orders to a Dolby DP600 via web services.
- – Dump—Dump an XML file describing the current job.
- – External Shell Notifier—Invoke an External Command Shell.
- – HTTP Notifier—Invoke a command on a remote server via HTTP.
- – Interplay Notifier—Invoke an Avid Web Service method.
- – Invoke—Invoke external programs/scripts via command line while generating new Vantage nicknames, custom file schemas, and variable values.
- – Avid MOBID Generator Notifier—Generate MOB ID Variables.
- – NexGuard Notifier—Invokes a NexGuard web service method.
- – SeaChange MVL Notifier—Invoke the SeaChange MVL Notifier.
- – Text/CSV Report Notifier—Generates text file reports from workflow variables.
- – WebService Notifier—Invoke a web service method.

The TrafficManager-centric extensions are implemented in the Automate action, but are also available in the Notify action for backward-compatibility.

Edit (Post Producer) Service

Edit actions are components of Vantage Post Producer, an optional, licensed feature. These actions are executed by the Edit Service, and may run on a Vantage Lightspeed Server or a standard Vantage server.

- ■ Chronicle Action
- ■ Colocate Action
- ■ Compose Action
- ■ Conform Action
- ■ Tempo Action

Chronicle Action

The Chronicle action converts a post-rendered Composition XML file into formats for use in other systems—ad-insertion systems, for example.

Colocate Action

The Colocate action converts a Composition XML file with non-file-based URLs (for example, Amazon S3) and localizes the media and produces a modified CML file with the URLs converted to the localized file paths.

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This action is Open Workflow capable if the Open Workflows license is installed.

Compose Action

The Compose action converts various media descriptor file formats: Anystream AN2, Final Cut Interchange XML, Simplified Avid AAF, QuickTime Reference, Adobe FC7XML, and Telestream TSEDL) into a Composition XML file so that it can be used by the Conform action to compose media. This action is Open Workflow capable if the Open Workflows license is installed.

Conform Action

The Conform action assembles and optionally transcodes multiple video and still image files into a single output file, applying filters as specified by you. The input files and related instructions for the output file are all defined in a Composition XML file.

This action is Open Workflow capable if the Open Workflows license is installed. The Conform action is also Vantage Cloud-capable.

Tempo Action

The Tempo action is part of the Edit group. All actions in the Edit group are executed by the Edit service. The Tempo action is included in Tempo, a time-adjusting encoding solution built on the Vantage platform. The Tempo action uses the Edit Service for re-timing file-based content and intelligently decreasing or increasing the running time of shows and segments. This action is Open Workflow capable if the Open Workflows license is installed. The Tempo action is also Vantage Cloud-capable.

emotion Service

The emotion service contains the *emotion Action*.

emotion Action

The emotion action is an optional, licensed feature in Vantage. The emotion action enables Vantage to utilize and interact with Emotion Systems Emotion Engine audio software.

FileCatalyst Service

The FileCatalyst service contains the *FileCatalyst Action*.

FileCatalyst Action

The FileCatalyst action is an optional, licensed feature, which enables Vantage workflows to access and deliver files to FileCatalyst servers via integrated FileCatalyst client software.

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IPTV VOD Service

The IPTV VOD group contains the *IPTV Flip Action*.

IPTV Flip Action

The IPTV Flip action (in the IPTV VOD category) is included with the Cable / IPTV version of TrafficManager. IPTV transcoding is designed for generating MPEG2 Transport Stream files and meeting multiplexing requirements. The IPTV Flip action is executed by the IPTV VOD Service, which can optionally run on a Lightspeed Server for GPU-accelerated x264/x265 encoding and video processing.

The IPTV Flip action and IPTV VOD Service supports the features required to handle varying IPTV, set-top box and cable encoding requirements, and ancillary metadata specific to cable ad splicing and cable/IPTV set-top box environments. Transcoding is performed by the Telestream Media Transcode and Analysis Engine on behalf of Vantage.

This action is Open Workflow capable if the Open Workflows license is installed. The IPTV Flip action is also Vantage Cloud-capable.

MediaMate Service

The MediaMate service contains the *MediaMate Action*.

MediaMate Action

The MediaMate action enables you to implement screen subtitling. This is an optional, licensed feature. The MediaMate action is used to provide screen subtitling, by utilizing various subtitling systems from Screen.

Metadata Service

Metadata Action

Metadata actions are an optional, licensed feature available in certain Vantage editions. They are used to extract or modify metadata values, and perform conversions between attachment files, metadata labels, and variables. These actions are executed by the Metadata Service.

- Extract Action
- Lookup Action
- Populate Action
- Transform Action

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Extract Action

The Extract action is a Vantage Cloud-capable action. It is used to extract specific values from element attributes in XML or key-value pairs in JSON-formatted metadata files. The Extract action identifies and extracts specific values from structured metadata and populates variables for use in downstream actions. The Extract action enables you to browse a sample file and identify the location in the structured data where the value is located.

The workflow can ingest an XML or JSON file during job execution or by making web service calls. The Extract action automatically generates XPATH or JSONPath references from the structured metadata in these files to extract the data, and populates a variable with the value. During execution, each extraction path is evaluated against the input and the associated variables are populated for use in downstream actions.

This action is Open Workflow capable if the Open Workflows license is installed.

Lookup Action

The Lookup action performs a search operation on a set of key-value pairs in a master CSV file, based on values extracted from the metadata file associated with a job submission. Lookup is typically used in TrafficManager applications.

Populate Action

Populate actions transform data between variables, attachment files, and metadata labels. During ingest, metadata labels can be added to ingested media and generally include trim information, audio levels, file properties, and commercial metadata. The metadata labels can then be reviewed and modified by operators using Workflow Portal. At any stage of a workflow, Vantage can extract information from labels using the Populate action, allowing Vantage to, for example, trim clips during a transcode or use audio level limits to dampen audio when creating a broadcast asset.

This action is Open Workflow capable if the Open Workflows license is installed.

Transform Action

A Transform action transforms data between XML files (ingested into the job as attachment files) and labels. XSL style sheets are used to perform these transformations.

This action is Open Workflow capable if the Open Workflows license is installed.

Note: The Transform action is available in Metadata and Transcode Connect licenses. You can only use style sheets that have been imported into the database; you cannot reference XSL files directly. The Vantage administrator manages your XSL style sheets using the Vantage Management Console (Vantage Domain > Workflow Design Items > Style Sheets).

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Monitor Service

Monitor actions are used to identify and ingest files to be processed by a workflow, and in the case of the Watch action, start jobs for this workflow. They are executed by the Monitor Service.

- Associate Action
- Camera Ingest Action
- Listen Action
- Watch Action
- Workorder Action

Associate Action

An Associate action uses the Monitor Service to poll a target location (a directory, for example) on a device or file system (FTP, network folder, etc.) to discover new files in the context of a job.

Often, an Associate action follows a Watch action, and utilizes the file name of an existing media file or attachment as the basis for discovering new files; for example, if media file Vantage.mpg is currently in the workflow, then the Associate action may look for Vantage.scc. The Watch action can publish the file name as a variable, and pass it to the Associate action to pick the corresponding file (the file extension must be dropped to accomplish this). The required file match pattern can be configured in the Associate action's Inspector.

When Associate actions are executing, subsequent actions must wait until a file is found or a time-out occurs. When a new file is discovered, the Associate action ingests the file, assigns a nickname, and makes the file available to other actions in the workflow.

Note: An origin action is required as the first action in a workflow, even if you plan to manually submit jobs to this workflow—Associate is not an origin action.

Camera Ingest Action

A Camera Ingest action is an origin action; it uses the Monitor Service to regularly poll a target location (a directory, for example) on a card reader device or Windows file system to discover new camera files of supported formats, including reference files. You can also manually submit jobs to workflows beginning with a Camera Ingest action.

Note: Each Camera Ingest action is configured to detect a specific camera file format. If the target contains both P2 AVC-Intra and XDCAM EX files, two Camera Ingest actions are required.

When a new file or shot is discovered, the Camera Ingest action submits a job for the workflow which it is part of, for processing.

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The Camera Ingest action has features including stitching individual shots (including self-contained, split, and spanned clips), and controlling whether camera content is broken into individual sections, or treated as a single unit.

You can check a box in the Inspector to turn on logging for such errors as watching a non-existent directory or failure to submit a file.

Listen Action

The Listen action uses the Vantage Monitor Service to listen to a cloud-based message queue and generate jobs from received messages. The Listen action uses a plugin model for various cloud endpoints such as Amazon Simple Queue Service (SQS).

The content of these messages could be very simple and contain a single value such as a file path or some sort of identifier to be used, or they could be more complex such as a blob of json/xml to be processed by a downstream action such as Extract.

The Listen action automatically deletes messages from the queue as it processes them. Any messages that are present in the queue when the Listen action starts up will be processed.

Watch Action

A Watch action is an origin action, which uses the Monitor Service to continually (and at regular periods) poll a target location (a directory, for example) on a device or file system (FTP, network folder, etc.) to discover new files.

The Watch action submits a job to the workflow which it is part of, when:

- A new file is discovered in the target folder
- You manually submit a file to the workflow
- You drag and drop a file on the Watch action in the workflow

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Note: An origin action is required as the first action in a workflow, even if you plan to manually submit jobs to this workflow.

This action is Open Workflow capable if the Open Workflows license is installed.

You can check a box in the Inspector to turn on logging for such errors as watching a non-existent directory or failure to submit a file.

Workorder Action

A Workorder action is an origin action; it uses the Monitor Service to regularly poll a target Windows directory for new workorder files to process. The Workorder action provides a simple and highly effective method of submitting multiple, similar jobs without using the SDK.

When a new file is discovered, the Workorder action submits one job for each row in the file.

You can check a box in the Inspector to turn on logging for such errors as watching a non-existent directory or failure to submit a file.

Multiscreen Service

Multiscreen actions, executed by the Multiscreen Service, are used to produce high-quality, industry-standard, adaptive rate streaming formats, including digital rights management.

- DRM Action
- Multiscreen Flip Action

DRM Action

The DRM action is part of the Multiscreen group, and is executed by the Multiscreen Service. You use the DRM action to execute a script that utilizes input data and generates a JSON string. The string contains the information required to encrypt streaming media with DRM (digital rights management) in Multiscreen workflows.

Scripts are created externally in a supported language and added to a Vantage domain via the Vantage Management Console > Workflow Design Items > Scripts. The specified script is executed in the DRM action, generating the output into a text variable for use in a downstream Multiscreen action. Multiscreen Flip uses the output of the script when encoding the media.

Multiscreen Flip Action

The Multiscreen Flip action is an optional, licensed feature. Multiscreen Flip actions are executed by the Multiscreen Service. The Multiscreen service may run on a Vantage Lightspeed Server or a standard Vantage server.

This action is Open Workflow capable if the Open Workflows license is installed. The Multiscreen Flip action is also Vantage Cloud-capable.

The Multiscreen Flip action allows you to encode and package decoded digital baseband media into industry-standard adaptive rate streaming formats, including Adobe HDS, Apple HLS, Microsoft HSS, and others. Transcoding is performed by the Telestream Media Transcode and Analysis Engine on behalf of Vantage.

Nexidia Service

The Nexidia group contains the *Nexidia Action*.

Nexidia Action

The Nexidia action is an optional, licensed feature in Vantage. It uses the Vantage Nexidia Service to interact with Nexidia QC servers running Nexidia QC software. The specified input files are passed to the Nexidia QC software where they are analyzed using the test profile selected.

Publish Service

The Publish group contains the *Stanza Action* and *Frame.io Action*.

Stanza Action

The Stanza action allows Vantage to create new projects within an installed server instance of Stanza. For more information on Stanza server installations and configurations, see the Stanza page on the Telestream website for details.

Frame.io Action

The Frame.io action is an optional, licensed feature which allows for the creation and delivery of assets, between Vantage and the Frame.io online hub for organization and collaboration around media assets.

Pulsar Service

The Pulsar group contains the *Pulsar Action*.

Pulsar Action

The Pulsar action is an optional, licensed feature which enables broadcasters to integrate the Pulsar suite of content verification components directly in Vantage workflows.

Signiant Service

The Signiant group contains the *Media Shuttle Action* and *Signiant Delivery Action*.

Media Shuttle Action

The Media Shuttle action is an optional, licensed feature which allows for automated Media Shuttle accelerated file transfers among a specified list of users using Vantage workflows.

Signiant Delivery Action

The Signiant Delivery action is an optional, licensed feature which enables Vantage workflows to deliver files to Signiant-enabled servers. The Signiant Delivery action is executed by the Signiant Service, and uses the Signiant Content Transfer Engine (CTE) feature, which must be licensed on the Signiant server.

Staging Service

The optional, licensed Staging Service actions are responsible for file operations in preparation for moving files to other systems/platforms with special packaging requirements. They are executed by the Staging Service:

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- Archive Action
- Gather Action

Archive Action

Use the Archive action to convert the selected input file to another format, usually in preparation for copying, moving, or deploying a file to a given system that has special file format requirements. The Gather action is only enabled with the optional, licensed Metadata option.

Gather Action

Use the Gather action to collect one or more files from a specified server and directory (and optionally, its sub-folders), and bring them into the workflow as attachments. Use of a file matching pattern allows you to select only certain types of files. The Gather action is only enabled with the optional, licensed Metadata option.

Timed Text Service

The Timed Text group contains two actions: Timed Text Conform and Timed Text Flip.

- Timed Text Conform Action
- Timed Text Flip Action

Timed Text Conform Action

Use the Timed Text Conform action to ingest a Timed Text CML file with references to caption/subtitle files in order to create SCC, MCC, or IMSC outputs. This action is Vantage Cloud-capable.

Timed Text Flip Action

Use the Timed Text Flip action to automate caption file-type conversions, extract caption data from media with embedded captions, create subtitle overlay graphics, and manipulate the timecode of caption data to match media. This action is Vantage Cloud-capable.

Traffic Service

The following actions are executed by the Traffic Service and are a component of TrafficManager, an optional, licensed feature. Catch and Dublist actions monitor catch servers and dublist servers for new files. These actions are both origin actions. The Syndicate action processes metadata files for syndicated media processing.

- Catch Action
- Dublist Action
- Syndicate Action
- Syndication Forward Action

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Catch Action

Use the Catch action (an origin action) to select a catch server, and configure the action to monitor it for new commercials and syndicated content arriving from the publisher, expose all relevant metadata, and submit the commercial for processing in TrafficManager workflows. The Catch action is part of TrafficManager; an optional, licensed feature of Vantage.

The Catch action submits a job to the workflow which it is part of, when:

- A new file is discovered in the target folder.
- You manually submit a file to the workflow.

Note: An origin action is required as the first action in a workflow, even if you plan to manually submit jobs to this workflow.

You can check a box in the Inspector to turn on logging for such errors as watching a non-existent directory or failure to submit a file.

Dublist Action

Use the Dublist action (an origin action) to perform dublist processing in TrafficManager workflows. The Dublist action is part of TrafficManager, an optional, licensed feature of Vantage.

In the Dublist action's inspector, you can select a dublist system or server as the target, and configure the action to monitor it for new dublists, which it resolves with the standing dublist.

The Dublist action submits a job to the workflow which it is part of, when:

- A new file is discovered in the target folder
- You manually submit a file to the workflow

Note: An origin action is required as the first action in a workflow, even if you plan to manually submit jobs to this workflow.

The Dublist action uses the binder name as the unique identifier for the commercial, so it should be set to the Ad ID.

You can check a box in the Inspector to turn on logging for such errors as watching a non-existent directory or failure to submit a file.

Syndicate Action

Use the Syndicate action in syndicated media ingest workflows to convert sidecar metadata XML files to a mezzanine format for use in downstream actions in the workflow, or for use in Syndicated Workflow Portal applications. The Syndicate action is part of TrafficManager, an optional, licensed feature of Vantage.

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In the Syndicate action Inspector, you can specify the type of metadata file being transformed, and configure the action to utilize specific templates for processing.

Syndication Forward Action

Use the Syndication Forward action to process incoming jobs from a traditional syndication source, such as a catch server, and allow for the automatic forwarding of a CML file to a publishing workflow which performs segment extraction and processing.

Transcode Service

The following actions are in the Transcode action group and are executed by the Transcode Service:

- Flip Action
- Flip64 Action

Flip Action

The Flip action is a broadly-used, general-purpose transcoding action, executed by the Transcode Service (which in turn utilizes the Telestream Transcode & Analysis Engine for this particular action). Use the Flip action to create media of a new format, and save it as a file, using a prescribed codec profile. How you configure the encoder depends on the encoder you choose.

This action is Open Workflow capable if the Open Workflows license is installed.

Flip64 Action

The Flip64 action is a 64-bit multi-core-optimized encoder that transcodes media from one or more input files into another format as specified by the output configuration. Available resolutions extend from SD to UltraHD and 4K in a broad range of file formats, from QuickTime to MPEG-4 and TIFO, and including encoding for x264, x265 (H.265 HEVC), MXF, and many more. This action is Open Workflow capable if the Open Workflows license is installed. The Flip64 action is Vantage Cloud-capable.

Transport Service

Transport actions are executed by the Transport Service and perform file operations on specified files.

- Copy Action
- Move Action
- Delete Action
- Deploy Action

Copy Action

Use the Copy action to duplicate a file from one directory to another directory on a given file system. The new file can be tracked by the workflow—that is, referenced in the binder. As a result, the new file must be given a nickname.

This action is Open Workflow capable if the Open Workflows license is installed.

Move Action

Use the Move action to remove a file from one directory and place it in another. You can optionally specify a different destination nickname during the move.

Delete Action

Use the Delete action to delete a file on the specified file system. This action also removes the file reference from the binder.

Deploy Action

The Deploy action copies one or more files to a destination in a single step, and may perform additional custom steps depending upon the type of deployment.

Deployed files are not referenced in the binder, and are not tracked after the action completes.

VidChecker Service

The VidChecker group contains the *VidChecker Action*.

VidChecker Action

The VidChecker action is an optional, licensed feature which enables broadcasters to integrate VidChecker, automated QC and intelligent automated correction, directly in Vantage workflows.

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Monitoring Workflows and Managing Jobs

The topics in this chapter describe how to submit jobs, monitor workflows, and manage jobs in Workflow Designer.

Topics

- Submitting Jobs to Workflows
- Monitoring Workflow Status & History
- Monitoring and Managing Jobs
- Generating Job Reports Manually
- Managing Job Report Configurations
- Viewing the Domain Summary
- Viewing Binders and their Assets
- Controlling Action Execution in Jobs
- Viewing Action Status

Note: In addition to submitting jobs in Workflow Designer, you can also submit jobs by dropping media files into target directories, or by using the Dublist Portal and the Workflow Portal clients. You can also submit jobs from other programs using the Vantage SDK.

Note: You can also monitor and manage jobs using the Job Status Views web application. See *Using the Job Status Views Web Application*.

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Submitting Jobs to Workflows

This topic discusses the various methods used to submit media or other types of files to Vantage workflows for processing. You can submit jobs in the following ways:

- Directly in Workflow Designer using various methods. See *Manually Submitting Files Directly in Workflow Designer*, following.

- Automatically, by adding files to directories monitored by active workflows.

- As a batch, by submitting a workorder file to a Workorder-based workflow. See *Submitting Files as a Batch*, following in this topic.

- From Workflow Portal client applications. See *Using Workflow Portal* and Workflow Portal Web Application.

- From Dublist Portal. See the TrafficManager User Guide.

- From third-party or custom programs using the Vantage SDK.

Manually Submitting Files Directly in Workflow Designer

To submit files manually to a workflow for processing directly in Workflow Designer (which starts a new job for each file submitted), do one of the following:

- Drag and drop the selected file or files from a Windows Explorer directory directly onto the origin action of the target workflow. See Submitting Files via Drag and Drop.

- Select the workflow and click the Submit Job button. See Submitting Files via the Submit Button.

Note: The file(s) you submit aren't always media files; though they commonly are. You can manually submit any file that the workflow can process. It might be an XML file (metadata, for example). Or, it might be a workorder file for a *Workorder action* workflow, for submitting several jobs at once. It also may be some other form of file, based on your workflow.

Submitting Files via Drag and Drop

To submit files for processing using drag and drop, follow these steps:

1. In Workflow Designer, select the target workflow (which must be active) to display it in the Workflow Design workspace.

2. In Windows Explorer, navigate to the directory where the file or files that you want to process are stored.

3. Select one or more files and drag them over the origin action in the workflow.
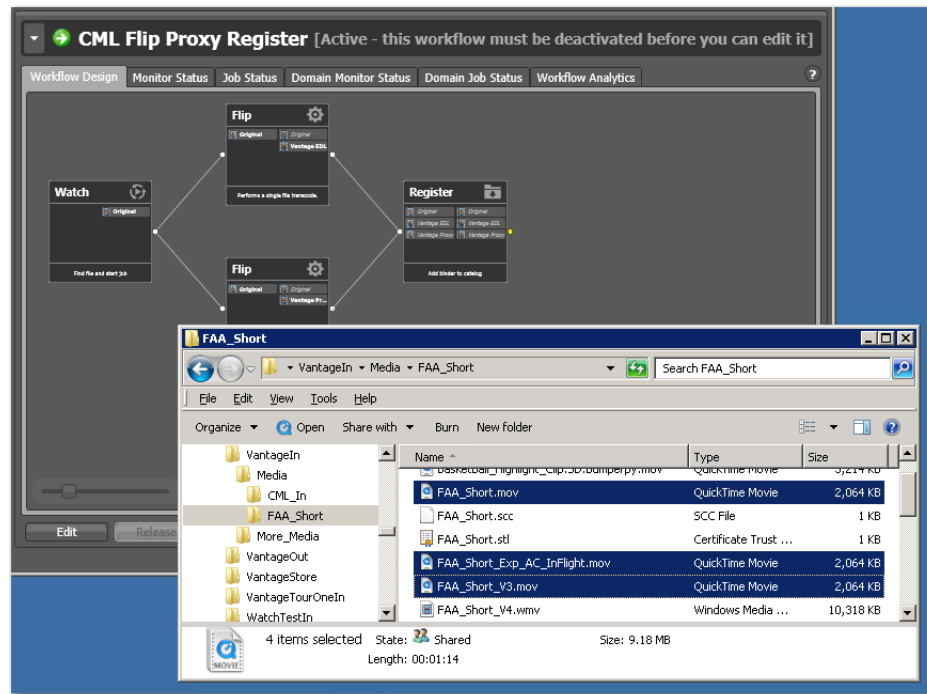
4. When the origin action highlights (displays a bright green border), drop them onto the action to submit them for processing.

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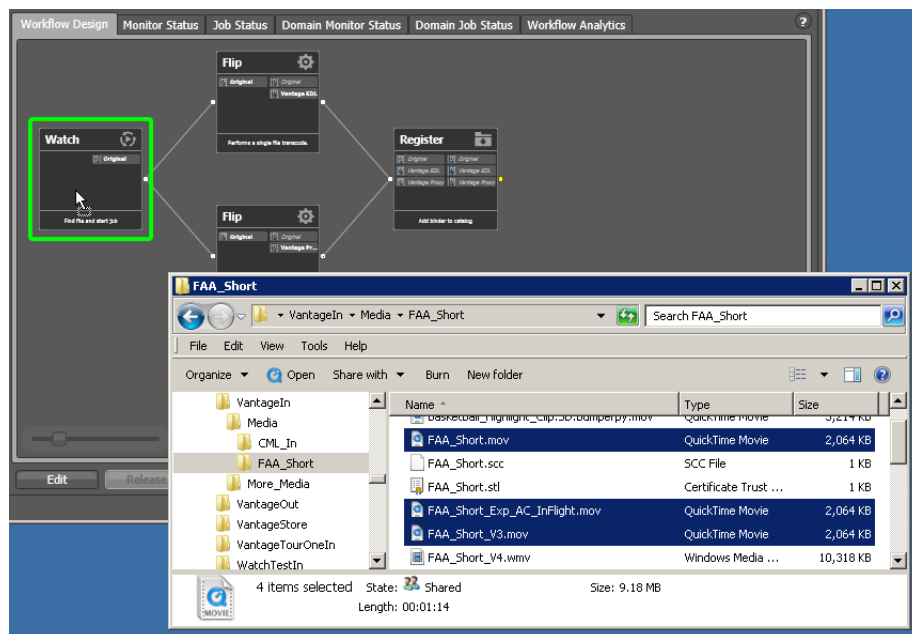
Vantage displays a confirmation dialog when all jobs have been submitted:
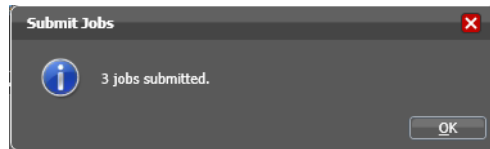
Click OK to dismiss the dialog; then display the Job Status workspace to track your jobs.

Submitting Files via the Submit Button

To submit a file to an activated workflow manually, follow these steps:

1. Select the target workflow in the Workflows panel.

2. Click the Submit Job button as shown below.

Click the Submit Job button to select media files for processing with the selected workflow.

In a multiple origin action workflow, Workflow Designer displays a dialog that lists the origin actions.

3. Select the action you want to start the job, then click Next to continue.

For a multi-file workflow (for example, a Receive-based workflow that expects more than one file), Workflow Designer displays this Submit Job dialog:

Enter or browse and select the file for each nickname and proceed to Step 6.

For a single-file workflow, Workflow Designer displays the Submit Job dialog:

4. Select the type of file system (or a Vantage folder) where the input file or files are stored, and click Next.

Workflow Designer displays the Windows Explorer window:
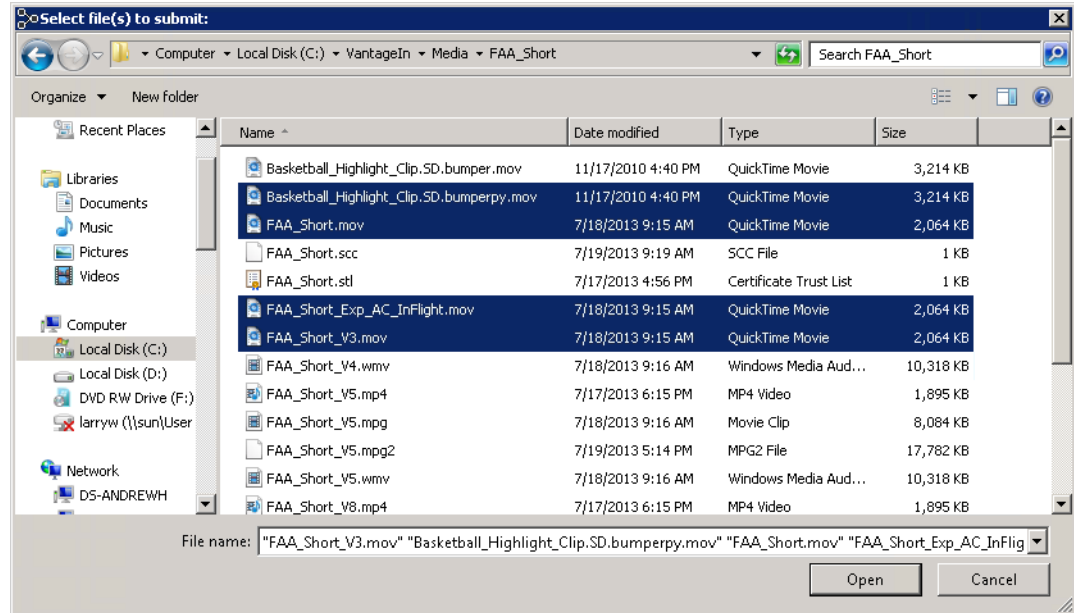
5. Navigate to the server and directory, and select one or more directories and/or files for processing and click Open. Click Browse to add more files or click Clear to start over. As you select files, they are added to the list:
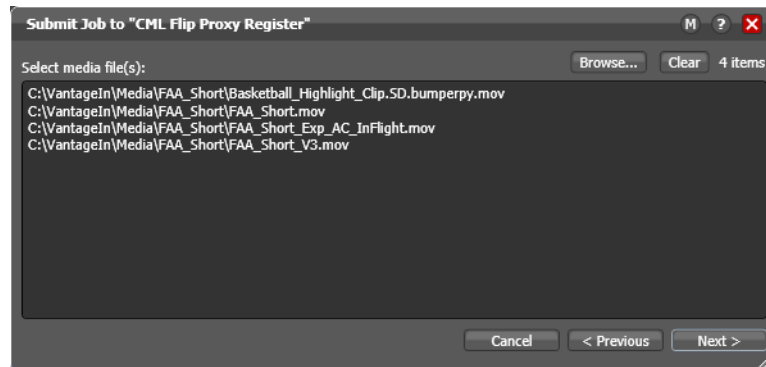
6. When the list is correct and you're ready to submit them, click Next.
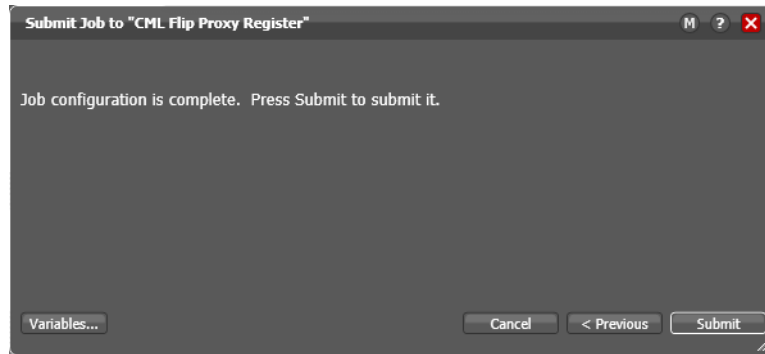
7. Optionally, click Variables to manually add variables with values for this job. The variables must be identified in actions. These variables are initialized to the default value of the variable definition in the domain, and the value may be changed by actions in the workflow. For details, see *Utilizing Variables in an Action*.

8. Click Submit to submit the file(s) for processing.

Vantage displays a confirmation dialog when all jobs have been submitted:
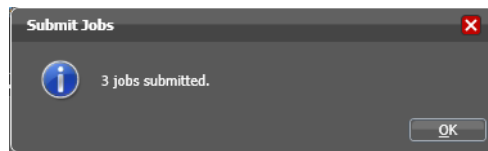
When you have submitted the job(s), you can view their progress in the Job Status workspace (see *Monitoring and Managing Jobs*).

Submitting Files as a Batch

To submit a batch of files to a workflow for processing (which starts a new job for each file entry in the workorder submitted), you use a Workorder action as the origin action in the workflow, and you create workorder files (a CSV file) to identify those files you want processed. Next, you can use any method you like to submit the file for processing to the active workflow.

The Workorder action enables automated submission of multiple jobs in batches. For example, you can use a workorder-based workflow to process multiple media files, without manually adding the files to a target directory—instead, you just submit a workorder file, which contains a job entry for each media file you want to process. The Workorder action initiates one or more jobs each time a new workorder file is discovered (based on the number of job entries in the file) and passes control to the next action in the workflow. Workorder files must be conform to the schema specified in the selected workorder scheme. Workorder schemas are created in the Management Console.

Workorder files are a simpler, automated submission alternative to job submission via the Vantage SDK. A Workorder file is a text file containing one or more work orders, or job descriptions. The format of workorder files is CSV-based. Each job description is comprised of a fully-qualified reference to one or more media files, attachments, plus variables-all the input needed for the workflow performing the processing. At least one workorder scheme must be created (either directly in the Workorder action or in the Vantage Management Console) in order to properly identify the workorder schema and submit the jobs in a Workorder action-based workflow.

Jobs may be of any type, including Post Producer jobs, where the job identifies a CML file for processing. (Post Producer jobs require a special license.) While workorder files may be manually created (in an Excel spreadsheet, or a text editor of some kind, for example), ideally a system component responsible for submitting media to Vantage for processing will dynamically and automatically create workorder files and deliver them to the target share for submission and processing.

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Monitoring Workflow Status & History

To check on the status and history of workflows, use one of these methods:

- Choose a workflow and click the Monitor Status tab (or select File > Monitor Status)
- Domain Monitor Status tab (or select File > Domain Monitor Status)
- Domain Summary tab.

The monitor status panels are useful when you're performing operator-related tasks or when you're managing or performing domain-wide production media processing. The only difference between the two tabs is one of scope.

The Domain Monitor Status tab displays all of the workflows currently active in the domain. Because this tab's focus is domain-wide, it also displays two additional columns of information not found in the Monitor Status tab: Workflow and Category.

The Monitor Status tab displays all activation records for the selected workflow, indicating the dates and times when the workflow was active.

The Domain Summary tab displays active workflows, and the number of jobs by category, including totals.

Each time a workflow is activated, a new activation record is added. It displays each origin action's execution (for example, Watch actions) in the workflow, and indicates its current status.

Monitor Status toolbar
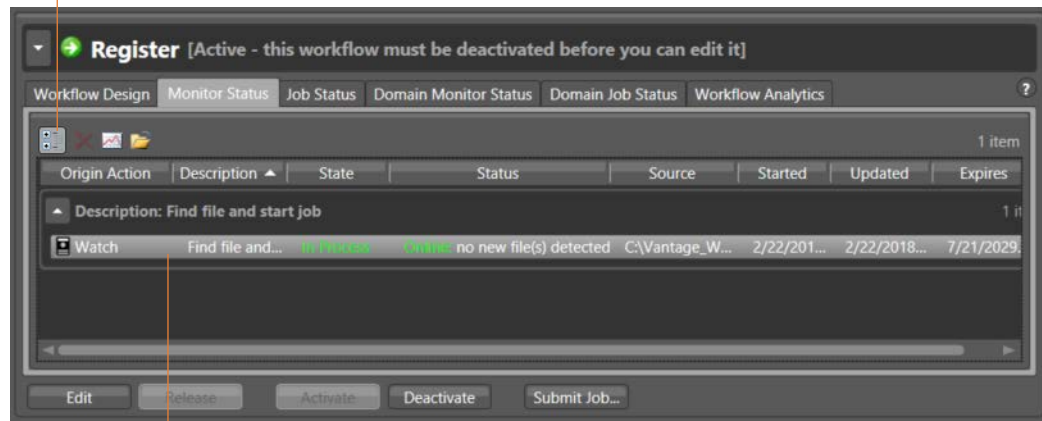
Each row is an active origin action, indicating status and other details.

Static information in the activation record includes the origin action, state and status, source location, and several date/time stamps, including when the action will expire. The state is real time information, indicating the state of the action: In Process (currently executing), Completed, etc.

Click any column to make it primary, sorting it in ascending/descending order.

These topics provide information on using the Monitor Status tab:

- Using the Monitor Status Toolbar
- Viewing Origin Action Record Details
- Viewing the Monitor Status of Camera Ingest Actions

Using the Monitor Status Toolbar

The Monitor Status workspace provides the following buttons in the toolbar:

- *Show in Groups button* —Click to organize records for the selected action by group, based on the primary column—the one selected. Click again to turn grouping off. For example, if you select State as the primary field in the table and display Groups, Workflow Designer sorts the records by state: In Process and Complete.

  When displayed in groups, click the Down arrow on the table entry to display the origin records in this group (In Process, or Complete, for example).

- *Delete button* —Click to delete the selected record(s). Or, right-click on the record, and select Delete. You can only delete records whose origin actions are complete— that is, the session has ended because the workflow was deactivated.

- *Status button* —Click to display the selected workflow's origin action details. Or, right-click and select View Status.

Using the Monitor Status Context Menu

The Monitor Status panel's context menu includes these commands for controlling completed or in process monitor actions:

- *Delete*—Choose to delete highlighted Complete monitor sessions.

- *Disable/Enable*—Choose to disable (pause) an In Process monitor session. Select Enable to activate the monitor session again.

- *Process existing files*—Choose to enable one-time processing of existing files in the monitored location. This feature supports submitting all content or content limited to the last specified time range (last x minutes, hours, days, weeks, months, or years).

- *View Status*—Choose to open the Status/History window showing the status details about the selected monitor session.

- *Open Monitored Folder*—When the selected origin action is monitoring a Windows directory, choose to open the monitored folder.
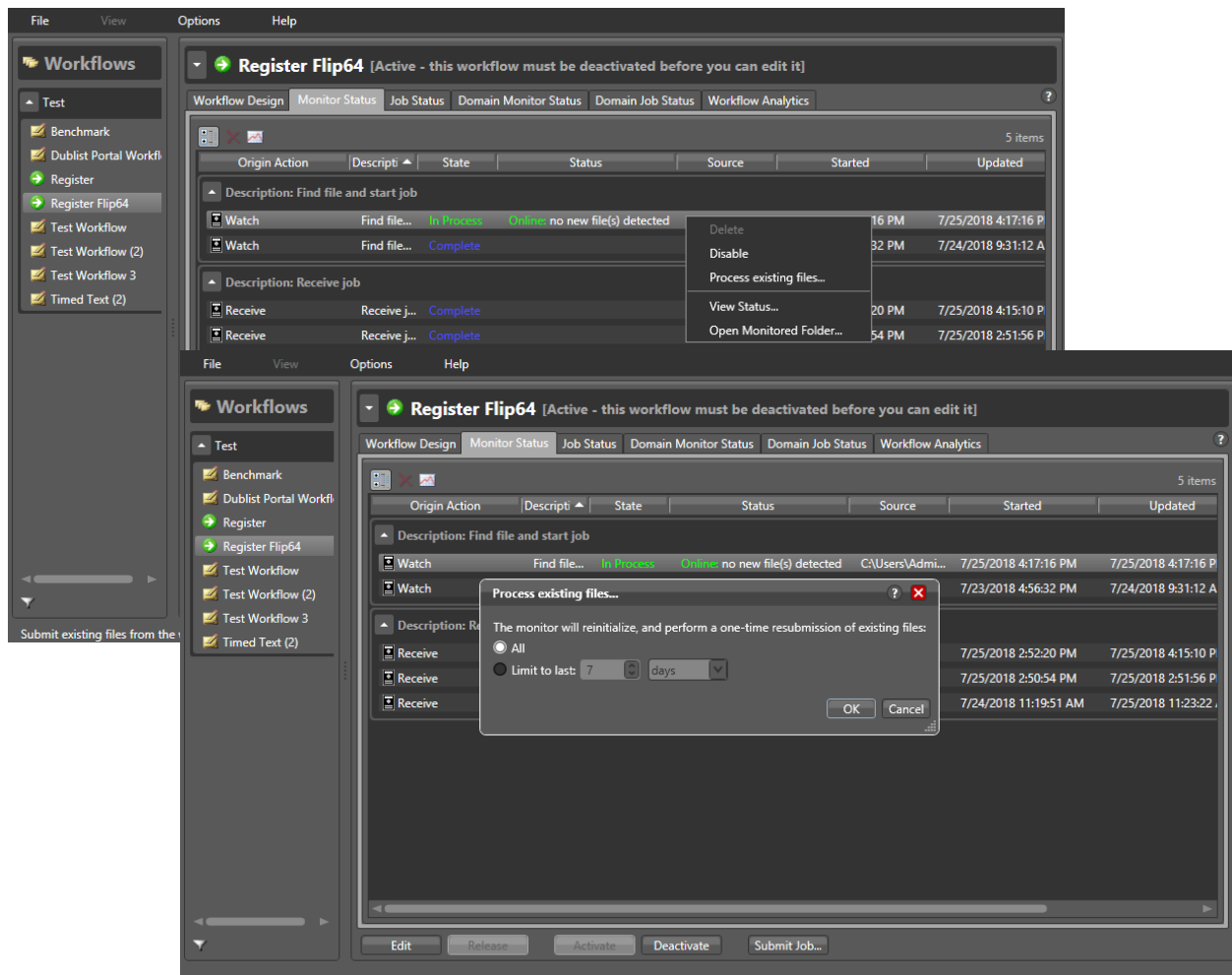
Viewing the Monitor Status of Camera Ingest Actions
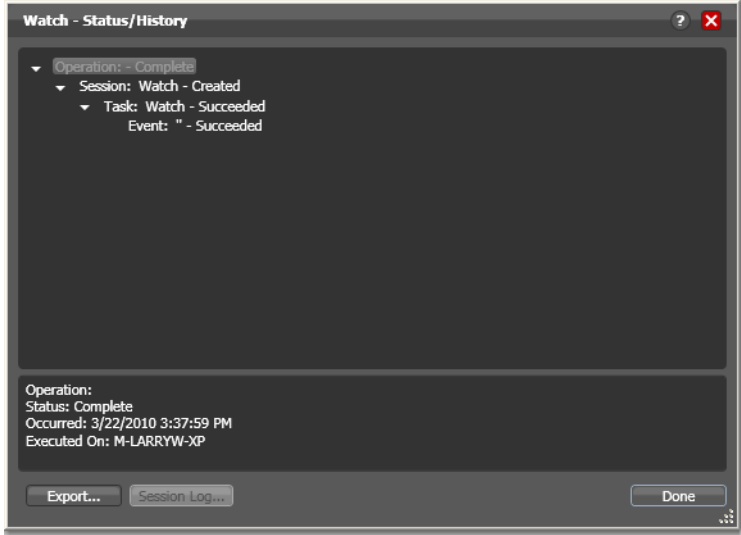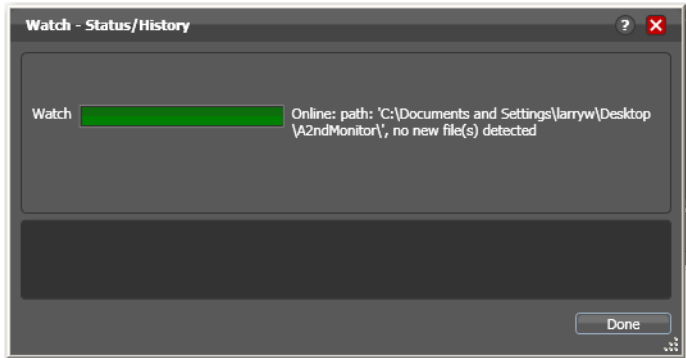
For workflows beginning with a Camera Ingest action which has been configured to monitor multiple locations—a card reader with multiple drives, for example—the Monitor Status workspace displays additional details.
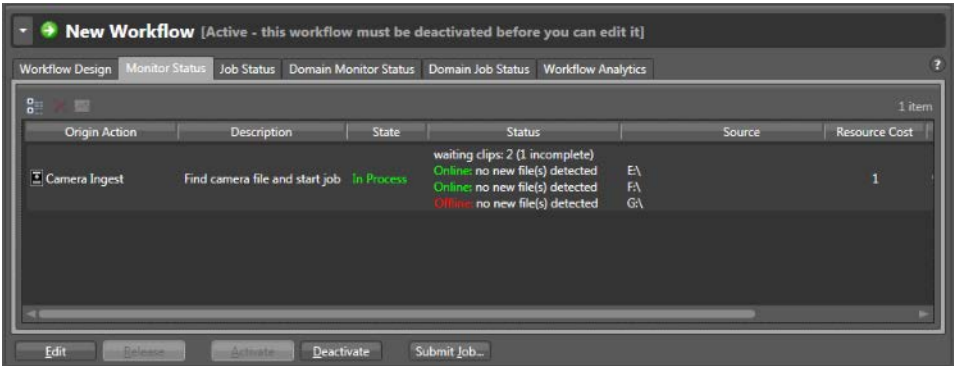
In the status column, you can determine the number of shots being processed—as well as incomplete shots where the action is waiting for files before submitting the job. The Source column identifies the location—for example, drive letters on a card reader.

Viewing Origin Action Record Details

To display details about the origin (the first) action for the selected workflow, double-click the row (or select a row and click the Status button 🔳).

The Status/History dialog (the   figure and the   figure) provides details about the status of the origin action.
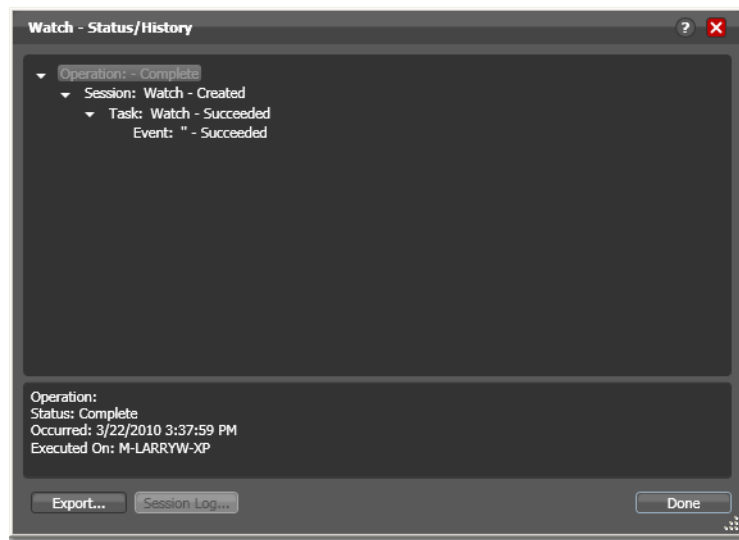
When an action is complete, the Status/History dialog displays information on each aspect of the action's execution. You can use this information to review details about its execution, and when an action fails, you can use this information to determine why and correct the problem.

The text in the upper panel of the Status/History dialog provides a summary of some aspect of action execution. To display more information related to a line in the upper panel, click on the line. The detailed information appears in the lower panel.

Click the symbol to the left of the summary lines in the upper panel to hide or display subordinate summary lines.

When an action is *In Process*, (Queued, Paused, In Process, or Waiting states), the Status/History dialog displays a progress bar, the path of the target directory, and the status.
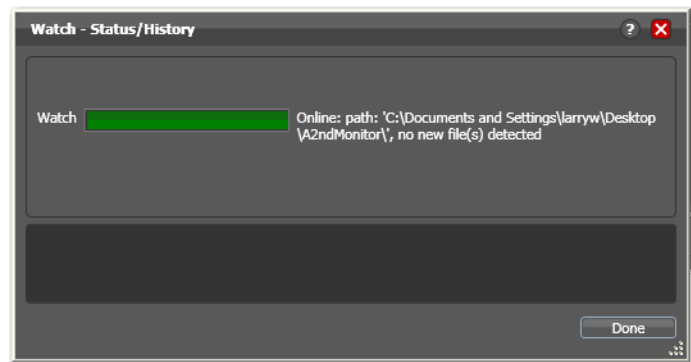
For jobs in the post-execution Success, Ignore, and Failure states, the Status History dialog displays the following buttons:

- *Export*—Click Export to display a File System dialog, and save the status/history information as an XML file. You can send these files to Telestream for support issues, or export them for processing in other systems.

- *Session Log*—To display a session log, select a session in the upper panel and click Session Log.

Select
Click
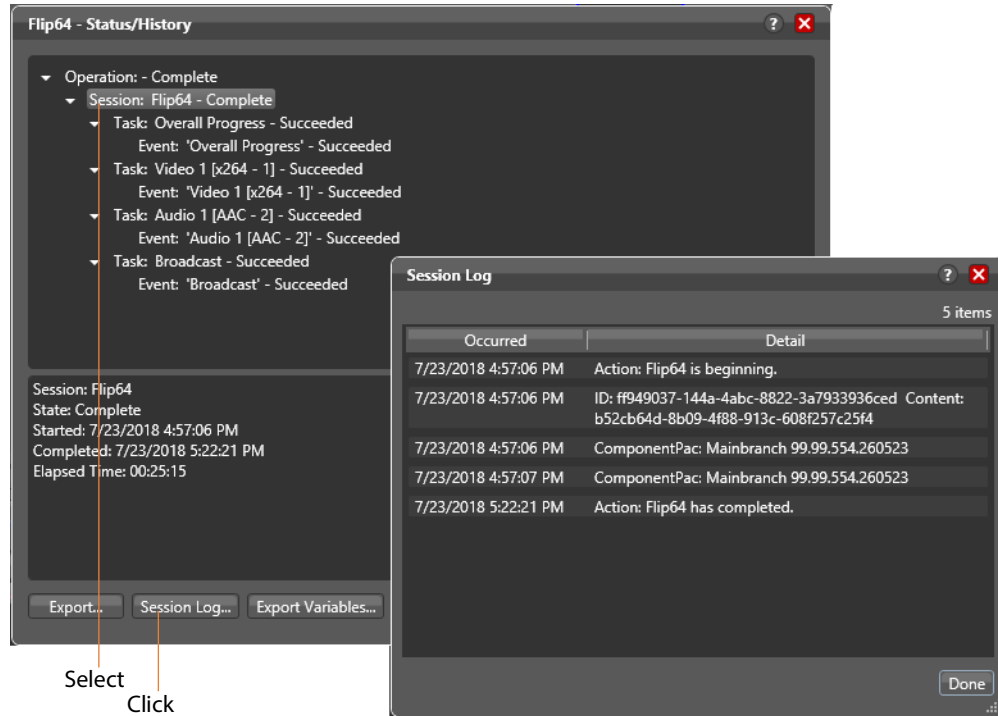
The session log displays session activity entries for the action, including which ComponentPac version was used and which variables have been provided to each action. This information can be helpful when debugging the use of variable, or when working on an issue with Telestream Customer Service.

Export Variables—Click to browse and export an XML file listing variables passed through the action.

Monitoring and Managing Jobs

To monitor and manage jobs, display one of these two workspaces:

- Select a workflow and click the Job Status tab (or click File > Job Status)

- Click the Domain Job Status tab (File > Domain Job Status).

The Job Status and Domain Job Status workspaces each display a list of jobs and provide job details. Use these workspaces to monitor media processing, set priorities, view binders and associated files, and to pause and resume jobs in progress.

Note: The Domain Job Status panel displays only current jobs (Active | Failed | Stopped |Waiting by default. To display completed jobs as well, check *Include Completed Jobs in Domain Job Status* in the Vantage Management Console > Settings & Options > General.

These workspaces are useful when you're performing operator-related tasks or when you're managing or performing domain-wide production media processing. The only difference between the two tabs is one of scope.

The Job Status workspace allows you to select a workflow in your user account and display all of this workflow's jobs. The Domain Job Status workspace displays all the jobs currently executing in the domain, plus all completed jobs, if the Include Completed Jobs in Domain Job Status is enabled (Vantage Management Console > Settings & Options).

Job Status toolbar

Real-time view of transaction processing.

Each row is a job processed by the selected workflow, indicating status and other details.

When an action is executing, it is displayed with a green border, and a progress bar displays at the bottom of the action, indicating execution progress. This indicator provides a relatively accurate prediction of how far along the total execution has progressed.
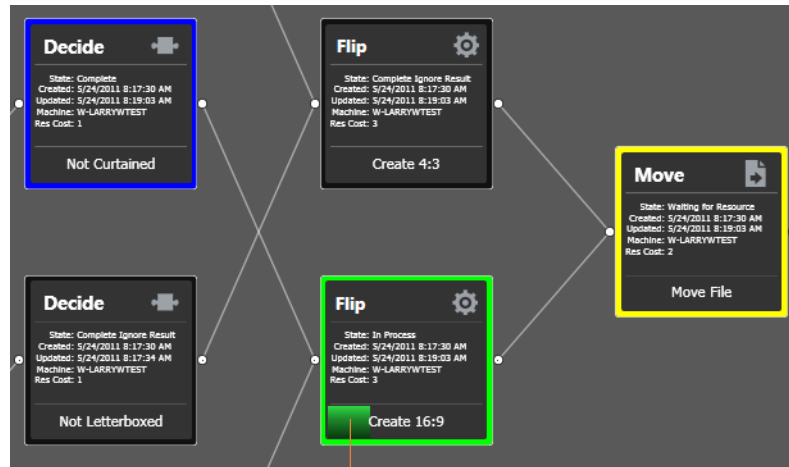
The progress bar indicates progress for this action.

The following topics provide additional information for using the job status workspaces:

- Viewing Workflows and Actions in Detailed Action View
- Using the Jobs Table
- Using the Job Status Table's Toolbar and Context Menu
- Stopping All Jobs in the Domain

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Viewing Workflows and Actions in Detailed Action View

Whenever you are viewing a workflow or job (via the Workflow Design | Job Status | Domain Job Status tabs, you can view the individual actions in detailed action view: select View > Detailed Action View. The information that is displayed depends on the tab you're using:

- **Workflow Design Tab**: Each action in the workflow itself displays the details (nick-names, variables, run on rules and perform on settings), as specified by your current configuration options, plus the description, directly on the action.

- **Job Status | Domain Job Status | Workflow Analytics Tab**: Each action in the selected job for this workflow displays its state, relevant dates, machine, and resource cost), as specified by your current configuration options. directly on the action. For the life of the job, during task execution, the action may pass through many states in real time; after the job terminates, only post-execution states are appropriate.

To view actions in detailed action view, select View > Detailed Action View. In this view, each action displays its state, creation and update dates, and s directly on the action.
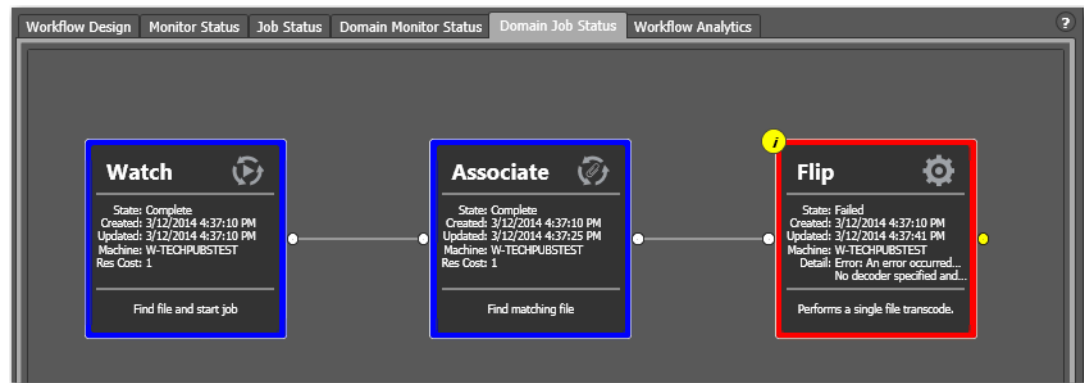
Action States During Execution

Note: At any time before an action starts executing, it may be re-assigned (re-balanced) to another service which *can* execute it.

During job execution, each action in the selected workflow displays a color-coded border to identify its current state in real time:

- *Green*—In Process. The action is currently executing.

- *Blue*—Completed with Success. The action is complete, and performed the task successfully. For actions whose state can be manually set, displays the appropriate state based on the configuration specified.

- *Red*—Completed with Failure. The action is complete, and did not perform the task successfully or an upstream action failed, and represents the failed state of the workflow itself. For actions whose state can be manually set, displays the appropri-

ate state based on the configuration specified. This action has failed or an upstream action failed, causing this action to not execute, and replicate the failed state.

- *Black*—Ignored | Waiting on License. This action completed without executing because the incoming state did not equal the Perform On condition, thus preventing it from executing or it executed in some exception-processing way (action-dependent) because a required license was not present.

- *White*—Idle. The action is ready to execute pending the assignment of a service to execute it.

- *Yellow*—Pending or Waiting for Intervention. The action is ready to execute pending the availability of the required resources or execution was interrupted for some other reason where the service requires intervention from a user. (Note that a yellow action title does not reflect the state but indicates a "technology preview." These actions can be tested and used but are not yet officially released or recommended for use in production applications.)

- *Light Gray*—Paused or Suspended during execution. The action has been paused by a user or suspended by a higher-priority action.

- *Magenta*—Stopped by User. The action was stopped by user intervention.

- *Light Orange*—Open Workflow Error. A failure is expected when the upstream open actions complete.

- *Orange*—Waiting to Retry. The action attempted unsuccessfully to execute to completion, and is currently waiting to re-execute.

- *Purple*—Waiting on a Service. No service of the required type is running that can execute the action. For example, no Transcode Service is running to execute a Flip action.

- *Light Green*—Waiting execution due to Run On Rule. The action is waiting due to a run-on rule that must be satisfied before it can execute. For example, a Flip action is configure to execute on a Lightspeed server, but no Lightspeed servers are online.

Action States After Execution

Each action in the selected workflow displays a color-coded border to identify its final status at the end of the job:

- *Blue*—The action completed successfully—final state: Success.

- *Red*—This action has failed—final state: Failure.

- *Black*—This action did not execute—final state: Ignore.

Note: Completing without errors does not mean that the action performed the task—an action may be configured to execute only when a previous action succeeded or when a previous action failed—thus, an action may complete without errors, and perform *no task at all*.

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Using the Jobs Table

Click any column title in the Jobs table to make it the primary column and sort it in ascending or descending order. The Jobs table presents information about the job in the following columns:

Job—The Job column displays the name of the file submitted to start the job, and the type of submission: *Manual Submit*, for example.

Workflow (Domain Job Status Only)—The Workflow column displays the name of the workflow that is processing or has processed this job.

Category (Domain Job Status Only)—The Category column displays the category of the workflow.

Note: Because the Domain Job Status workspace displays all of the jobs in the domain, the Jobs table also displays two additional columns of information not found in the Job Status workspace: Workflow and Category. It also displays an Emergency Stop button in the bottom right-corner. For details, see Stopping All Jobs in the Domain.

State—This column displays color-coded key words to identify the status of the job:

- *In Process*—the job is active (being processed).
- *Paused*—the actions in this job have been paused.
- *Complete*—all of the actions in this job have completed successfully.
- *Error*—indicates that an open mode action recognizes a critical error (that would be shown in the session log view), and will fail when the open block completes.
- *Failed*—one or more of the actions in this job have failed.
- *Waiting*—the job is active, but is currently waiting for a resource (a service) to accept and process one of the actions in the workflow.
- *Stopped by User*—the job was stopped by a user.
- *Waiting to Retry*—the job is active, but is currently waiting for one of the actions in the workflow to re-execute.

Progress—The information displayed in the Progress column depends on the Detailed Job Progress setting in the Vantage Management Console.

If Detailed Job Progress is disabled, the Progress column displays the percentage of actions that are complete at the moment. For example, if you have a 10 action workflow and the 4th action is currently executing, Vantage will report the workflow as 30% complete.

If Detailed Job Progress is enabled, the progress column displays a percentage value of the current amount of time consumed compared to the total estimated time for the job to complete. Using the job's start time to determine how long the job has been executing, you can use the progress percentage to extrapolate the approximate completion time, assuming the load on the domain remains relatively constant.

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Note: To change the Detailed Job Progress setting in the Vantage Management Console, start the console and click on Settings & Options > General Tab to set the Detailed Job Progress check box.

Started—Displays the time the job started by date and time.

Updated—Displays the last time the job record was updated (typically, when the job ended) by date and time.

Compute Time—Displays the sum of all action execution time for a job. A value is not displayed in this column for jobs that are stopped by the user or failed.

Elapsed Time—Displays the difference of when a job was last updated subtracted by when a job started.

Expires—Displays the time the job expires, and will be removed from the database (along with its binder). To change the expiration period for a workflow, select it and click on the title to display its detail panel, where the Expiration period is displayed. See *Viewing and Specifying Workflow Details*.

Using the Job Status Table's Toolbar and Context Menu

The toolbar and context menu provide a variety of commands for managing jobs. The toolbar is displayed directly above the table.

The context menu has the same set of commands, with the exception of the Jobs Filter button (at far right in the toolbar), which is not specific to the selected job. To display the context menu, right-click on any job in the table.

- *Show in groups* —Organizes jobs by group, based on the primary column—the one you have selected. Click again to turn grouping off.

- *Stop* —Halts processing on this job. When you stop a job in process, each action for that job is notified to stop its own transaction. When all actions have been stopped, the job is considered complete, in a user-stopped state.

- *Restart* —If a job was stopped or it failed, re-starts and continue processing where it was stopped. Actions that fail or are stopped by a user are re-executed. When you restart a job, it is started as a first-time job again. This affects the execution of retry rules.

- *Set expiration* —Modifies the default expiration time for this job. Workflow Designer displays the Set Job Expiration dialog—specify a new expiration date and click OK.

- *Delete* —Deletes the selected job row(s). Or, right-click and select Delete.

- *View Binder* —Displays the selected job's binder. Or, right-click an action or the job row in the table, and select View Binder. For details, see *Viewing Binders and their Assets*.

- *View Job Errors* —Displays details about errors encountered in the job.

- *Job Report* —Creates a job report. Select one or more jobs in the table, and click on the Job Report button. For details, see *Generating Job Reports Manually*.

- *Jump to Workflow* —This button only displays in the Domain Job Status workspace. To jump directly to the workflow for this job, select a job in the table and click the button.

- *Jobs Filter* —Displays only jobs that contain specific text in the job name. Enter the text to begin filtering displayed jobs. Delete the text (or just close the filter by clicking the filter button) to display all jobs again.

Stopping All Jobs in the Domain

If you get in a situation where you need to immediately stop all running and queued jobs in the domain, you can use the Emergency Stop button, which is located in the bottom right corner of the Domain Job Status workspace.

Note: If possible, Telestream recommend using the Management Console to place the services in maintenance mode (or the Windows Services Console to stop the services) before using this command.
After issuing a command to stop all jobs, it may take several minutes to complete. The

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time to completion is dependent on the volume of affected jobs in the database and the consequent load on the computers in the domain.
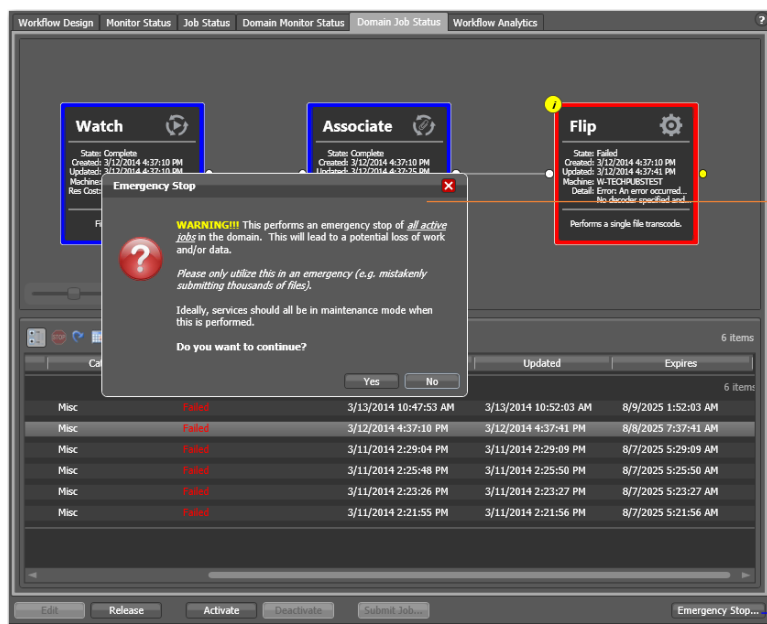
After clicking the Emergency Stop button to stop all of the jobs in the domain, Workflow Designer displays a warning dialog.

Emergency Stop button.

To stop all running and queued jobs in the domain using this button, follow these steps

1. Click the Domain Job Status workspace.

2. Click on the Emergency Stop button in the bottom right corner.
   Workflow Designer displays a warning dialog.

WARNING: The Emergency Stop button stops all active jobs in the domain, and can not be reversed. This will lead to a potential loss of work and/or data. You should only utilize this command in an emergency. (For example, mistakenly submitting thousands of jobs.) Ideally all services should be in maintenance mode before executing this command.

3. Click Yes to Continue.

Workflow Designer issues the Emergency Stop command to the domain database.

Generating Job Reports Manually

Workflow Designer allows you to generate job reports for the selected job or jobs, as comma-separated value (CSV) files. You can open these reports in spreadsheet programs and other programs that display CSV files, or you can use them in other systems, such as databases or media asset management systems.

Note: You can also configure a workflow to automatically generate a job report each time the workflow executes. See Enabling Automatic Reports in the Domain Management Console.

Each job report is based on a job report configuration you select (see *Managing Job Report Configurations*).

Note: If there are no job report formats, Workflow Designer displays a dialog that enables you to create one. Click OK to display the Job Report Manager (*Managing Job Report Configurations*).

To create a job report, follow these steps:

1. Select one or more jobs in the Job Status table.

2. Click on the Job Report button ▣ in the toolbar, or right-click the job and select Create Report. Workflow Designer displays the Create Job Report dialog (below).
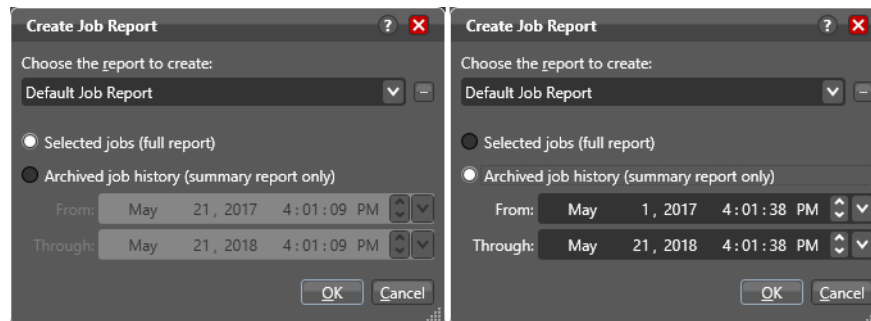
3. Select a report format from the drop-down list. (Report formats are created in the Vantage Management Console Report Configurations > Job Reports window).

   You can also click the browse ▭ button to display the Job Report Manager window (see *Managing Job Report Configurations* for details).

4. Choose Selected Jobs or Archived job history. For Archived job history, specify from and through dates

   Selected Jobs reports on jobs highlighted in the job list and provides a full report including all fields specified in the report format. Archived job history reports on historical jobs within the window of dates you specify, including expired jobs; only the standard fields defined in the Management Console > Job Reports format are included; no custom columns are included.

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5. Select where you want to save the CSV report file for the selected jobs, as shown in the following figure.

Vantage displays the File System dialog, which you can use to select the server and directory where you want the CSV report file for the selected job or jobs stored, as shown in the following figure.
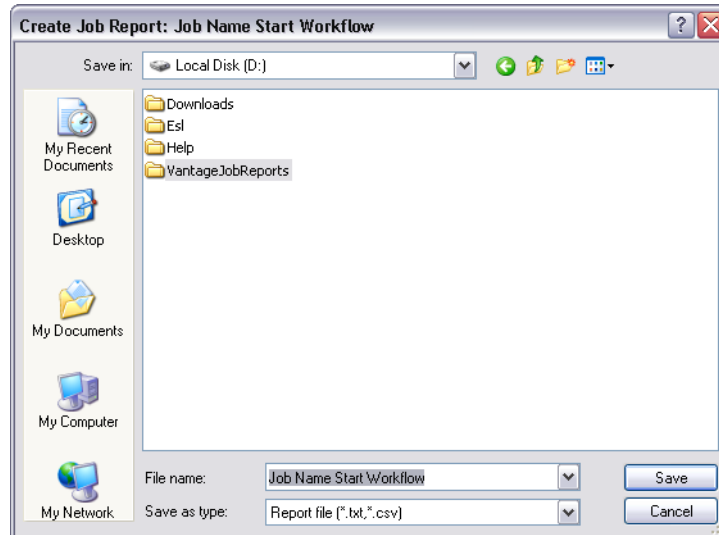
Optionally, enter a new name for the job report file (or append a date or other significant qualifier) and click Save to process the report and save the file as a *CSV* file.

When the report file has been generated, Vantage displays a dialog to indicate where the file was saved. Click OK to close the dialog.

Managing Job Report Configurations

Two types of job reports are available: automatic reports and manually generated reports.

Automatic reports are set up using the Automatic Reports: Modify button in the Workflow Details panel and run every time a job runs. For details see the *Designing and Managing Workflows* chapter of this guide—*Enabling Automatic Job Reports*.

Manually generated reports, which you can run on selected jobs as needed, are described on the following pages. These reports are configured by right-clicking jobs in the Job Status or Domain Job Status panel and selecting *Create Report...*.

Note: Completed jobs in the Domain Job Status tab are visible only if the *Include completed jobs in Domain Job Status* selection in the Vantage Management Console Settings & Options General panel is checked (enabled).

Before you can generate job reports, you must create at least one job report configuration. You can create multiple configurations; one for each type of job report you want to generate.

You use the Job Report Manager to create, edit, and delete job report configurations. (The Job Report Manager is also available in the Vantage Management Console.)

Note: Reports are set up in Workflow Designer's Workflow Details panel using the Automatic Reports: Modify button, or in the Job Status or Domain Job Status panel by right-clicking jobs and selecting Create Report. When checked, the *Include completed jobs in Domain Job Status* selection in the Vantage Management Console Settings & Options General panel enables visibility of completed jobs in the Domain Job Status tab; when unchecked, only current jobs are shown.
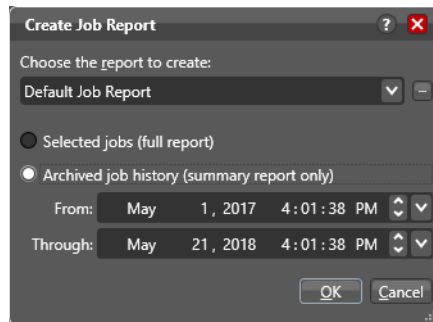
The following sections describe these tasks:

■ Displaying the Job Report Manager

■ Creating a New Job Report Configuration

■ Choosing and Adding Report Columns

■ Duplicating a Job Report

■ Deleting a Job Report

Displaying the Job Report Manager

To display the Job Report Manager, follow these steps.

1. Display the Job Status or Domain Job Status workspace.

2. Select a job from the Job table.

3. Click the toolbar Job Report button ▯ to display the Create Job Report dialog:
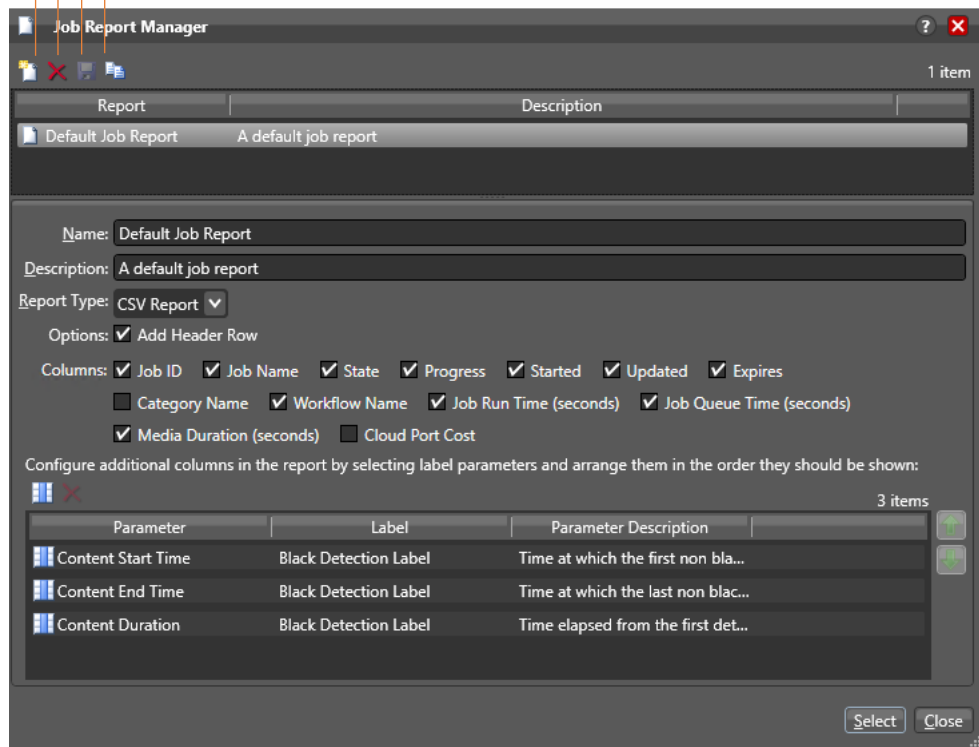
4. Click the browse ▭ button to the right of the report menu.

Workflow Designer displays the Job Report Manager window.

Creating a New Job Report Configuration

To create or edit a job report configuration, do the following:

Note: Vantage domain administrators can also create report formats with the Vantage Management Console.

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1. To create a new job report configuration, click a job in the Job Status or Domain Job Status window, and click the Create a report button.

Note: Completed jobs in the Domain Job Status tab are visible only if the *Include completed jobs in Domain Job Status* selection in the Vantage Management Console Settings & Options General panel is checked (enabled).

---

2. Click the Create/Edit/Delete Job Report Configuration button (below).
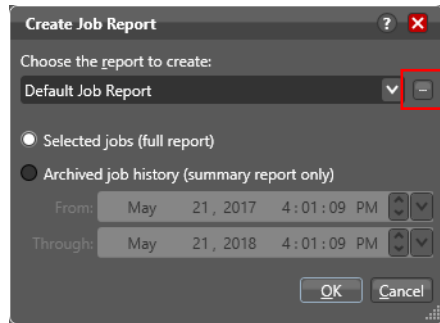
The Job Reports Manager dialog opens.
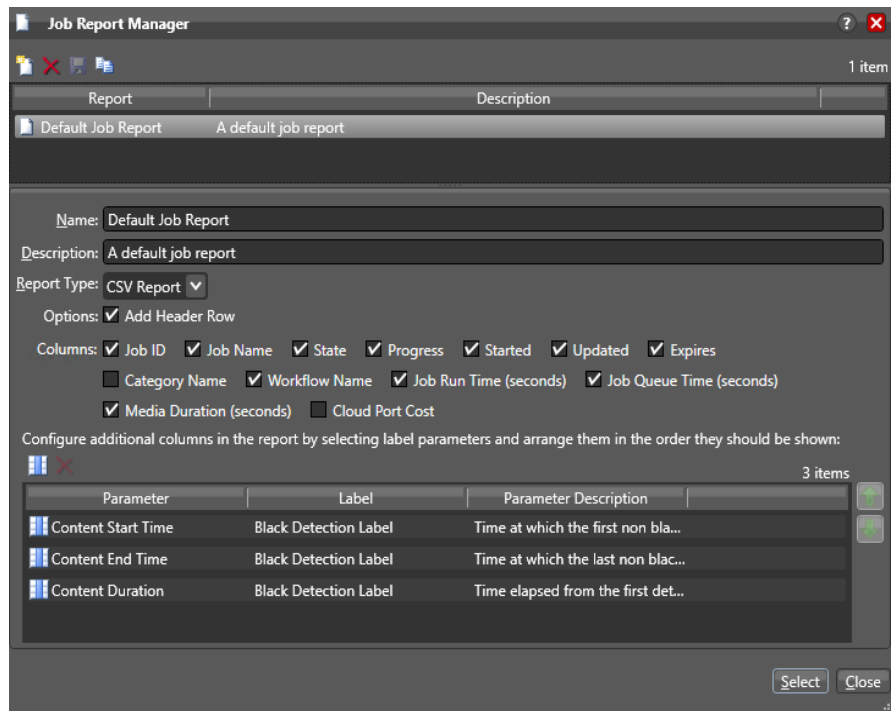
3. To edit a job report configuration, select it from the list, or to create a new configuration, click the Create a new report configuration button 🗋.Enter a name in the Name field.

4. Optionally, enter a report description in the Description field.

5. If you want to include a header row, check Add Header Row.
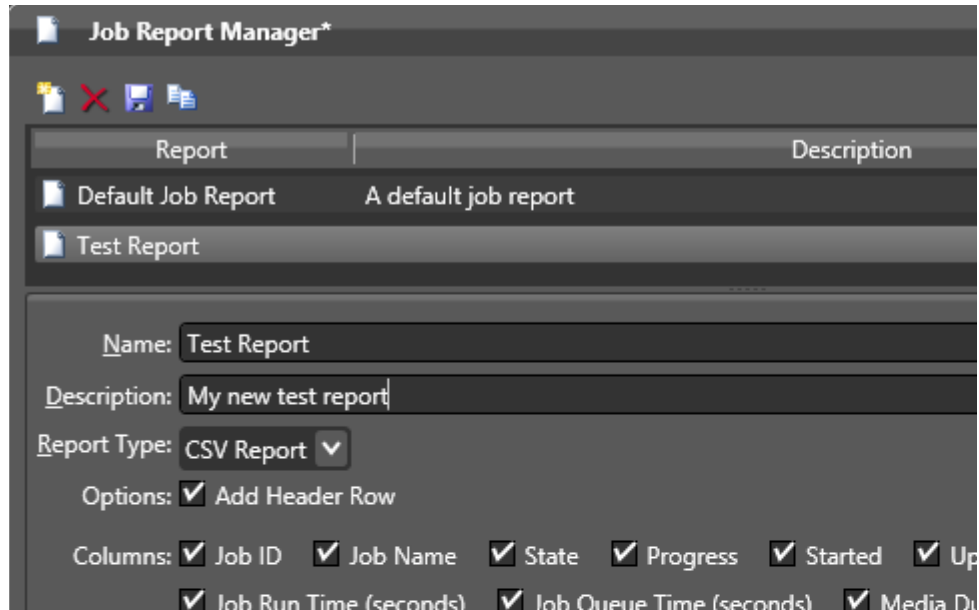
6. Click the Save button ![save] to save the new report.

Choosing and Adding Report Columns

Check the boxes to configure reports to include or exclude the following columns:

- Job ID, Job Name, State, Progress, Started, Updated, Expires, Category Name, Workflow Name, Job Run Time (seconds), Job Queue Time (seconds), Media Duration (seconds), and Cloud Cost.

- Additional columns for metadata label parameters (not available for archive reports)

When you choose to display a column for a metadata label, the column displays the label value. To add or delete columns for metadata labels, do the following:

1. Click the Add Column button ![addcol] to display the Select Label Parameters for Columns dialog.
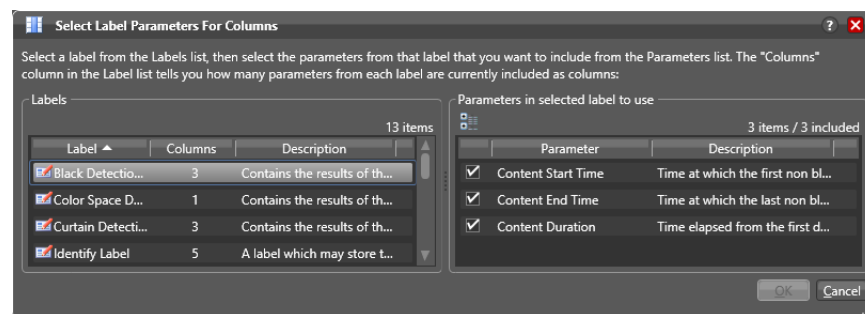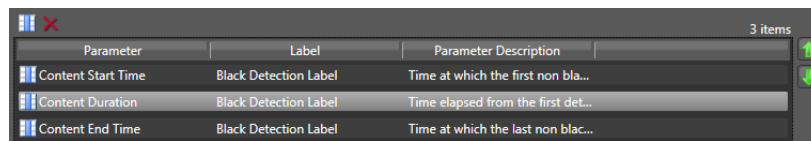
2. In the Labels panel, select a label for which you want to display parameters.

3. In the Parameters panel, check the checkbox for any parameter you want to display, and clear the checkbox for any parameter you do not want to display.

To toggle between showing and hiding categories in which the parameters reside, click the Category button ⬛.

4. Click OK to save the selected label parameters and close the dialog.

5. To change the displayed order of parameter labels in the Job Report, select a label in the list and use the green up ⬆ and down arrow ⬇ buttons to move the label up or down in the list.
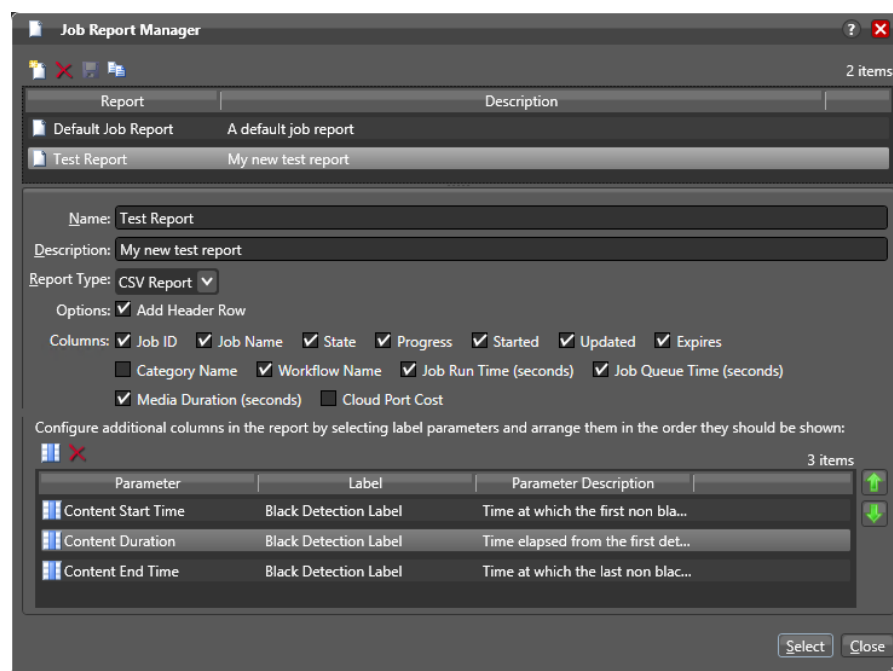
The top listed parameter becomes the first column after the "standard" columns in the job report, and the last item becomes the last column on the right.

Parameter	Label	Parameter Description		3 items
Content Start Time	Black Detection Label	Time at which the first non bla...		⬆
Content Duration	Black Detection Label	Time elapsed from the first det...		⬇
Content End Time	Black Detection Label	Time at which the last non blac...		

6. Click the Save button 🖫.

The Job Report Manager displays your changes.

Job Report Manager ? ✖

Report	Description		2 items
Default Job Report	A default job report		
Test Report	My new test report		

Name: Test Report

Description: My new test report

Report Type: CSV Report ▾

Options: ☑ Add Header Row

Columns: ☑ Job ID ☑ Job Name ☑ State ☑ Progress ☑ Started ☑ Updated ☑ Expires
☐ Category Name ☑ Workflow Name ☑ Job Run Time (seconds) ☑ Job Queue Time (seconds)
☑ Media Duration (seconds) ☐ Cloud Port Cost

Configure additional columns in the report by selecting label parameters and arrange them in the order they should be shown:

Parameter	Label	Parameter Description		3 items
Content Start Time	Black Detection Label	Time at which the first non bla...		⬆
Content Duration	Black Detection Label	Time elapsed from the first det...		⬇
Content End Time	Black Detection Label	Time at which the last non blac...		

Select   Close

Duplicating a Job Report

When you duplicate a job report, a new report is created with a modified report name. All settings in the duplicate report match those in the original report.

To duplicate a job report, do the following:

1. Select the report to duplicate.

2. Click the Duplicate button ▦.

3. In the Name text box, enter a new name for the duplicate report.

4. Make any other desired changes.

5. Click the Save button 🖫.
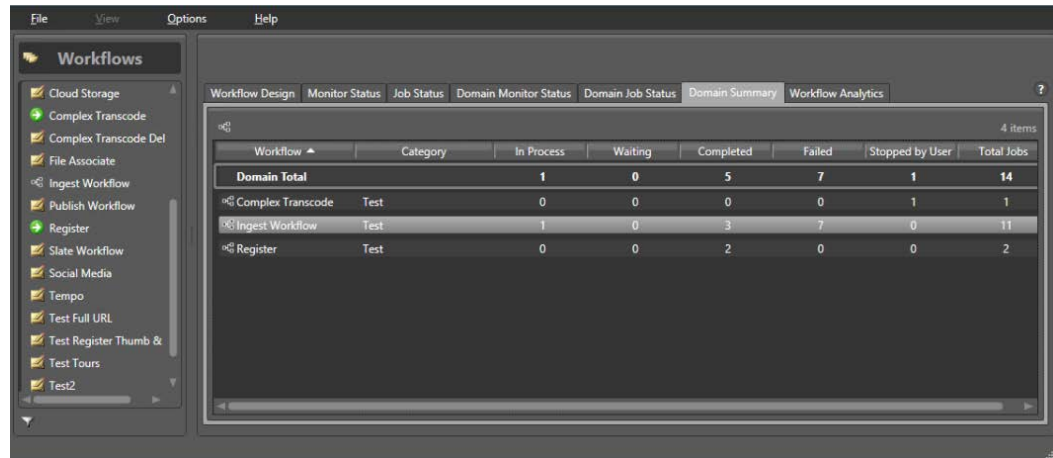
Deleting a Job Report

To delete a job report, select the report and do the following:

1. Click the Delete button ✖.

2. When the confirmation dialog displays, click OK.

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Viewing the Domain Summary

The Domain Summary tab displays, on a per-workflow basis, the following data for all jobs in the domain: In Process, Waiting, Completed, Failed, Stopped by User, and Total Jobs.

Consider thinking of this as a general purpose or quick report that you can quickly examine instead of having to set up and generate a jobs report. The display is static and offers no control over workflows, but you can use the Open Selected Workflow button or right click context menu to jump to a specified workflow in the Workflow Designer.

Viewing Binders and their Assets

The Binder panel displays information about their assets—files ingested or generated in a job—or in subsequent jobs, when the Register action is configured to overwrite binders if a file of the same name is submitted (Conflict Resolution). Assets in a binder can include media files, metadata labels, and attachment files.

To view the binder for the selected job, choose:

- Click the binder button ![icon] in the toolbar
- Right-click on any action, or job row in the table, and select View Binder.
- Double-click the job row in the table.

Viewing Media

The Media Files tab displays a list of media files ingested or created in the job, including the file's path, nickname, and filename. To the right is a WMV player, where you can preview the selected file provided that it is playable by Windows Media Player (typically, WMV, AVI, and ASF files, depending on your configuration).

You can also right-click any file and Choose these options:

- *Open Containing Folder*—displays the Windows directory where the file is stored.
- *Open With Default Program*—opens the file in the program specified as the default program to open these types of files, based on its extension.
- *View Files List*—displays the list of files submitted as part of the job.
- *View Full URL*—displays the full URL of the file submitted. See *Using View Full URL to Submit a Remote File via API* for additional information.

The ability to play media depends on the operating system where the file is located:

Local Windows Storage

- You can Open Container Folder or Open With Default Program
- The Player window displays and plays compatible media.

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Network Windows Storage
- You can Open Container Folder or Open With Default Program

- The Player window does not display or play compatible media.

Cloud storage and other file systems (FTP, Aspera, Pathfire, BML)
- You can not Open Container Folder or Open With Default Program

- The Player window does not display or play media.

Viewing Metadata

Use the Metadata Labels tab to display the labels associated with the job, their parameters and values. (You cannot edit values in this viewer.)

Viewing Metadata

The Attachments tab displays a list of attachment files, including each file's path, nickname, and filename.

Using View Full URL to Submit a Remote File via API

The *View Full URL* feature in the *Job Status > View Binder* panel helps API users submit files located on remote file systems such as Amazon S3. In particular, the output displayed in the *View File URL* dialog is precisely the properly formatted URL needed for an API command addressing a remote file location.
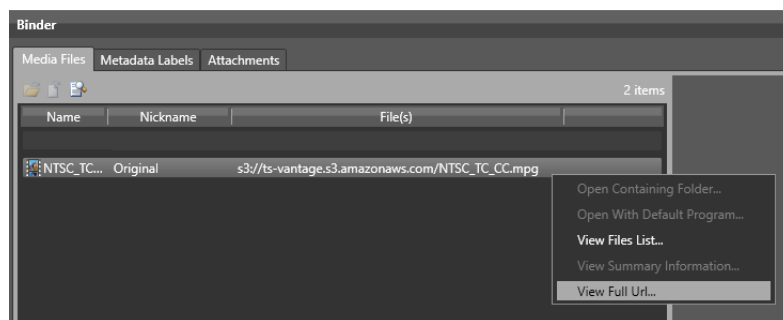
Note: User Administration must be enabled in the Vantage Management Console, and only users who are administrators are able to use the *View File URL* feature.

To use this feature, follow these steps:

1. Set up a simple workflow, such as Receive and Register, and activate the workflow. The purpose of this workflow is simply to register a remote file which represents files in the remote file location that you want to use. The Receive action *Media Files Expected Nickname* should be set to Original.

2. Use *Submit Job* and manually browse to a representative file in the remote location and submit it to the Receive action.

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3. Right-click the job in the Job Status table, and select *View Binder*.

4. Right-Click the Original file in the binder and select *View Full URL*. The resulting dialog is as follows:
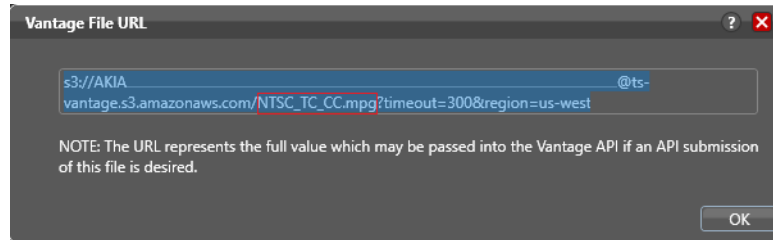
The text of the dialog is exactly the text that you need to cut and paste directly into an API submission message to submit the same file to another workflow via the API. Refer to the *Vantage Rest API Guide* (available on the Telestream support website) for detailed information about submitting files to a Vantage workflow.

To submit other files in this location to other workflows, change the name of the remote file in the URL (boxed in red) while leaving all else in the URL the same. The file name portion of the URL is *NTSC_TC_CC.mpg*. That is the only portion of the URL that you need to change to a new file name.

Controlling Action Execution in Jobs

These topics describe how you can control action execution in your jobs:

- Pausing and Resuming Actions
- Pause for Priority in Actions
- Setting Action Execution Priority

Pausing and Resuming Actions

To pause and resume actions in a job in progress, right-click on the action and select Pause from the context menu. To resume a paused action, right-click on the job and select Resume from the context menu.

You cannot pause actions in certain states or in certain workflows. For example, you cannot pause an action that has failed. Also, you cannot resume an action downstream of another failed action, without restarting the first failed action, etc.

Pause for Priority in Actions

Pause for Priority is an automatic feature of Flip64, Multiscreen Flip, IPTV Flip, and Conform actions. If a Transcode Service is saturated (performing the maximum number of jobs), Vantage will queue up incoming jobs and wait for a slot to become available.

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For example, a Transcode Service is configured to run 2 simultaneous jobs; it receives three jobs (A, B and C); jobs A and B begin execution (the service was idle prior to this) and C is queued until either A or B completes, at which point C will execute).

Pause for Priority comes into play if job C has a higher execution priority than job A or B. In this case, job A is paused and job C begins processing immediately. When Job C or B completes; then A (which was previously paused) returns to processing.

Setting Action Execution Priority

You can modify the execution priority of actions in a running job, when they are in the Wait, Pause, or Running states. You cannot set an action priority for a completed action. To change the priority of an action that has not completed, do the following:

1. Right-click the action and select Priority to display the Action Priority dialog.
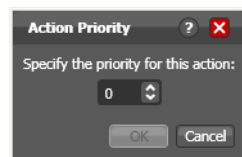
2. Change the priority value (larger numbers equal higher priority), and click OK to modify the action's priority in this job. (Zero and negative numbers are allowed; for example, a 0 priority pauses a -1 priority, and a -1 pauses a -2.)

Viewing Action Status

To view details about the status of any action in a job, select the job in the jobs list, right-click the target action in the workflow, and select Status.

The Status/History dialog provides details about each aspect of the action's execution. You can use this information to gather details about its execution, and when an action fails, you can use this information to determine why and correct the problem.
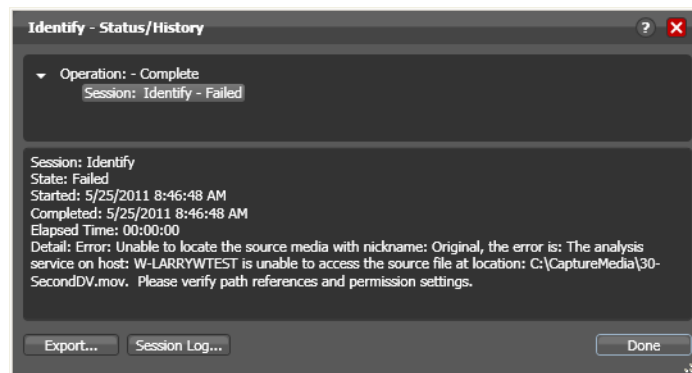
Each line in the upper panel of the Status/History dialog provides a summary of some aspect of action execution. To display more information related to a line in the upper panel, click on the line. The detailed information appears in the lower panel.

The symbol to the left of the summary lines in the upper panel allow you to hide or expose subordinate summary lines. Click a symbol to hide or display subordinate summary lines.

Export—Click Export to display a File System dialog, and save the status/history information as an XML file. You can send these files to Telestream for support issues, or export them for processing in other systems.

Session Log—To display a session log, select a session in the upper panel and click Session Log.

Click Done to dismiss the Status/History window.

Using Workflow Analytics

Use this chapter to learn how to use Workflow Designer to analyze workflows and job history to identify problems and improve overall system performance.

Topics

- Workflow Analytics Overview
- Using the Workflow Analytics Panel
- Performing Bottleneck Analysis
- Performing Execution Analysis

Note: Features in editions for which you do not have a license are disabled, and indicate that you need a license to use them.

Workflow Analytics Overview

Workflow analytics is an optional, licensed feature in Workflow Designer, and requires a Reporting and Analytics license. Workflow analytics enables you to visually analyze workflows and job history to identify problems and improve overall system performance.

In Workflow Designer, workflow analytics enables you to view jobs (based on the job history currently in the database) on a case-by-case basis to:

- Identify performance bottlenecks by action in a workflow
- Analyze workflow execution as a result of decisions in a workflow
- Visualize the progress of multiple jobs submitted to a workflow
- Rank workflows and actions, based on processing time consumption.

Note: Because workflows may be modified over time, jobs run in the selected workflow prior to the last change are ignored.

Vantage administrators and personnel responsible for designing and implementing workflows can use this information to modify workflow design and improve Vantage domain performance and efficiency.

Note: In the Management Console, workflow analytics enables you to analyze workflows at the domain level. For details on using workflow analytics in the Vantage Management Console, click the Help button in the toolbar to display the *Vantage Domain Management Guide*.

Workflow analytics automatically includes new jobs that are submitted, as appropriate, displaying them in the Jobs table and recalculating metrics.

Using the Workflow Analytics Panel

Click the Workflow Analytics tab (or click File > Workflow Analytics), and select the workflow in the Workflows panel to view job history information, which helps you identify performance bottlenecks and collect workflow processing statistics.
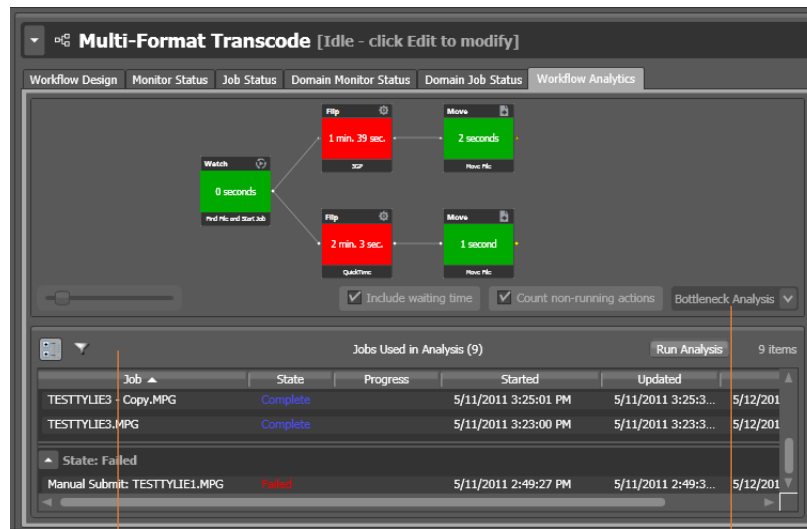
Jobs Table with toolbar   Analysis Options

Actions display the average execution time, and stack rank time relatively by color—green (fastest) through red (slowest).

To select a workflow to view, use the Workflows list to the left of the Workflow Analytics tab. Open the appropriate workflow category and click on any workflow to select it. You can then view all of the job history records for the selected workflow in the Workflow Analytics tab.

After making your job selection (see below), click the Run Analysis button to begin near real-time display of the analytics data. To stop calculating and updating the data (or to change the jobs you want to analyze), click Stop Analysis.

The following topics provide additional information:

■ Using the Jobs Table Toolbar
■ Using the Jobs Table

Using the Jobs Table Toolbar

The toolbar for the Jobs table displays buttons for the following commands:

Groups—Click to organize the jobs by group, based on the primary column—the one you have selected. Click again to turn grouping off.

Filter—Click to display (and thus determine the set) only jobs that contain specific text in the job name. Enter the text to begin filtering displayed jobs. Delete the text to display all jobs again.

Using the Jobs Table

Click any column in the Jobs table to make it the primary column and sort it in ascending or descending order.

When you first select a workflow, no jobs are selected, so all jobs are considered in calculating the metrics. Select any job or jobs (Shift+click or Ctrl+click) to view the selected set's analytic details.

To de-select all jobs and return the table to its original state, select one record, then Ctrl+click to de-select it.

Performing Bottleneck Analysis

Select Bottleneck Analysis from the popup menu on the far right. Workflow Designer displays elapsed time for the selected records in the job history set.

In bottleneck analysis (which is enabled by default), you can identify the longest running actions in a workflow, based on color and time values.

Color values are applied to each action from green to red on a sliding scale, based on a comparison of the average of all selected job records. The shortest average execution time displays the darkest shade of green; the longest displays red. Those in between display color values through yellow-green, yellow (average), and orange.

Numeric values on each action display the average execution time of the actions which ran, based on the selected job records.

When performing bottleneck analysis, choose:

- *Include Waiting Time*—Check to add wait time to execution time and display the combined total time for each action. Wait time includes time spent in a Waiting state and a Paused state. Uncheck to display only execution time.

- *Count Non-running Actions*—Check to include the execution time (0 seconds) of actions that did not run, thus providing a weighted bottleneck analysis based on which branches in a workflow executed, based on decision actions. This allows you to focus upon the actions which are bottlenecks in real-world operations.

Uncheck to disregard non-running actions when calculating the execution time. This allows you to find the most expensive actions, regardless of whether or not they are commonly run.

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Performing Execution Analysis

Select Execution Analysis from the popup menu on the far right. Workflow Designer displays percentile and numeric values for the selected records in the job history set.

In execution analysis, you can determine which percentage and number of actions executed, based on the selected job history set, based on color and percentile values.

Color values are applied to each action from black to green on a sliding scale. The lowest average execution displays the darkest shade of black; the highest displays green.

Darker actions are those that have not executed yet (near zero percent). Dark green actions are average (near 50 percent), and the highest percentile executing actions are bright green (approaching 100 percent).

For each action, the percent of executions completed is calculated against the total number of jobs, based on your selected job criteria.

When using execution analysis, choose your job criteria:

All Jobs | Only Completed Jobs | Only Successful Jobs—Select to include all selected jobs regardless of their status, only completed jobs (thus excluding running or partially completed jobs), or only successful jobs in the calculations.

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Managing Hosted Workflows

The HostedWorkflow Manager window enables you to manage your Vantage domain's Telestream Cloud hosted workflows directly in Workflow Designer. Hosted workflows typically exist in two locations: your Vantage domain, and in your Telestream Cloud account. These two copies are one in the same workflow, and they are associated with each other by their GUID.

Note: Use of HostedWorkflow Manager features requires that you have a Telestream Cloud account, and that you have added the API key for the account in the Vantage Management Console. When you've provided these credentials, Workflow Designer can be configured to operate in Cloud mode, with the same capabilities that it provides when a Cloud Developer license is installed.

Topics

- Requirements
- HostedWorkflow Manager Overview
- Selecting Your Telestream Cloud Account & Store
- Setting the Default Cloud Workflow Revision
- Downloading Workflows from Telestream Cloud
- Uploading New Workflow Revisions
- Uploading Vantage Workflows to Telestream Cloud
- Troubleshooting

Note: If you're not familiar with using Telestream Cloud, see the Telestream Cloud User Guide on the telestream.net web site.

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Requirements

Before you use HostedWorkflow Manager, be sure that you meet these requirements:

- You have a Telestream Cloud account.

  If you don't have a Telestream Cloud account, go to https://cloud.telestream.net/console/signup and create one. If you already have an account and want to log in, go to https://cloud.telestream.net/console/login.

- In Telestream Cloud, create one or more stores where you want to save workflows.

- If your domain is configured with user administration, your user must have Vantage Administrator privileges.

  In the Vantage Management Console, go to Settings & Options > General to verify user administration is enable or disabled. To view/modify user privileges with user administration enabled, go to Settings & Options > Users.

- You have created an account record in the Vantage Management Console.

  Go to Settings & Options and display the Cloud tab—create a record for the account and test it.

HostedWorkflow Manager Overview

You can use the HostedWorkflow Manager window to manage your hosted workflows directly in Workflow Designer—create and upload them, or synchronize them in your Telestream Cloud account. You can also download hosted workflows in Telestream Cloud—for review, modification, and upload back to the Cloud—directly in Workflow Designer.

Note: For basic information on using Vantage client programs, see *Vantage Client Programs Overview*.
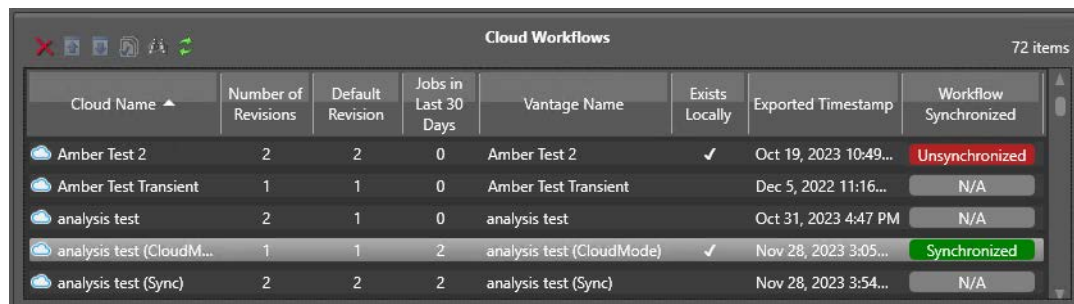
Here is a depiction of the HostedWorkflow Manager main window and its major components:
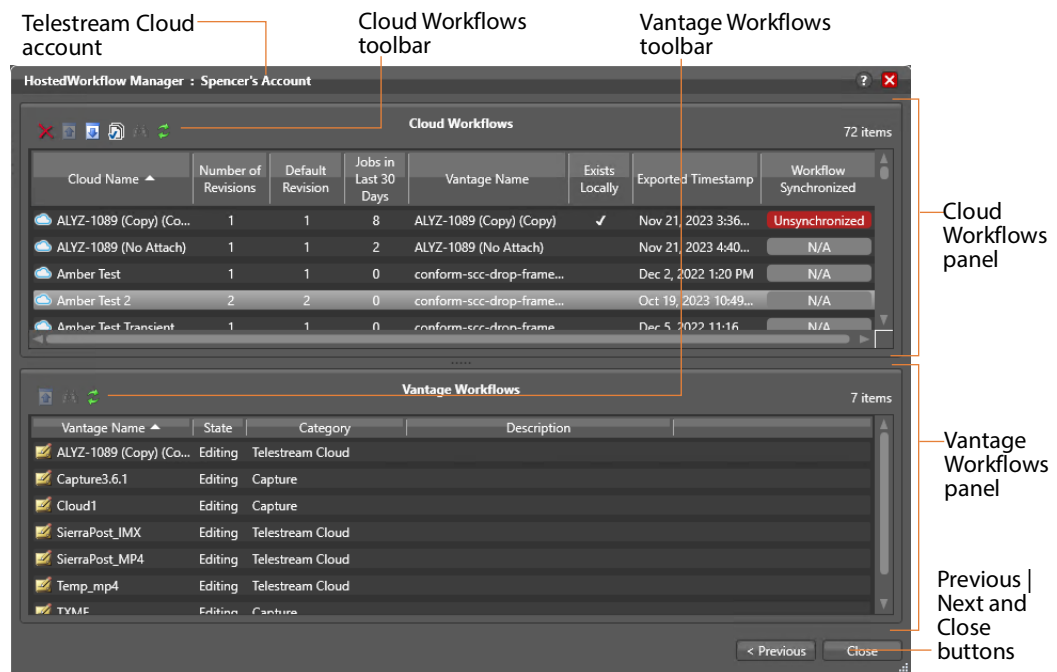
This window is comprised of two panels: Cloud Workflows and Vantage Workflows.

Using the Cloud Workflows Panel

The Cloud Workflows panel displays all of the workflows in the selected Telestream Cloud account, with details.

You use this panel to operate on your workflows from the Cloud workflow perspective.

Toolbar Buttons for Cloud Workflow Operations

Select one or more workflows to operate on them, using the buttons in the toolbar. (Or, right-click on a workflow and select these operations from the menu.)

Delete Cloud Workflow(s)—Permanently deletes the workflows from the store.

Upload New Revision—When the workflow is out of date as indicated by the unsynchronized [Unsynchronized] icon, uploads the associated Vantage workflow to your Telestream Cloud account as a new revision. See *Uploading New Workflow Revisions* for details.

Download Cloud Workflow(s)—For workflows that aren't in your domain, copies the latest revision of the selected workflow(s) to your domain. See *Setting the Default Cloud Workflow Revision* for details.

Revision Management—When several revisions exist, allows you to change the default revision for execution. See *Setting the Default Cloud Workflow Revision* for details.

Find Vantage Workflow—For workflows with a corresponding Vantage workflow (as noted by the ✔ icon in the Exists Locally column), finds the corresponding workflow in the Vantage Workflows list and selects it.

Refresh—Reloads the workflows from the default store; displays a progress bar during the operation.

Cloud Workflows Table Columns

You can sort each column in ascending | descending order.

Cloud Name—The display name of the hosted workflow in Telestream Cloud. Permits sorting ascending | descending.

Number of Revisions—The number of variations in this hosted workflow.

Default Revision—The revision number of the workflow that is used when this workflows executes a job.

Jobs in Last 30 Days—The number of jobs that have been executed by this workflow int he last 30 days.

Vantage Name—The name of the associated workflow in your Vantage domain.

Note: Telestream recommends that you use the same name for workflows that are hosted both in your domain and in your Telestream Cloud account.

Exists Locally—Specifies by a check mark that an associated workflow exists in your Vantage domain.

Exported Timestamp— The Exported Timestamp indicates the date/time that the selected Default Revision of the workflow was exported (uploaded) from the local Vantage domain.

Workflow Synchronized—For workflows with an associated Vantage workflow, indicates whether they are in synch or not.

Using the Vantage Workflows Panel

The Vantage Workflows panel displays all of the workflows that are in your domain, with details.

You use this panel to operate on your workflows from the Vantage workflow perspective.

Toolbar Buttons for Vantage Workflow Operations

Select one or more workflows to operate on them, using the buttons in the toolbar. (Or, right-click on a workflow and select these operations from the menu.)

Upload Vantage Workflow(s)—Uploads the Vantage workflow up to your Telestream Cloud account, using the name you specify. See *Uploading Vantage Workflows to Telestream Cloud* for details.

Find Cloud Workflow—For workflows that have a corresponding Cloud workflow that was uploaded previously, finds and selects the corresponding workflow in the Cloud Workflows table.

Refresh—Reloads the workflows from the default Telestream Cloud account.

Vantage Workflows Table Columns

You can sort each column in ascending | descending order.

Vantage Name—The name of the associated workflow in your Vantage domain.

State—The designation of the state currently assigned the workflow.

Category—The Workflow Designer category that this workflow is stored in.

Description—The description of the workflow.

Selecting Your Telestream Cloud Account & Store

To select or change the Telestream Cloud account and store that you want to use, follow these steps.

1. In Workflow Designer, open the HostedWorkflow Manager window and select File > Vantage Cloud HostedWorkflow Manager
OR
Click the Telestream Cloud [icon] icon in the Workflows panel title bar:

Telestream Cloud icon— displays the Hosted Workflows Manager
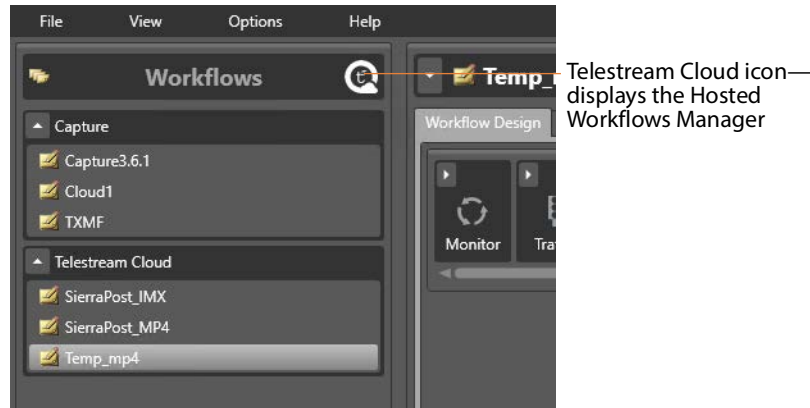
2. In the HostedWorkflow Manager window, click the Previous button at the bottom right corner. (The first time you display Hosted Workflows Manager, this panel displays first):

Workflow Designer displays the Account and Store dialog:
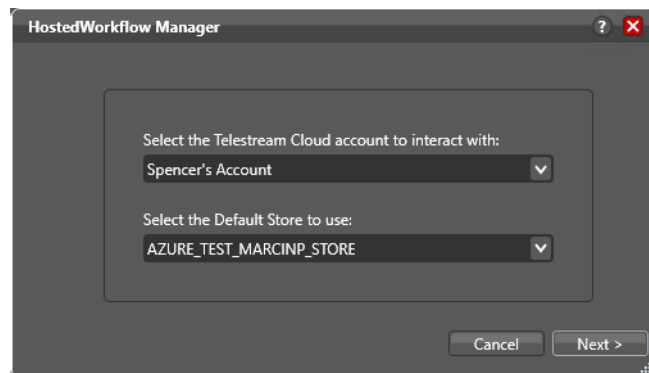
3. Select the account and store to use, and click Next to return to the main window.

Note: The store list is populated from your Telestream Cloud account. Make sure that your stores are valid, or that you are aware of which stores are valid. Your account may have stores whose buckets are no longer viable and is beyond control of Vantage.

Setting the Default Cloud Workflow Revision

For workflows with multiple versions in Telestream Cloud, the default revision is used for execution unless you override it during job submission. Usually, the default revision is the latest revision you've set; however, you can specify a different revision if you need to revert to a previous one.

Note: Telestream Cloud does not change the default (executable) revision without specific action. As a shortcut, when you upload a revision, you can set the new revision to the default (see *Uploading New Workflow Revisions*)—check Make this the default version in the Upload Revision dialog.
If you don't change the default revision when you upload it, the revision remains the same until you change it in the Revision Management dialog.

To change the default revision of a multi-revision workflow, follow these steps:

Workflow Designer displays the Revision Management dialog:
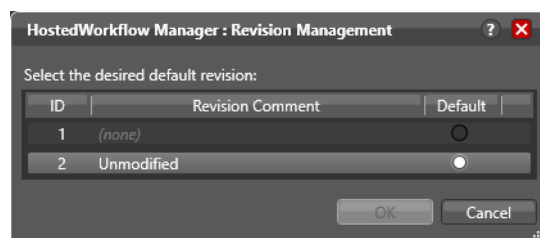
Select the revision to set as the default revision and click OK.

Downloading Workflows from Telestream Cloud

You can download workflows from Telestream Cloud to your Vantage domain if they haven't previously been downloaded or when they don't have an associated workflow already in the domain.

Note: Workflow Designer downloads the revision currently-assigned as the default version. See *Setting the Default Cloud Workflow Revision* for details.

To download workflows, follow these steps:

1. Verify your Telestream Cloud account and store—click Previous; change the account and default store as required, then click Next to return to the main window.

2. In the Cloud Workflows panel, select one or more workflows to download.

3. Verify that they do not already exist in your domain, as indicated by the lack of a ✓ icon in the Exists Locally column.

4. Click the 🔽 Download Cloud Workflow(s) button | right-click on the Cloud workflow and select Download Cloud Workflow(s) to transfer the selected workflows to your domain.

   Workflow Designer displays this dialog for each workflow selected:
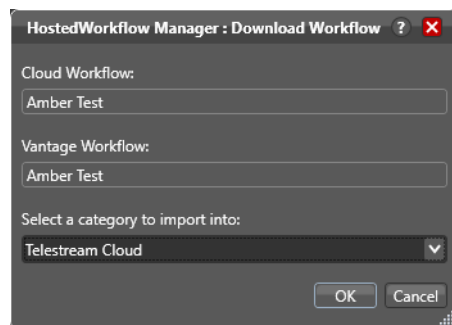
   Workflow Designer uses the Cloud workflow's name as the name to apply to the copy you create in your Vantage domain unless the workflow was given a different Cloud Workflow name when it was originally uploaded. In this situation, the down-loaded copy of the workflow uses the original Vantage Workflow name, not the Telestream Cloud name.
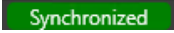
   As an example, if you upload a workflow named *My Workflow* and give it the Cloud workflow name *My Workflow (cloud)*, and then you delete the Vantage workflow (or connect to a different domain) when that workflow is downloaded, the local Vantage copy will be named *My Workflow*, not *My Workflow (cloud)*.

5. Select the workflow category that you want Workflow Designer to store the workflow(s) in.

Note: If the workflow (or any workflow, in a multiple workflow selection) already exists, Workflow Designer disables the Download button. Download is only permitted

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when there is no workflow in the local Vantage domain with the same ID GUID as the selected Cloud Workflow.

6. Click OK to proceed.

Workflow Designer displays a progress bar during the operation. When the transfer is complete, Workflow Designer updates the workflow record in the Cloud Work-flows table: It displays a ✔ icon in the Exists Locally column, and displays the syn-chronized Synchronized icon to advise you that the two revisions are identical.

Uploading New Workflow Revisions

When you modify a hosted workflow in Vantage, Workflow Designer flags its associated Cloud workflow with the unsynchronized Unsynchronized icon.

Note: If the workflow (or any workflow, in a multiple workflow selection) already exists, Workflow Designer disables the Download button. Download is only permitted when there is no workflow in the local Vantage domain with the same ID GUID as the selected Cloud Workflow.

To upload the new revision that you've modified in Workflow Designer back to Telestream Cloud from your domain, follow these steps:

1. Verify your Telestream Cloud account and store—click Previous; change the account and default store as required, then click Next to return to the main window.

2. In the Cloud Workflows panel, select the unsynchronized workflow(s) and click the Upload New Revision button
OR
Right-click and select Upload New Revision to copy the workflow(s) to your Telestream Cloud account as new revisions.

   Workflow Designer displays the Upload Revision dialog for each selected workflow:
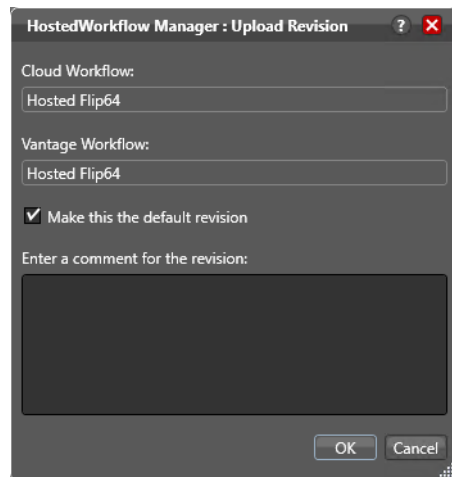
3. Check Make this the default revision if you want to use this revision. If unchecked, the currently-specified revision remains unchanged unless you change it manually (see *Setting the Default Cloud Workflow Revision*).

4. Click OK to proceed.

5. Workflow Designer displays a progress dialog as it performs the operation, and updates the record in the Cloud Workflows table.

Uploading Vantage Workflows to Telestream Cloud

When you create a hosted workflow in Workflow Designer and validate it for execution in Telestream Cloud, you can upload it to your account and store for execution.

Note: Telestream recommends that you use the same name for both copies of the workflow to avoid confusion. Even if you name them differently in Vantage and Telestream Cloud, they are in fact, the same workflow with the same GUID.

To upload Vantage workflows to your account in Telestream Cloud, follow these steps:

1. Verify your Telestream Cloud account and store—click Previous; change the account and default store as required, then click Next to return to the main window.

2. In the Vantage Workflows panel, select the workflow(s) and click the Upload Vantage Workflows button
OR
Right-click and select Upload Vantage Workflow(s)... to copy the workflow(s) that you want to upload from your Vantage domain to your Telestream Cloud account as a new workflow.

   Note: Workflow Designer does not check for associated Cloud workflows. If the selected workflow(s) is in the account and store you're working with, it displays an error, advising that this workflow is already associated with a Cloud workflow.

   Workflow Designer displays the Upload Revision dialog for each selected workflow:
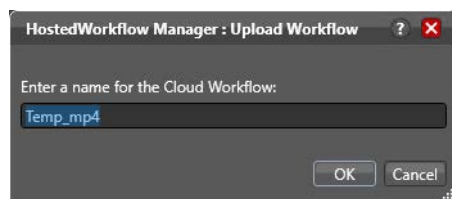
3. Enter the name for the Telestream Cloud copy or accept the default value: the same name. Telestream recommends using the same name in both Vantage and Cloud domains. These two copies are one in the same workflow, and they are associated with each other by their GUID and changing names can lead to confusion.

4. Click OK to proceed.

5. Workflow Designer uploads the new workflows, and displays a progress dialog as it performs the operation.

Note: If your workflow is not Cloud-compatible, Workflow Designer displays an error: "Unable to export workflow". It provides information about what action or action's configuration caused the error. Fix and retry.

Troubleshooting

Use these topics to help solve problems you may encounter.

Problem: Workflow Designer displays an error—No Telestream Cloud credentials have been added to this domain when I attempt to open it. Or, Telestream Cloud account couldn't be accessed. The API key may be incorrect.
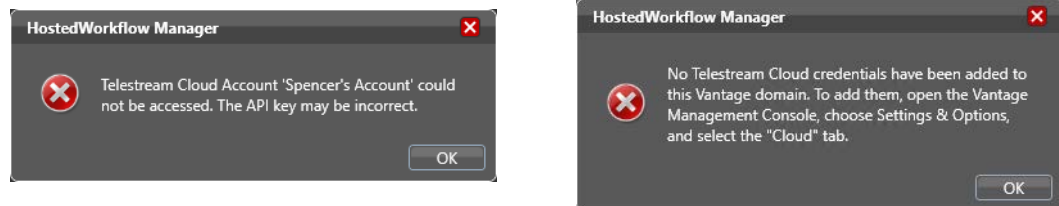
Solution. You don't have a Cloud account registered in Vantage or the account you entered is incorrect.

In the Management Console navigate to Settings & Options and display the Cloud Tab. Create a new Cloud account record using your Telestream Cloud credentials or update the account API key. Now, back in Workflow Designer, display the Hosted Workflows Manager window again.

If you don't have a Telestream Cloud account, go to https://cloud.telestream.net/console/signup and create one.

Problem: Workflow Designer displays a Does Not Exist error when I attempt to upload a workflow to a store:
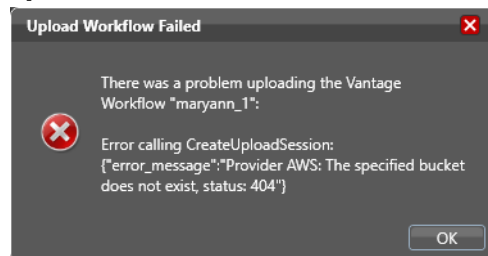
Solution. You have selected a store whose bucket is no long valid. This list is populated from your Telestream Cloud account. Make sure that your stores are valid, or that you know which stores are valid. Your account may have stores whose bucket is not longer viable and is beyond control of Vantage.

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Workflow Designer displays an error when I tried to upload a workflow:
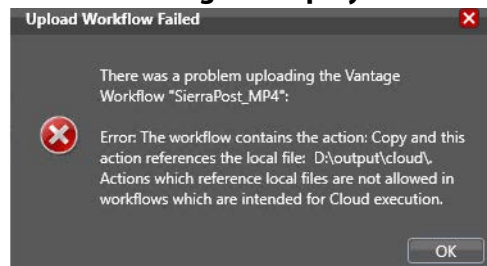
Solution. You have configured your workflow in a way that is not functional when executed in Telestream Cloud—thus, its not considered a valid cloud-hosted workflow. Read the error details, correct the configuration, and retry.

Using Workflow Portal Configurations

This chapter describes how to operate each of the basic Workflow Portal configurations. Workflow Portal configurations are created in the Vantage Management Console. The functionality options and user interface components are specific to each type of configuration and are enabled in Workflow Portal when it is launched.

A Vantage administrator can make as many of each type of configuration as necessary, each one configured to support a specific media processing application. Configurations are developed in conjunction with a workflow designer, so that the configuration performs correctly with the associated ingest and publication workflows. Once you've used a configuration, the Workflow Portal opens to it automatically.

Note: When you are using a given type of configuration—for example, a VOD configuration—it is common to think of and refer to Workflow Portal simply as the *VOD Portal*. When you read about a portal by any name (VOD, DPP, etc.), just remember—*this particular Portal is Workflow Portal using its respective configuration*.

Topics

- Using Browse Catalogs Copy Binder and Forward Binder Portals
- Using Windows Network Portals
- Using EDL Portals
- Using CML Portals
- DPP Portal Overview
- VOD | DAI Portal Overview
- Tempo Portal Overview
- Syndication Portal Overview

Note: Some of these configurations are described in their own product guides. Please refer to those guides for additional details.

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Using Browse Catalogs Copy Binder and Forward Binder Portals

Note: These configuration can be used in both the Workflow Portal Windows client and the Workflow Portal web app.

The Browse Catalogs configurations are the most broadly-focused operator-intervention configurations. In these configurations, the key requirement is the registration of media in a catalog using an ingest workflow. This enables an operator to select it and review a proxy, edit metadata and variable values as required, and submit it to one or more publishing workflows.

Browse Catalog configurations are not designed to solve any specific media processing application (such as DPP or CML); they simply enable operator-intervention processing of media registered in a Vantage catalog.

Note: Media trimming can be implemented in Workflow Portal in both Browse Catalog configurations. For example workflows, go to the Vantage Support page on the Telestream web site, and download the Workflow Examples zip file for your version of Vantage.

In a Browse Catalog *Copy Binder* Portal, the operator browses a catalog and selects a binder to prepare before submitting the job to a publishing workflow. A Copy Binder configuration automatically duplicates the original binder and submits the duplicated binder (with changes made by the operator) to the publishing workflow, leaving the original binder intact in the catalog for future use or re-submittal. (If you may ever need to use the *copied* binder later—in case of an error, for example—you should also use a Register action in the publication workflow to register the *new* binder in a catalog).

In order to have a binder to submit, the operator clicks the Submit button to trigger the duplication of the original binder. Now, using the copied binder as a template, the operator can edit metadata and variables as required, (in the copied binder) and submit it to the publishing workflow.

In contrast, in a Browse Catalog *Forward Binder* Portal, the original binder is modified by the operator during metadata and variable editing, and submitted to the publication workflow—without making a copy. (If you don't need the binder after processing, you can automatically or manually delete it.) The operator can edit metadata and variables (in the original binder) directly in the main window and then click Submit to submit it to the publishing workflow.

Here are the differences between Copy Binder and Forward Binder configurations:

- *Copy Binder*—the operator clicks the Submit button *before* editing metadata and variables—to create a copy of the original binder.
- *Forward Binder*—the operator selects a binder and edits its metadata and variables—then click Submit to process the job.

Depending on how the configuration has been set up, there will be variations in the features that are enabled, and the related tasks you can perform. In both configurations, the operator can review, edit, and update label-based metadata and variables for the selected media prior to submission to a publishing workflow.

Copy Binder Job Submittal Process

As depicted in the figure below, media is submitted to an ingest workflow through a watch folder, which performs any processing required, and registers the output media (organized with any other job-specific assets—metadata labels, for example—in a binder) into a specific Vantage catalog.
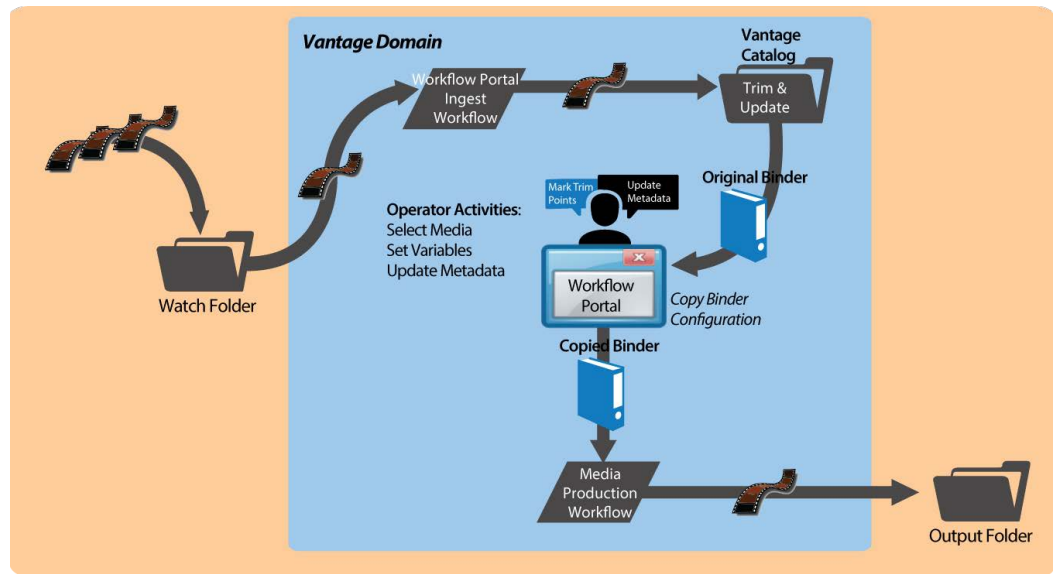
Alternatively, media can be submitted via a workflow, manually, or any other means.

In Workflow Portal, the operator browses catalogs and selects a binder, clicks Submit to generate the copied binder, and performs operator tasks as appropriate. This may include scrubbing a proxy, reviewing and editing metadata, and setting variable values for the job.

Next, the operator submits the job to a publishing workflow, which can be designed to perform any task required. The binder being processed is a copy of the original binder. The original binder and its contents remain untouched.

Job Submittal Steps

When you're using a Copy Binder Portal to process media, an operator follows this general process to submit a job (for details about a task, click on the link):

1. Make sure that the publishing workflow or workflows associated with this process are running (in Workflow Designer).

2. Browse catalogs to select a binder (*Browsing Catalogs for Media*) for processing.

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3. Preview media in the Media Player (*Previewing Proxy Media in the Media Player*).

4. Check the workflow(s) you want to process the media with. This varies based on how the configuration is set up.

5. Click the Submit button to display the Submit Jobs window and prepare the copied binder's assets for processing.

6. In the Metadata Labels tab (if displayed), review/edit metadata (*Editing Metadata Labels*).

7. In the Variables tab (if displayed), enter values for each variable (*Specifying Variable Values*).

8. Click the Submit button to submit a job for processing the media and its assets in the target workflow(s).

Forward Binder Job Submittal Process

As depicted in the figure below, media is submitted to an ingest workflow through a watch folder, which performs any processing required, and registers the output media (organized with any other job-specific assets—metadata labels, for example—in a binder) into a specific Vantage catalog.

Alternatively, media can be submitted via a workflow, manually, or any other means.

In Workflow Portal, the operator browses catalogs and selects a binder, clicks Submit, and performs tasks as appropriate. This includes reviewing and editing metadata, and setting variable values for the job as appropriate.

Next, the operator submits the job to a publishing workflow, which can be designed to perform any task required. The binder being processed is the original binder.

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Job Submittal Steps

When you're using a Forward Binder Portal to process media, an operator follows this general process to submit a job (for details about a task, click on the link):

1. Make sure that the publishing workflow or workflows associated with this process are running (in Workflow Designer).

2. Browse catalogs to select a binder (*Browsing Catalogs for Media*) for processing.

3. Preview media in the Media Player (*Previewing Proxy Media in the Media Player*).

4. In the Metadata Labels tab (if displayed), review/edit metadata (*Editing Metadata Labels*).

5. In the Variables tab (if displayed), enter values for each variable (*Specifying Variable Values*).

6. Check the workflow(s) you want to process the media with. This varies based on how the configuration is set up.

7. Click the Submit button to submit a job for processing the media and its assets in the target workflow(s).

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Using Windows Network Portals

Note: This configuration can only be used in the Workflow Portal Windows client.

The Browse Windows Network Portal (Windows Network Portal for short) allows you to select one or more media files from servers on a Windows network and submit them to target workflows, depending on how the configuration is set up.

Like Browse Catalog configurations, Browse Windows configurations are also broadly-focused. If the configuration permits, you can also add metadata to labels and edit variables to be submitted with the media. Unlike Browse Catalog configurations, assets normally associated with binders—pre-processed metadata labels, proxy files, etc.— aren't present.
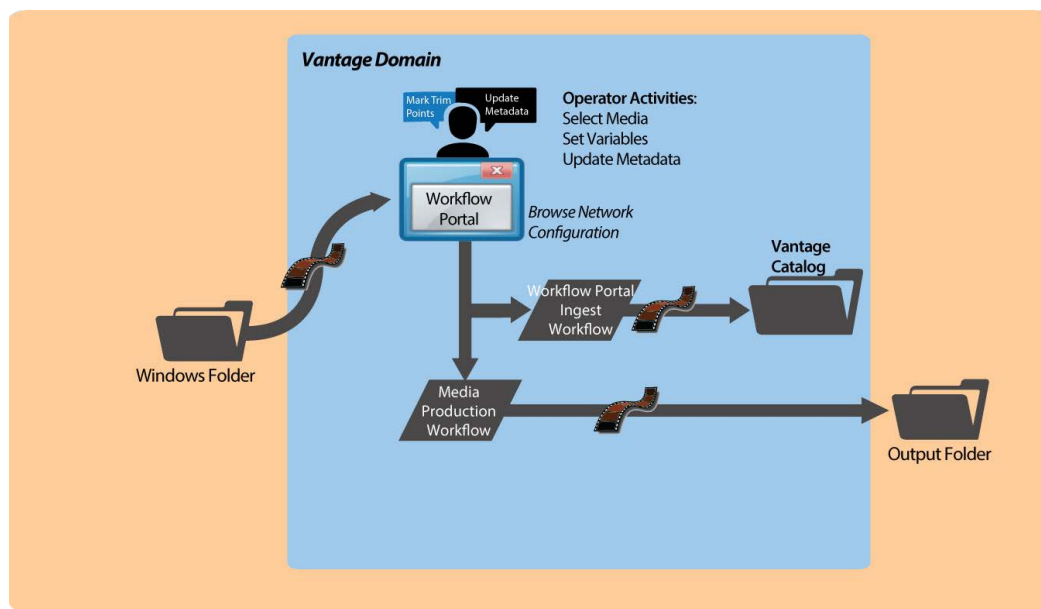
In Workflow Portal, the operator browses a Windows file system and selects media, and performs tasks as appropriate. This includes reviewing and editing metadata, and setting variable values for the job as appropriate.

Next, the operator submits the job to a publishing workflow, which can be designed to perform any task required.

Job Submittal Steps

Windows Portal displays a Browse button and a list of selected files—instead of a Vantage Catalog list—as shown below.
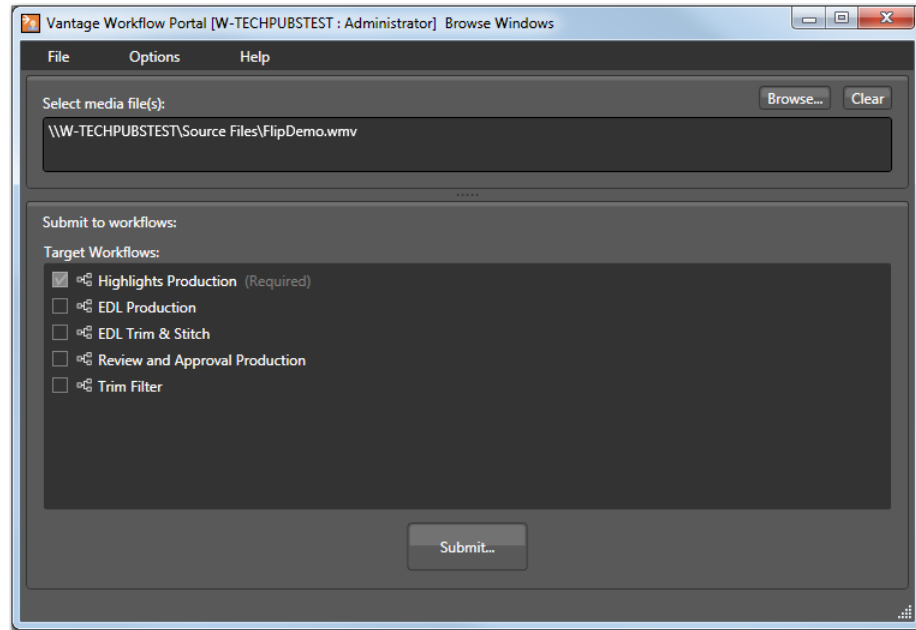
1. Click the Browse button.

   Windows Portal displays the *Select media file(s) to submit* dialog shown here.
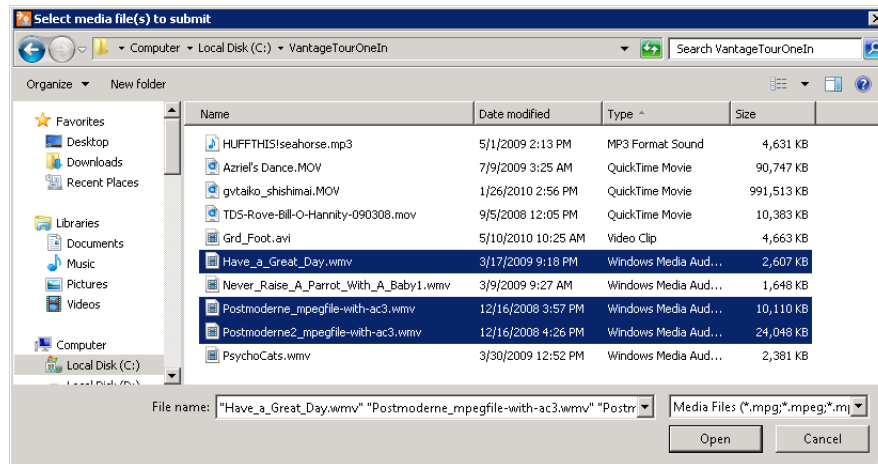
2. Use the Select media file(s) to submit dialog to select the file(s) to process.

3. Click Open.

Each file that you open displays in the *Select media file(s)* list.

Repeat the Browse process as necessary, to select and add more files from any directories.

If the file list is not correct, you can edit the list manually. For example, you can select a given file path and delete it. Or, you can edit a path or filename, copy and paste file paths, or add new ones. To delete the list entirely, click Clear.

4. If multiple publish workflows are displayed in the Target Workflows list, check any target workflow to which you want to submit the media in the list.

If a checked box is not editable, this is a required workflow for this configuration.

5. Click Submit.

If the configuration does not provide any additional options, Windows Portal submits the selected media files to each of the selected publication workflows.

6. If the configuration supports metadata labels or variables, Windows Portal displays the Submit Jobs dialog with tabs for these options. Some configurations display a tab for metadata and variable editing.

7. When you are done preparing for submission, click Submit.

Using EDL Portals

Note: This configuration can only be used in a Workflow Portal Windows client.

The EDL Portal enables you to create an Edit Decision List (EDL) which you submit to a publishing workflow to process the EDL. You select the media to use by browsing catalogs and selecting binders created from previously-completed ingest workflow jobs. You add clips to the clip list, update metadata and variables, and then stitch the clips together, encoding them in the publishing workflow to which you submit the EDL.
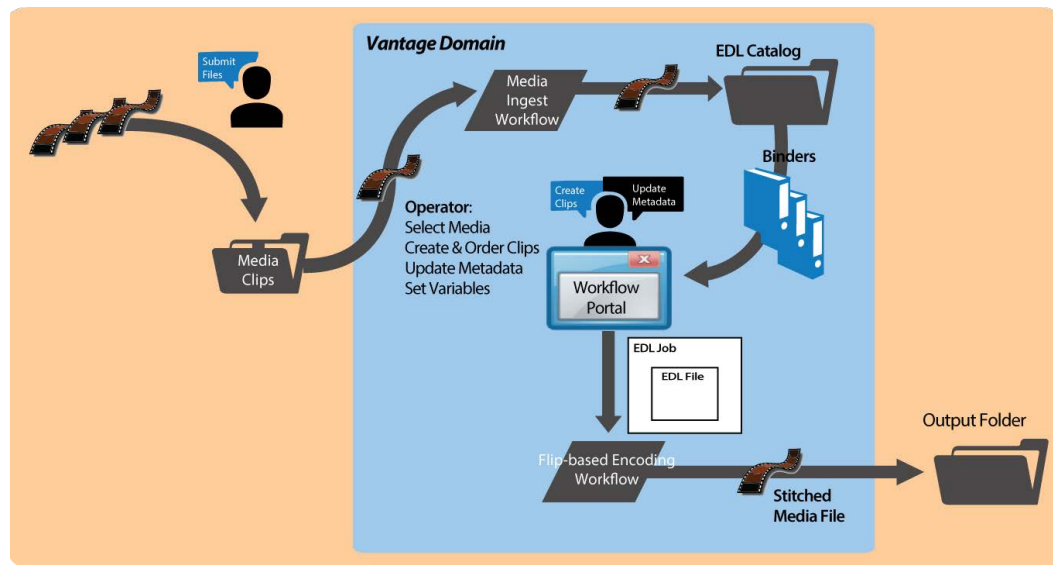
The Telestream Edit Decision List (TSEDL) files created in EDL Portal can only be processed by Flip action-based workflows.

- Ingest Workflow for EDL Processing
- Job Processing and Submittal Steps

Ingest Workflow for EDL Processing

To prepare media for stitching from an EDL, create an ingest workflow to encode it as required in a transcoding action, and register it in a catalog, following these guidelines:

- All media must have the same frame rate, timecode notation, and frame size, and the same media essence.

- Use a Flip or other transcoding action (if necessary), to encode your production media using one of these encoders:
  - MPEG-2 Program Stream
  - VOD/MPEG-2 Transport Stream
  - MXF

  The output media must use the nickname *Vantage EDL*, so that the EDL configuration can identify which media file to use for stitching.

- Use a Flip or other transcoding action to encode your proxy media for previewing/clipping.
  - QuickTime encoder, H.264 video codec, AAC audio codec, QuickTime 7.6.9 installed

    OR
  - MP4 encoder, x264 video codec, AAC audio codec, QuickTime 7.7.6 installed
  - See *Previewing Proxy Media in the Media Player* for additional proxy format details.

  Assign the nickname *Vantage Proxy*, so that the media player can play it.

Note: Be sure to encode proxies at the same rate and timecode notation as your production media. Clips that you mark use the proxy timecode—Workflow Portal applies it to the *Vantage EDL* media.

- Use a Keyframe action to produce keyframes—configured with the Keyframe encoder. Assign the nickname *Vantage Thumbnail*.

- Register the job in your target catalog to make it available to Workflow Portal.

Note: EDL Portal configurations expect binders to have media identified as *Vantage EDL, Vantage Proxy,* and *Vantage Thumbnail*. If you don't follow these guidelines, the binders may not display in the catalog, you won't be able to view the proxy to create clips or view keyframes, and your publication workflow may fail.

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Job Processing and Submittal Steps

After you have processed all of the media you want to stitch through your ingest workflow, open Workflow Portal with an EDL configuration to create your EDL and submit it for processing. When submitted, the files are clipped to the EDL settings and merged together into a single output file by the publishing Vantage workflow.

Follow this general process to submit a job (for details about a task, click on the link):

1. Make sure that the publishing workflow or workflows are running (in Workflow Designer).

2. Browse catalogs to select a binder (*Browsing Catalogs for Media*) for processing.

3. For each binder you select, preview its media (*Previewing Proxy Media in the Media Player*) and use the Create EDL tab to add clips, setting mark-in/mark-out points to crop the media and update the metadata for each clip (*Creating Clip Lists/Segments*).

4. Optionally, use the Metadata Labels tab to preview metadata. You can't edit it in this panel.

5. In the Forward to Workflows (if displayed), check the workflow(s) you want to process the media with. This varies based on how the configuration is set up.

6. Click the Submit button to display the Submit Jobs window where you prepare the media's assets for processing.

7. In the Metadata Labels tab (if displayed), review/edit metadata (*Editing Metadata Labels*).

8. In the Variables tab (if displayed), enter values for each variable (*Specifying Variable Values*).

9. Click the Submit button to submit a job for processing the media and its assets in the target workflow(s).

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Using CML Portals

Note: This configuration can only be used in the Workflow Portal Windows client.

The CML (Composition Markup Language) Portal configuration is designed to create a Composition (CML) file that defines an EDL—the set of clips you've added from media registered in binders, which you submit to a Post Producer publishing workflow with a Conform action. The Conform action processes the composition, stitching the clips and renders a single media file as output, based on the specifications in the CML.

Note: Use of the Conform action requires a Post Producer license. For details on using Post Producer and compositions, see the *Post Producer Developer's Guide*.

The Workflow Portal Create EDL configuration also supports EDL processing—using the Flip action—with similar functionality. However, the primary difference—and advantage—of using a CML Portal configuration is that you can incorporate clips from different media files with mixed essences. While the EDL Portal requires that all clips have the same frame rate, frame size and video codec; the CML Portal does not have this restriction. CML processing also improves VANC and caption processing.

The CML configuration is a *create binder* configuration—a new binder is automatically created and submitted to the publishing workflow.
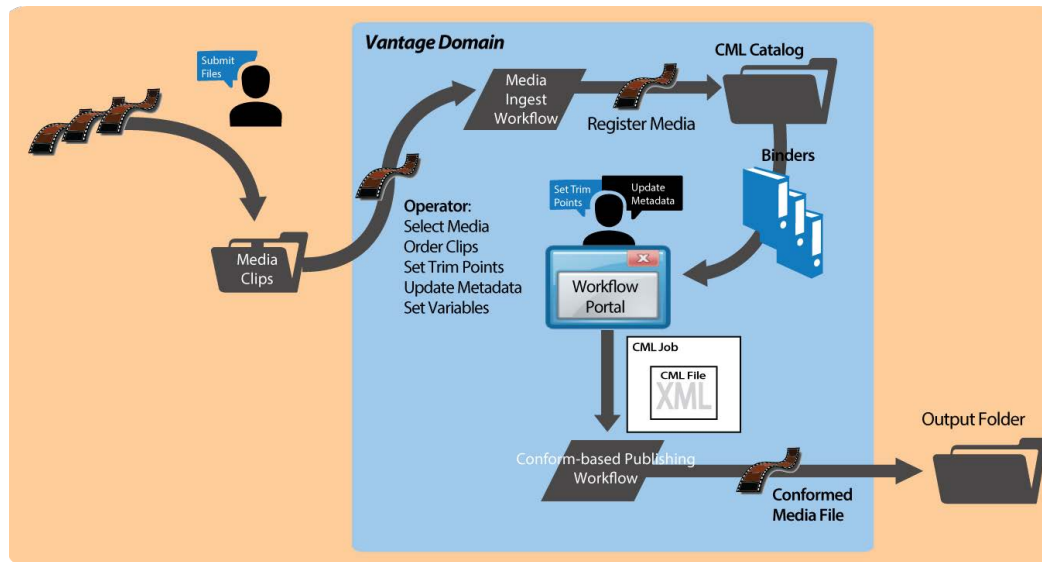
The composition (CML file) created by the CML Portal can only be processed by Conform action-based workflows.

- Prototype CML Configuration Workflows
- Media Pre-processing, CML Creation, and Job Submittal

Prototype CML Configuration Workflows

This topic describes prototype ingest and publishing workflows that you can use to set up a basic CML-based media processing system that involves operator-driven job submission using Workflow Portal.

Before you can use Workflow Portal to operate a CML-based media processing system, you must create the following two workflows:

- Prototype CML Portal Ingest Workflow
- Prototype CML Portal Publishing Workflow

Prototype CML Portal Ingest Workflow

Use this topic to create an ingest workflow to create a proxy, optionally encode the media as required, and register it in a catalog, following these guidelines:
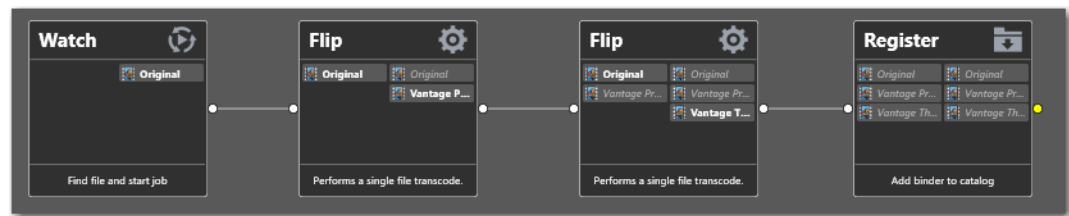
- Assign the output media the nickname *Original* so that the CML Portal can identify which media file to use as the source media when it generates the CML file for processing in the publishing workflow.

- If required, use a transcode action (the Flip action, typically—not shown in the workflow above) to encode your media into one of the supported Post Producer formats (which accepts a much broader set of video, audio, and container formats than the Flip action does for EDL processing). See *Post Producer Developer Guide Formats* in the Post Producer Developer's Guide or the Products > Post Producer > Specs page on the Telestream web site.

  If you are re-encoding your media, since you can't use the same nickname on input and output media in the same action, simply assign the input file a nickname other than *Original*.

- Use a Flip action to encode your proxy media for previewing/clipping.
  - QuickTime encoder, H.264 video codec, AAC audio codec, QuickTime 7.6.9 installed

    OR

  - MP4 encoder, x264 video codec, AAC audio codec, QuickTime 7.7.6 installed

- Assign the nickname *Vantage Proxy*, so that the media player can play it.

Note: Make sure that you encode the proxy at the same rate and with the same timecode notation as your production media.

- Use a Flip action to create a single thumbnail for viewing in the browser.
    - Encoder: Keyframe Encoder
    - Video Codec: JPEG
    - Container: JPEG File

    Assign the nickname *Vantage Thumbnail*, to display them in Workflow Portal.

- Use a Register action to register the media in your target catalog to make it available in Workflow Portal.

Note: If you don't follow these guidelines, the binders may not display in the catalog, you may not be able to set mark-in/mark-out points, and your stitch workflow may fail.

Prototype CML Portal Publishing Workflow

Use this topic to create a publishing workflow to stitch and encode your output file.
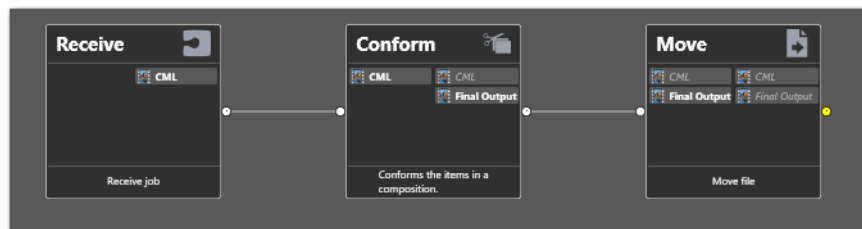
Unlike the ingest workflow, the requirements for your publishing workflow are minimal. In almost every case, in practice, your publishing workflow will be far more complex than the prototype shown here.

- The publishing workflow must start with a Receive action, so that it can accept an input file from Workflow Portal. The nickname of the input file is *CML*.

- Use a Conform action to stitch and encode your media using the specifications in the auto-generated CML file you submitted. Configuration details are described in the man pages in the Conform action.

These are the two required actions; all other actions and configurations depend on your publishing workflow requirements.

Media Pre-processing, CML Creation, and Job Submittal

To prepare media for stitching, copy the media (one or more files) that you want to comprise your final output into the ingest workflow's watch folder.

The ingest workflow will submit a job for each file, and (depending on the workflow configuration), create a proxy, a thumbnail, optionally re-encode the media to meet Conform-action format requirements, and register the media in a binder in the target catalog.

After you have processed all of the media you want to stitch through your ingest workflow, open Workflow Portal with a CML configuration to create your CML and submit it for processing. When submitted, the files are clipped to the CML settings and merged together into a single output file by the publishing Vantage workflow.

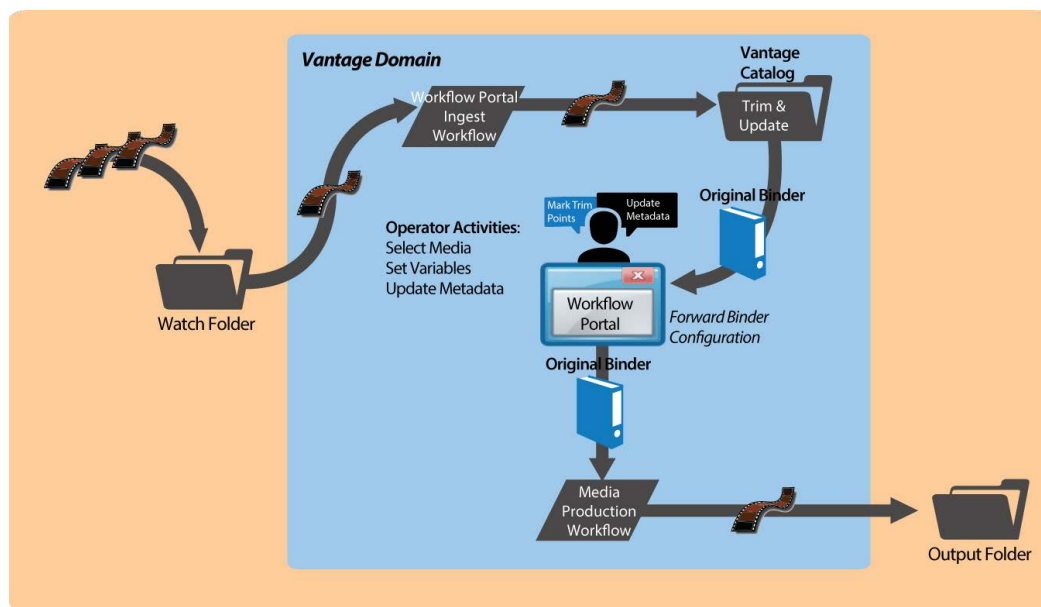When you're using a Create CML Portal to process media, an operator follows this general process to submit a job (for details about a task, click on the link):

1. Make sure that the publishing workflow or workflows associated with this process are running (in Workflow Designer).

2. Browse catalogs to select a binder (*Browsing Catalogs for Media*) for processing.

3. For each binder you select, preview the media and add clips, setting mark-in/mark-out points to crop the media (*Previewing Proxy Media in the Media Player*) and update the metadata for each clip (*Creating Clip Lists/Segments*).

4. Check the workflow(s) you want to process the media with (*Specifying Forwarding Workflows*). This varies based on how the configuration is set up.

5. Click the Submit button (*Submitting Jobs in the Windows Client*) to display the Submit Jobs window where you prepare the copied binder's assets for processing.

6. In the Metadata Labels tab (if displayed), review/edit metadata (*Editing Metadata Labels*).

7. In the Variables tab (if displayed), enter values for each variable (*Specifying Variable Values*).

8. Click the Submit button to submit a job for processing the media and its assets in the target workflow(s).

9. Click Submit. If variables are included in this configuration, Workflow Portal displays the Variables window, where you can supply run-time values.

DPP Portal Overview

Note: The *DPP Packager User Guide* is also provided for complete details regarding the production of DPP-compatible media in Vantage.

The purpose of the DPP Portal is to enable operators to assemble and produce SD or HD media files that conform to the current DPP standard, for broadcast in the UK market.

This configuration can only be used in the Workflow Portal Windows client.

You use a DPP Portal to browse catalogs and select binders from completed ingest workflows jobs, enter metadata and mark programme parts, then generate DPP-compliant media which comprises the programme. A DPP configuration defines each field of DPP metadata in the programme, which may be given a default value, and may be marked as read-only.
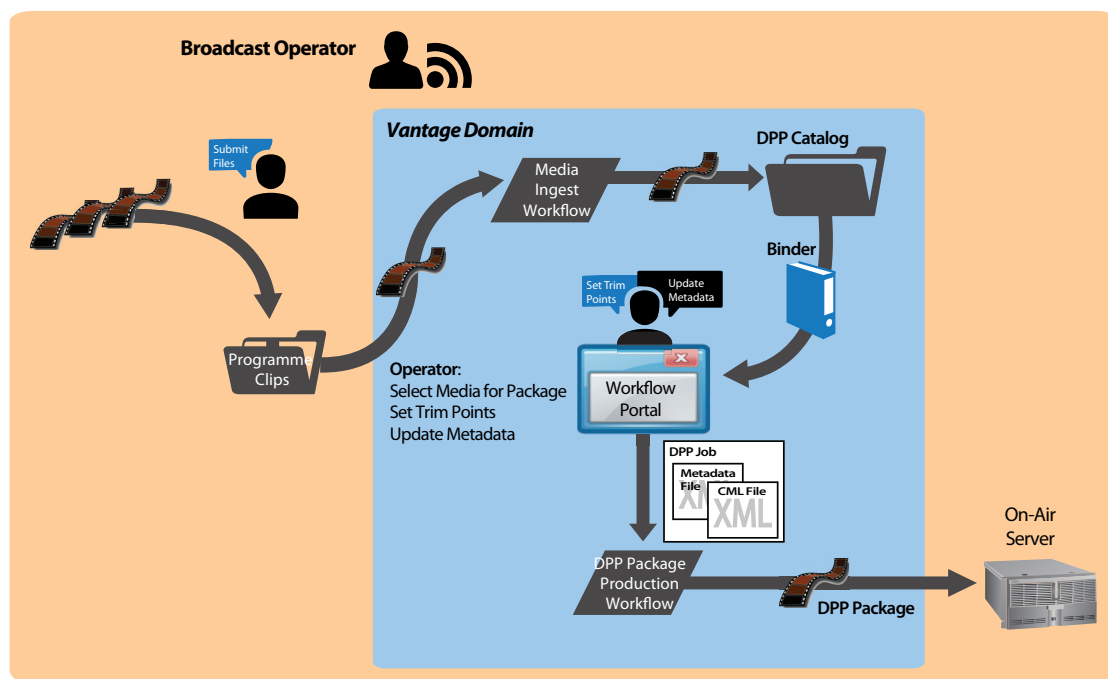
The DPP portal is designed to allow you to:

- Create a DPP programme containing one or more segments
- Enter DPP metadata to accompany that programme
- Create a DPP XML file and a *Composition (CML) file* from which to generate the programme's media file (with Post Producer) and transcode to AS-11 with DPP metadata (with a Vantage Transcode Pro license).

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Note: You can add a DPP Validate action (located in the Analysis group) to your target workflow to validate metadata in a DPP package.

After you have prepared the media you want to include in the package, you open Workflow Portal with the proper DPP configuration to create your DPP package, enter metadata as required, and submit it for processing.

The DPP Portal automatically generates a CML file that defines the media, unless the operator provides a custom CML. The CML file and all related media files are submitted to the target Vantage workflow for producing the package.

VOD | DAI Portal Overview

Note: The *VOD Producer | DAI User Guide* is also provided for complete details regarding the encoding media for VOD markets using VOD Producer Vantage.

The purpose of the VOD | DAI Portal is to enable operators to prepare source media and automate:

- CableLabs-compliant stream-conditioned media generation
- Canoe/BlackArrow-compliant dynamic ad insertion (DAI) location definition CSV (comma-separated value) files for local and national ads
- Nielsen audio watermarking.

VOD Producer performs media encoding and conditioning and Nielsen watermarking, along with automated delivery of programs and advertisements to MVPDs, and metadata to ecosystem partners in supporting workflows.

This configuration can only be used in the Workflow Portal Windows client.

Note: You can also process CML and EDL files with automated VOD Producer and VOD Producer DAI workflows to produce VOD assets, without using VOD Portal. These are implemented using Vantage automation workflows, and are covered in the Post Producer Developer's Guide.

Generating and delivering VOD assets in VOD Producer involves at least two Vantage workflows. The diagram following illustrates the general process an operator follows to prepare, generate, and deliver VOD assets.
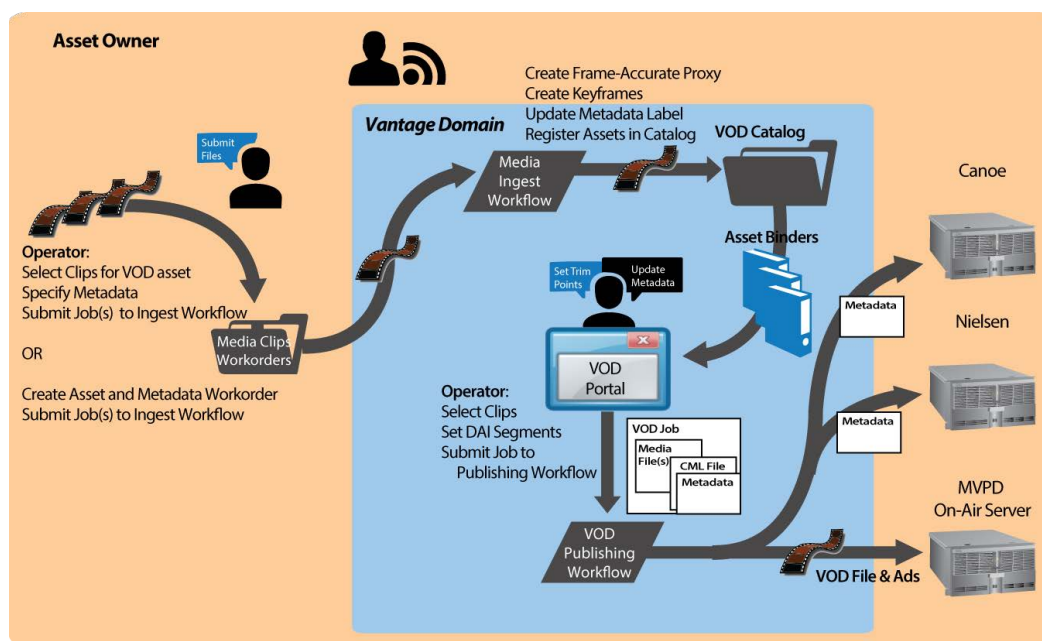
First, an operator selects a single file or a set of source media files, and submits them to an ingest workflow, supplying metadata as appropriate. The ingest workflow creates frame-accurate proxies and processes the metadata. It registers each source media file and its metadata, proxy, and keyframes in a catalog for access in VOD Portal.

Next, using VOD Portal, the operator selects and prepares source media for submission to the publication workflow.
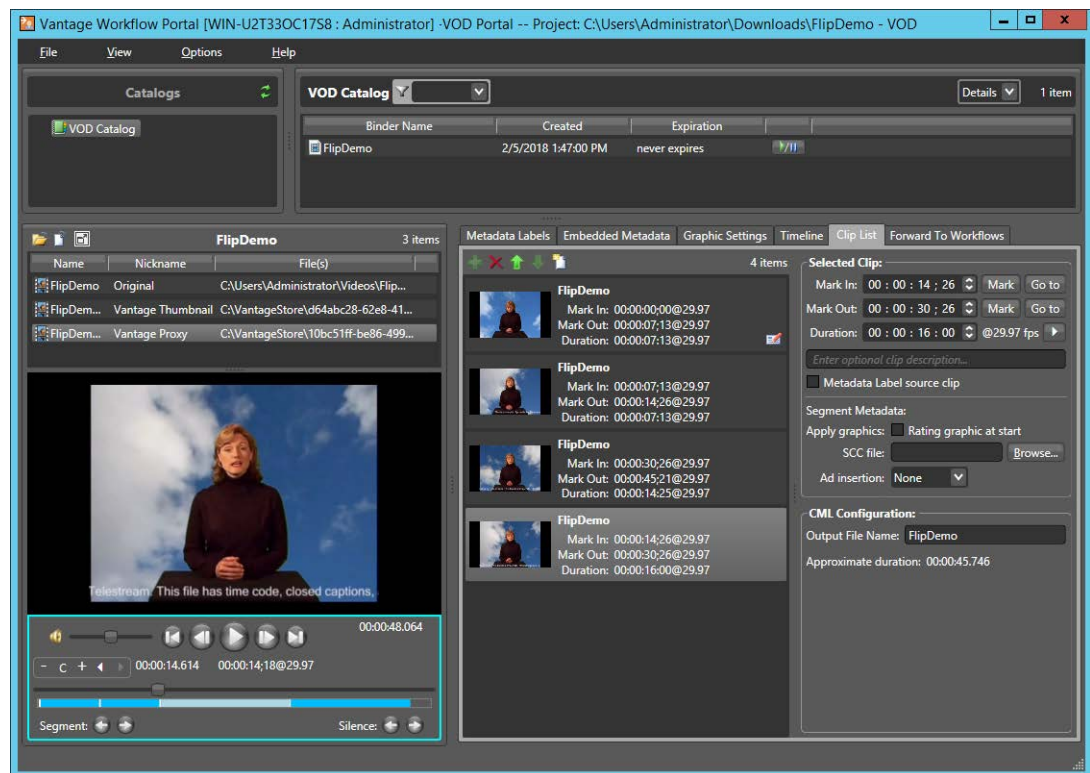
In VOD Portal, the operator performs the following tasks as appropriate:

- Select and identify segments in source media
- Add interstitials for promotion and cross promotion
- Define frame-accurate locations and value for dynamic ad insertion
- Brand each segment
- Add SCC file to clips as appropriate
- Configure V-chip settings and graphics
- Specify copy protection requirements
- Specify where to insert local and/or national ads—Segment, Head, or OTT, and pre-roll, post-roll, or mid-roll, or lead black.

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The operator then submits the job to a publishing workflow, which performs these operations:

- Assembles the playlist composition
- Encodes the media as a CableLabs-compliant transport stream, optionally encoding to adaptive bit-rate or mezzanine formats
- Optionally, watermarks the audio for Nielsen measurement, produces Nielsen metadata and creates Nielsen documents
- Optionally, produces ad metadata and creates DAI location definition files for Canoe/BlackArrow
- Simultaneously distributes the VOD asset to the MVPD and delivers the metadata associated with the asset to ecosystem partners (Nielsen and Canoe).

Tempo Portal Overview

Note: The *Tempo User Guide* is also provided for complete details regarding re-timing media using Tempo.

The Tempo Portal enables operator-driven re-timing of media assets—intelligently decreasing or increasing the running time of shows and segments by up to ten percent.

This configuration can only be used in the Workflow Portal Windows client.

Re-timing assets in Tempo involves at least two Vantage workflows. The diagram following illustrates the general process an operator follows to prepare and re-time media assets.
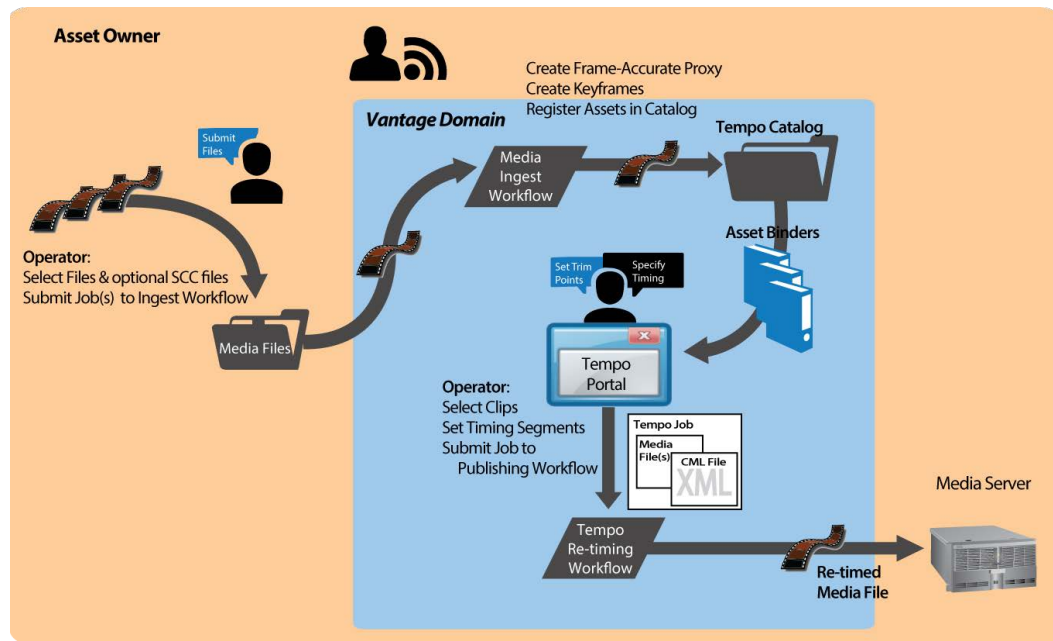
First, an operator selects a single file or a set of source media files, and submits them to an ingest workflow. The ingest workflow creates frame-accurate proxies and optionally re-encodes the media to meet Tempo-processing requirements. It registers each source media file and its proxy and keyframe in a catalog for access in Tempo Portal.

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Next, using the Tempo Portal, the operator selects and prepares source media for submission to the publication workflow.
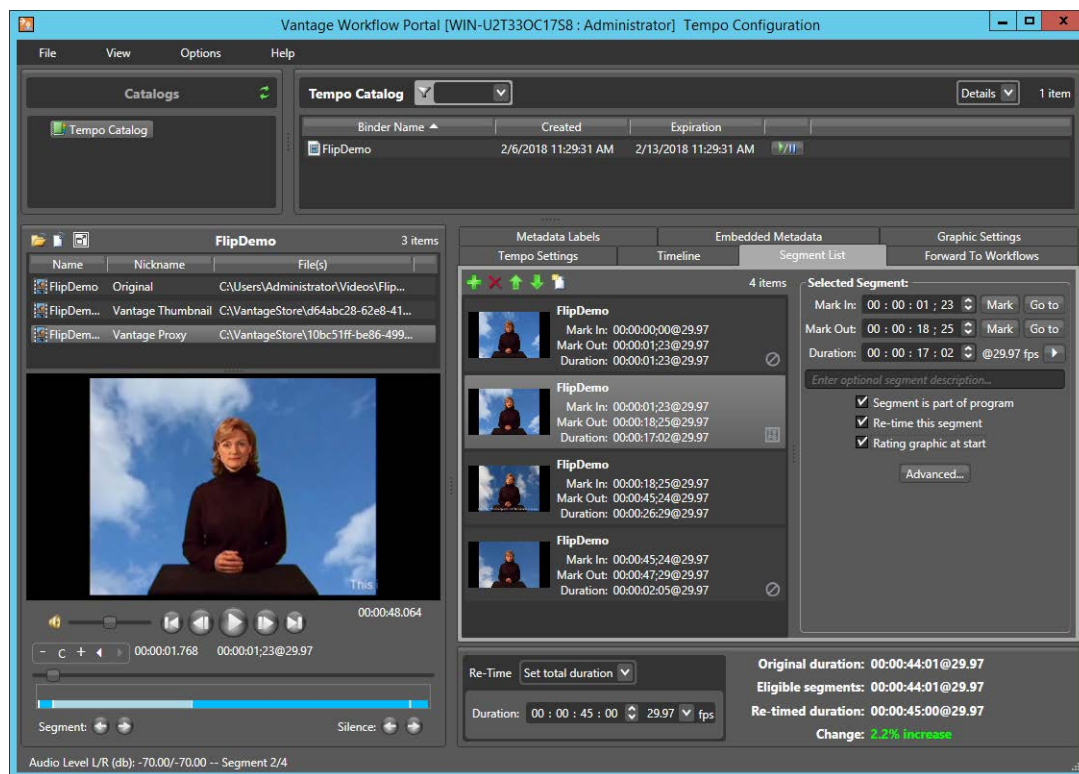
In Tempo Portal, the operator performs the following tasks as appropriate:

- Browse clips in the selected Vantage catalog.
- Drag clips into a segment list and view them in a built-in video player.
- Mark In/Out to identify clip segments and include/exclude them from re-timing.
- Add a graphic overlay (bug) and/or content rating graphic to one or more clips.
- Set exact overall clip duration, or increase/decrease clip time by a percentage.

The operator then submits the job to a publishing workflow, which re-encodes the media, re-timing it in the process, per the instructions specified in the XML file auto-generated by Tempo Portal.

Syndication Portal Overview

Note: The *TrafficManager User Guide* provides complete details about TrafficManager automated and operator-managed processing of syndicated material for broadcast.

Syndication Portal configurations can be used only in the Windows Workflow Portal client, not in the web client.

The Syndication Portal enables operators to review and prepare syndicated (long-form/episodic) media for submission to a publishing workflow to encode it for broadcast, including these tasks:

- Metadata label review and update
- Segment list review based on a template, and update as required.

Generating syndicated assets in TrafficManager via Syndication Portal involves at least two Vantage workflows. The diagram following illustrates the general process to prepare, generate, and deliver syndicated assets to a broadcast server.
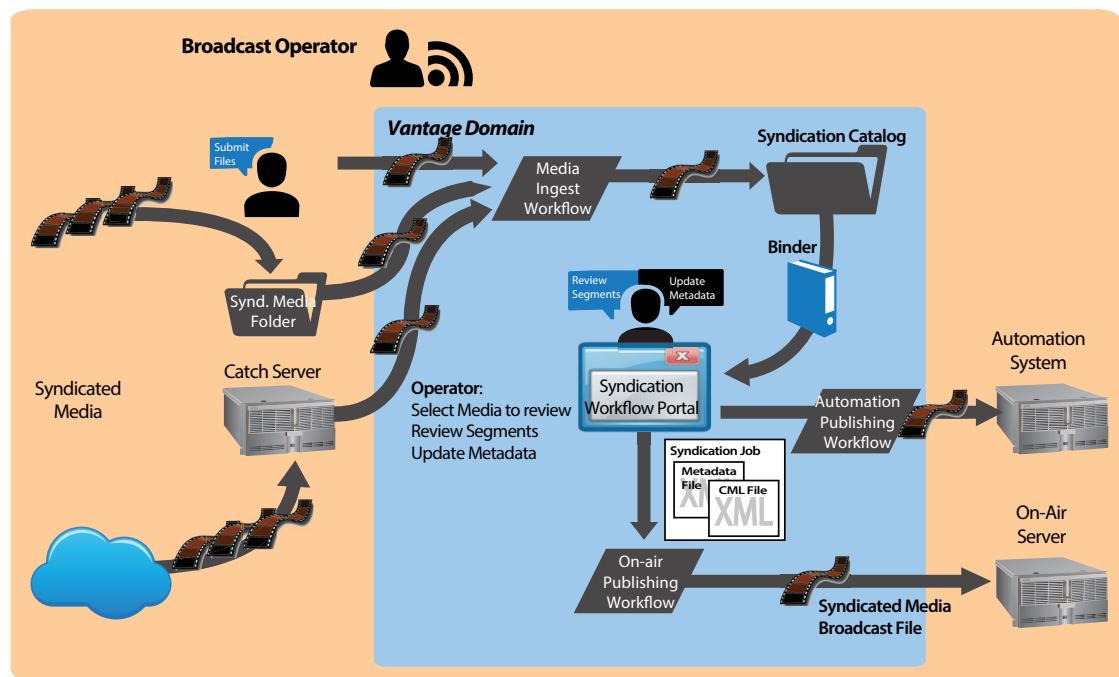
First, an ingest workflow is triggered by an operator submitting a file, dropping it into a monitored folder, or automatically, via a catch server. The ingest workflow typically creates a frame-accurate proxy and a thumbnail, and transforms the metadata sidecar file into a mezzanine file for use in other Vantage workflows. It registers each source media file and its metadata, proxy, and keyframe in a catalog for access using the Syndication Portal.

Next, in the Syndication Portal, the operator selects and prepares source media for submission to the publication workflow.
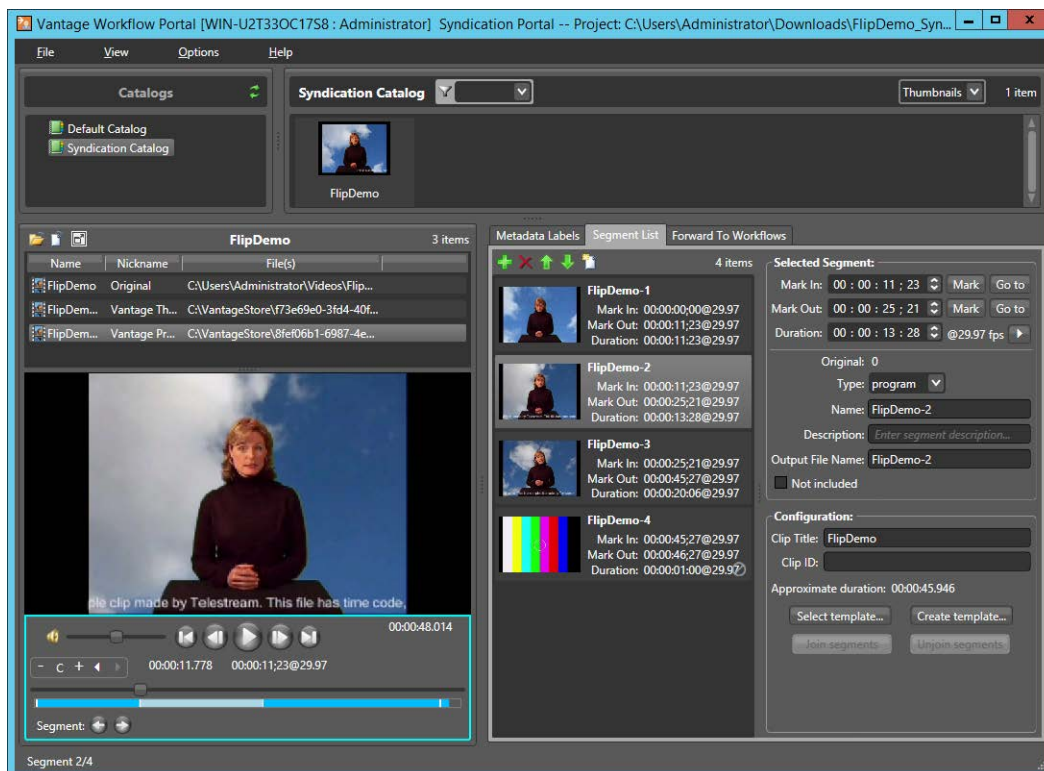
In the Syndication Portal, the operator performs the following tasks:

- Selects and reviews segments, updating attributes, adjusting timing and segment order, adding/modifying spots, joining/unjoining commercial segments, etc.

- Reviews any metadata labels, updating as necessary

- Submits the media to one or more publishing workflows.

When the operator submits the media, in Stitching and Segmenting modes, two files are auto-generated by the Syndication Portal: an updated mezzanine metadata XML file, and a CML file. However, in Pass-Thru mode generates a new XML file, but does not generate a CML file. Instead, it passes the source media from the ingest workflow—which must be nicknamed *Original*— to the publishing workflow, so that the program can be transcoded without having to change the program's timeline.

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A typical Automation workflow uses the metadata file to perform these essential tasks:

- Uses the Automate action to convert the mezzanine metadata XML file into the format required for a given automation system (ASDB or Bxf, for example).

- Delivers the entire payload to the automation system.

A typical on-air server workflow uses the CML file to perform these essential tasks:

- Assembles the playlist composition into the broadcast media format required, using a Conform action (which requires a Post Producer license).

- Delivers the encoded media to a broadcast server.

For more information on using the Syndication Portal, see *Implementing Syndication Portal Media Processing* in this guide and also see the *TrafficManager User Guide*.

Ingest Workflow Considerations

The ingest workflow for this portal follows the same pattern as other portals. Ingested assets must be registered into a Vantage catalog by the Register action before they will become visible in the catalog and available for use in the Workflow Portal. A thumbnail image is recommended (for clip icons) and a QuickTime H.264/AAC MOV or x264/AAC MP4 proxy file is required to be registered into a catalog and given the nicknames *Vantage Thumbnail* and *Vantage Proxy*, respectively.

In the example below, a Watch action accepts the input media and forwards it to Flip actions that format the media into thumbnail and proxy files, and pass these files on to a Register action that adds the files to a catalog. The catalog can be accessed by the portal where operators can view and manage the files.

An Analyze action after the Watch action can be used to extract Letterbox Detection and Curtain Detection metadata from the media and put it into variables. The Vantage Editorial metadata label includes parameters for crop top, bottom, left, and right which are bound via a Populate action to the variables.

Once included in the workflow, the metadata and variables can be viewed in the portal, and operators can manually update them as desired.
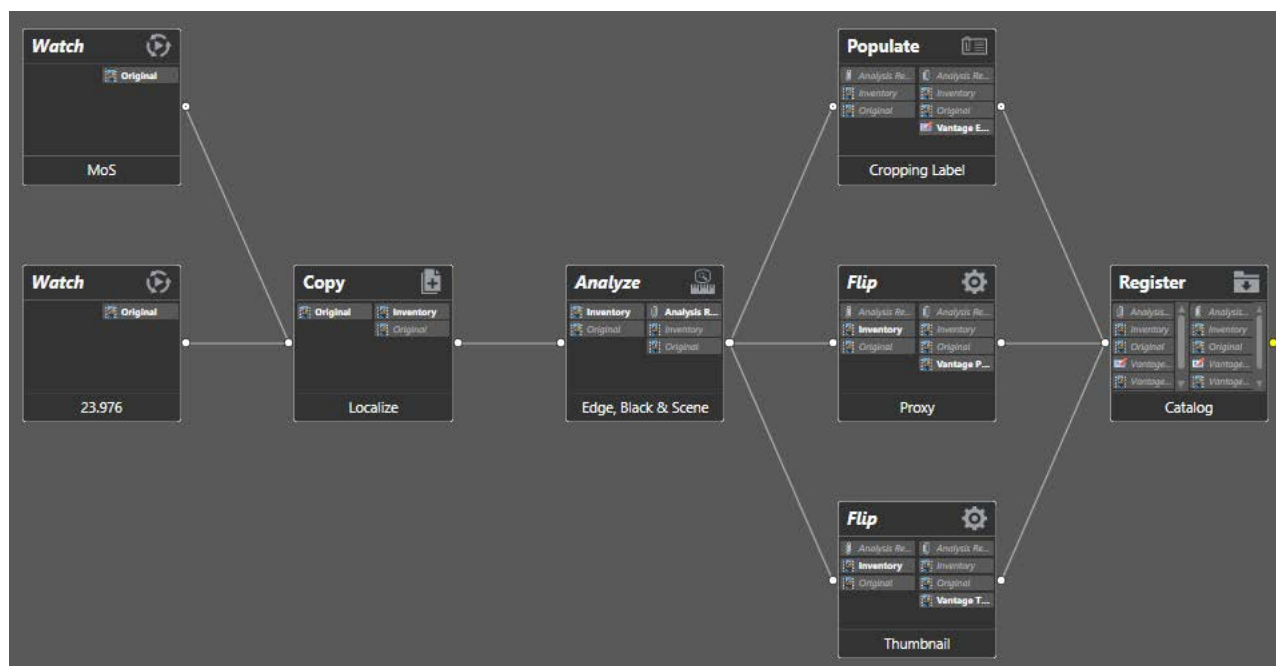
The following figure shows Analyze and Populate configuration examples that enable metadata visibility in the Logging Portal Metadata Labels tab.
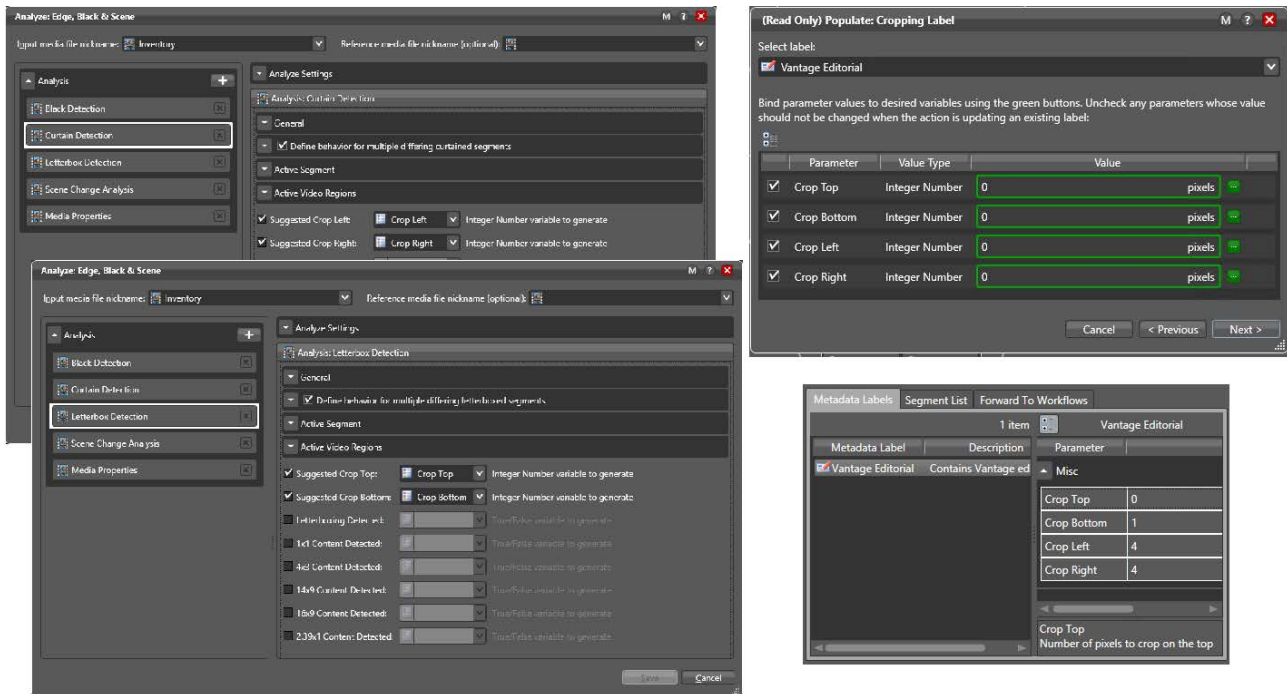
The Analyze action can also automatically detect black segments used as spacers between content segments and generate an Analysis Result attachment. As shown below, the Logging Portal Segment List tab detects the Analysis Result attachment and populates the segment list with the detected content segments.
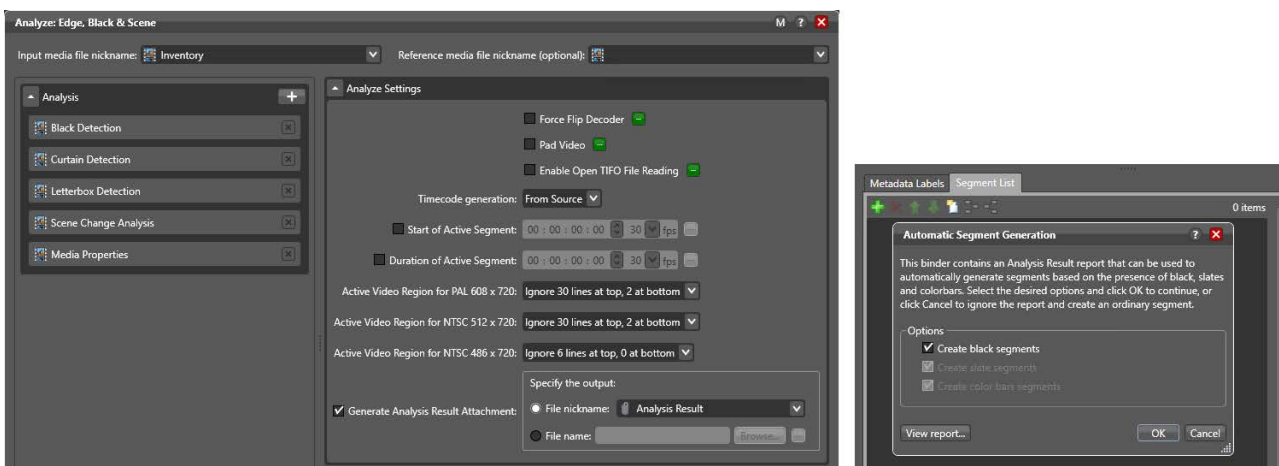
Target Publishing Workflow Considerations

The clip log target workflow must begin with a Receive action. The Receive action accepts the clip list attachment and media file and must emit the previously specified General Attachment or Generated CML nickname (such as *XML* or *CML*). Additionally, the Receive may optionally emit the Original media version nickname.

Using Workflow Portal

Vantage Workflow Portal is a client program (also available as a web app) designed for customizable, operator-driven media processing. Several Workflow Portal configurations are provided to implement specific operational needs. The configurations allow you to customize functionality and the user interface and generate a specific output (for example, DPP configurations).

You create and configure Workflow Portal configurations in the Vantage Management Console, and load them in Workflow Portal when you launch it to perform specific media processing tasks.

Note: Workflow Portal is an optional, licensed Vantage feature. For licensing details, refer to http://www.telestream.net/telestream-support/vantage/vantage-licenses.htm. These topics apply to both clients, except where noted. For information on using each configuration type, see *Using Workflow Portal Configurations*.

The Windows client provides optimum performance and the full feature set. You can use the Workflow Portal web app. on any computer with a supported web browser (see *Web Application Browser Requirements*) and a network or Internet connection to your Vantage domain. Not all configuration types are supported in the web app.

Topics

- Workflow Portal Overview
- Workflow Design Guidelines
- Starting a Workflow Portal Session
- Changing or Reloading a Configuration
- Managing Workflow Portal Projects
- Performing Workflow Portal Tasks
- Windows Client Menus
- Web Client Menus
- Troubleshooting Workflow Portal

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Workflow Portal Overview

Video processing applications frequently require some form of operator intervention during media processing. For example, an operator might run media through an ingest workflow to create a proxy to check timecode and closed captions and scrub and set trim points, review and add/edit metadata and variables, and then submit (or forward) the media to another workflow to start a production processing job.

Note: For basic information on using Vantage client programs, see *Vantage Client Programs Overview*.

Note: On Windows Server 2008, you may have problems minimizing windows that you maximize by dragging to the top of the monitor (*AeroSnap*). To disable AeroSnap, go to *Control Panel > Ease of Access Center > Change how your mouse works*. Check *Prevent windows from being automatically arranged when moved to the edge of the screen*.

- Key Applications
- How Workflow Portal Works
- Key Workflow Portal Features
- Workflow Portal Configuration Types
- Implementing Workflow Portal-based Media Processing
- Implementing Syndication Portal Media Processing

Key Applications

Key applications of Workflow Portal include:

- *Highlight Extraction From Archive Files*—An operator marks in and out timecodes and chooses the timecode for a thumbnail, and processes the media in a workflow the creates the clip.

- *Promo Preparation*—An operator marks the voice-over and graphics entry points on the timeline. A subsequent workflow reprocesses the promo for multiple markets, days, and languages, based upon this input.

- *Clip Stitching*—An operator can select media files of various metrics and define clips within that media, then submit the EDL to a stitching workflow to combine the clips and render them into a single output file.

- *VOD Distribution*—An operator creates a playlist of clips and enters metadata. A subsequent workflow merges (*stitches*) the clips into a single media file and transforms metadata for distribution.

- *VOD Digital Ad Insertion*—An operator defines national and local ad locations for dynamic ad insertion by the cable vendor, and submits jobs for assembly of Cable-Labs VOD content and provisions it for dynamic ad insertion (DAI).

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- *TrafficManager*—An operator searches catalogs, then reviews and submits commercial inventory for processing to a specific publishing workflow.

- *TrafficManager Syndication*—An operator reviews catalogs and submits syndicated inventory to a specific publishing workflow. See the *TrafficManager Guide* for operating details.

- *DPP Package Preparation*—An operator enters DPP metadata, marks programme segments, and submits the assets to a workflow. Vantage adds bars, generates slates, and encodes to the appropriate MXF format with DPP metadata to create a DPP package.

- *CML Preparation*—An operator creates clips, and submits the auto-generated composition (CML file) to a Conform-based workflow to generate the specified output.

- *Re-timing of assets*— An operator selects a media file and submits it to a Tempo-based workflow for re-timing— intelligently decreasing or increasing the running time of shows and segments. Tempo utilizes new time compression algorithms that deliver superior quality and faster turn-around times.

How Workflow Portal Works

This figure depicts how Workflow Portal is typically used in a Vantage domain.

Operator-access to job variables and media metadata is a powerful feature that enables operators to control the operation of the next workflow. For example, operators can edit embedded and label metadata parameters, modify variables to control content routing, or select other processing options in the next workflow.

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Key Workflow Portal Features

Workflow Portal provides several features for performing operator-intervention media processing workflows. Workflow Portal has a customizable user interface where components and features are controlled by a configuration file, created in the Management Console, and loaded in Workflow Portal when launched by an operator.

Depending on your application and configuration, these features allow operators to:

- Browse Vantage catalogs and servers for media (registered in binders) from completed jobs to process.
- Create an Edit Decision List (EDL) of clips for stitching with a Flip action workflow (Windows client only).
- Create a Composition file (CML) of clips for stitching with a Post Producer Conform action workflow (Windows client only).
- Create/review/update XML-based or label-based metadata.
- Review/edit embedded metadata.
- Preview/scrub media proxies.
- Mark in/out trim points on an asset's timeline.
- Perform playback of selected segments.
- Mark media as approved or rejected.
- Supply run-time values to variables to use in the next workflow.
- Submit (forward) the media to workflows for further processing.

Workflow Portal Configuration Types

Vantage provides several configuration types. Each type has specific functionality, implementing a common media processing application. Here are the configuration types as specified in the management console, along with their common names:

- *Browse Catalogs (copy binder)*—Copy Binder Portal
- *Browse Catalogs (forward binder)*—Forward Binder Portal
- *Browse Windows Network (create binder)*—Windows Portal
- *Create EDL from Catalogs (create binder)*—EDL Portal
- *Create CML from Catalogs (create binder)*—CML Portal
- *Create DPP from Catalogs (create binder)*—DPP Portal
- *Create VOD from Catalogs (create binder)*—VOD Portal
- *Re-time Asset from Catalogs (create binder)*—Tempo Portal
- *Syndication*—Syndication Portal

The names on the left match the names a domain administrator sees when creating and setting up a Workflow Portal configuration, using the management console. The names after the dash are the common names used in this and other guides.

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Note: Some configurations can only be used in the Windows client. Others are available in both the Workflow Portal web client and the Windows client.

The Copy Binder and Forward Binder, as well as the Create EDL, CML, DPP, Tempo, and VOD configurations allow operators to browse Vantage catalogs and select binders that have been registered by a previous job for processing.

The Browse Windows Network configuration allows operators to browse a Windows server (*not* a Vantage catalog) to select media files. (Binders only exist in the context of a Vantage catalog.)

Each type of configuration causes Workflow Portal to operate differently, to achieve its intended result. The operation of the basic configurations are explained in detail in *Using Workflow Portal Configurations*. Configurations offered as Vantage editions are described in a separate user guide.

Each of the configuration types are summarized in these topics:

- Browse Catalogs Copy Binder and Forward Binder Configurations
- Browse Windows Network Configuration
- Create EDL from Catalogs Configuration
- Create CML from Catalogs Configuration
- Create DPP from Catalogs Configuration
- Create VOD from Catalogs Configuration
- Re-time Assets from Catalogs Configuration
- Syndication Configuration

Browse Catalogs Copy Binder and Forward Binder Configurations

The purpose of both Browse Catalogs configurations is to enable operator-intervention media processing on Vantage catalog-based media. That is, the media has already been processed by a Vantage workflow and registered in the catalog, potentially along with other job-related assets: attachment files, metadata labels, etc. The operator can enter and edit label-based metadata for the selected media, and also update variables as required for the workflow. Browse Catalogs configurations are intended for processing a single file; they do not support creation of a clip list and stitching.

Both types of configurations are supported in the Workflow Portal web app and the Workflow Portal Windows client.

In a Browse Catalog *Copy Binder* Portal, the operator can browse catalogs, select a binder and submit a job to a workflow to process the media—*after* clicking the Submit button. When the operator clicks the Submit button, the selected binder is copied—duplicated and used only as a template for the current job—leaving the original binder unchanged and intact in the catalog for future use or re-submittal. The job (as always) creates a binder during execution; it may or may not be registered by the workflow into a catalog for further utilization.

In contrast, in a Browse Catalogs *Forward Binder* Portal, the operator browses a catalog and selects a binder—*before* clicking the Submit button. The selected binder (with any changes the operator makes) is submitted to the workflow—without making a copy.

Forward binder mode allows the workflow to modify the contents of the original binder, and those modifications will be visible the next time the user refreshes the binder in the portal.

Browse Windows Network Configuration

The general purpose of the Browse Windows configurations is to enable operator-intervention on media processing, where the media files are stored directly on a Windows platform. The operator can review and edit label-based metadata for the selected media, and also update variables as required for the workflow.

The Browse Windows configuration is supported only in the Windows client.

The Browse Windows Network Portal (Windows Portal for short) allows you to select one or more media files from servers on a Windows network and submit them to target workflow(s). The job (as always) creates a binder during execution; it may or may not be registered by the workflow into a catalog for further utilization.

Create EDL from Catalogs Configuration

The EDL Portal enables you to automatically create an Edit Decision List (EDL) which the operator submits to a Flip-based workflow to process the EDL. When creating an EDL, the operator selects the media files to submit by browsing Vantage catalogs and selecting one or more binders created from previously-completed jobs.

The Create EDL from Catalogs configuration is supported only in the Workflow Portal Windows client.

You can mark start and end points to clip your input media files, and then stitch the selected clips together in the workflow to which you submit the EDL. The EDL configuration publishing workflow must use the Flip action to stitch and encode the media. The EDL Portal requires that all clips have the same frame rate, frame size and video codec.

The operator can also review and edit label-based metadata for the selected media, and also update variables as required for the workflow. The job creates a new binder from assets in or more source binders and updates it during execution; it may or may not be registered by the workflow into a catalog for further utilization.

Create CML from Catalogs Configuration

The CML (Composition Markup Language) Portal is designed to automatically create a Composition (CML) file that defines an EDL—the set of clips you've added from media registered in catalogs, which you submit to a Post Producer publishing workflow with a Conform action. The Conform action processes the composition, stitching the clips and renders a single media file as output, based on the specifications in the CML.

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The Create CML from Catalogs configuration is supported only in the Workflow Portal Windows client.

While the EDL Portal requires that all clips have the same frame rate, frame size and video codec; the CML Portal does not have this restriction. CML processing by Conform also improves VANC and caption processing.

The operator can review and edit label-based and embedded metadata for the selected media, and also update variables as required for the workflow. The job creates a new binder from assets in or more source binders and updates it during execution; it may or may not be registered by the workflow into a catalog for further utilization.

Create DPP from Catalogs Configuration

The purpose of the DPP Portal is to enable operators to assemble and produce media files that conform to the current DPP standard, for broadcast in the UK market.

The Create DPP from Catalogs configuration is supported only in the Workflow Portal Windows client.

You use a DPP Portal to browse catalogs and select binders from completed ingest workflows jobs, enter metadata and mark programme parts, then submit it to a publishing workflow to generate DPP-compliant media which comprises the programme. A DPP configuration defines each field of DPP metadata in the programme, may be given a default value, and may be marked as read-only. In addition, the portal may be configured for either SD or HD.

The job creates a new binder from assets in or more source binders and updates it during execution; it may or may not be registered by the workflow into a catalog for further utilization.

Create VOD from Catalogs Configuration

The VOD Portal is designed to enable operators to prepare VOD assets, including digital ad insertion, metadata, captioning, ratings, branding, and copy protection, and submit them to a publishing workflow that encodes VOD assets and deliver them to multi-channel video programming distributors (MVPDs).

The Create VOD from Catalogs configuration is supported only in the Workflow Portal Windows client.

You use a VOD Portal to browse catalogs and select binders from completed ingest workflows jobs, enter metadata and mark programme parts, then generate CableLabs-compliant media. The operator can review and edit label-based and embedded metadata for the selected media, and also update variables as required for the workflow. The job creates a new binder from assets in or more source binders and updates it during execution; it may or may not be registered by the workflow into a catalog for further utilization.

Re-time Assets from Catalogs Configuration

Use Tempo Portal to browse catalogs and select source media that you want to re-time, create and mark clips to include or exclude from re-timing, and specify how much time expansion or compression to apply.

The Re-time Assets from Catalogs configuration (commonly called the Tempo configuration) is supported only in the Workflow Portal Windows client.

When re-timing configuration is complete, the Portal generates a composition to describe that processing. The operator selects a Tempo workflow to process the CML, and the Tempo action in the workflow implements media file re-timing. The job creates a new binder from assets in or more source binders and updates it during execution; it may or may not be registered by the workflow into a catalog for further utilization.

Syndication Configuration

Use the Syndication Portal to browse catalogs containing syndicated media and select the media that you want to review, update, and process in TrafficManager for broadcast.

The Syndication configuration is supported only in the Workflow Portal Windows client.

The Syndication Portal displays the selected media in a segmented view, based on the timing information obtained from the original syndication source (for example, PitchBlue).

When your review and configuration of segments and their attributes is complete, the Portal generates a new mezzanine metadata XML file as well as a composition (CML) file. The operator selects a publishing workflow to process either the mezzanine metadata file or the CML file for broadcast.

When using Pass-Thru mode, the Syndication Portal does not generate a CML. In Pass-through mode, the Portal generates an XML (similar to the other modes), but in addition passes the source media from the ingest workflow—which must be nicknamed *Original*— to the publishing workflow, so that the program can be transcoded without having to change the program's timeline.

Implementing Workflow Portal-based Media Processing

Implementing Vantage workflows that are intended for use with Workflow Portal requires planning and coordination by your Vantage administrator and workflow designer. To implement a Workflow Portal-based workflow, a Vantage domain administrator must first use the Vantage Management Console to do the following:

- Enable the utilization of Workflow Portal.

- Configure one or more *Workflow Portal configurations*, which define the Workflow Portal feature set for the specific application, including the components, features, and resources available to operators. This includes metadata and variables, and must be coordinated with the workflow designer to utilize the metadata and variables as appropriate for your application.

Note: Administrators who are responsible for creating Workflow Portal configurations should refer to the *Vantage Domain Management Guide* for details.

Workflow designers use Workflow Designer to create and configure the required workflows, including required metadata and variables, and activate them when you want to use them in testing or production.

Typically, a given media processing application involves at least 2 Vantage workflows:

- An *ingest* workflow, which transcodes media as required and registers it in a catalog

- A *publishing* workflow, which processes the media the operator has selected and forwarded to the workflow to encode it for publication.

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Implementing Syndication Portal Media Processing

The Syndication configuration of the Workflow Portal is described in detail in the TrafficManager User Guide, including operating details and workflows. The following steps summarize how to use the Syndication Portal (TrafficManager option required).

1. Create a syndication catalog using Management Console > Catalogs.

2. Create a new syndication template using the Vantage Management Console > Syndication folder > Templates feature. Use the *Populate from XML* button to import an XML metadata file for the show and then adjust the show segments, if needed.

   For template configuration details, see the *Vantage Domain Management Guide*.

3. Create an ingest workflow that includes an origin action (Catch, Receive, Watch/ Associate) capable of ingesting and localizing a syndicated media file and its sidecar metadata file.

   Also use Flip actions to create thumbnail and proxy files.

   Include a Syndicate action to apply the template to the sidecar file, producing a mezzanine file nicknamed *Syndication*.

   Include a Register action to register the files into a binder for entry into the syndication catalog. The catalog must contain media nicknamed *Original*, a proxy, and a syndication metadata attachment nicknamed *Syndication* as required inputs to the Syndication Portal. (Note that only XML files for programs require the *Syndication* nickname; commercial files do not.)

   The portal can then be used to access the binder and its files from the catalog.

4. Create a publishing workflow. Typically, you'll want to start with a Receive action to accept the files submitted from the portal and an Automate or Conform action to convert the XML or CML files and the syndicated media to the desired formats.

   In Automate, you can select BXF or other automation formats for outputting to an automation system.

   Note: The *Syndication* nickname is required for the attachment file in both the Receive and Automate actions, and the CML nickname is also required by the Receive action in Stitching or Segmenting mode.

5. Create a Syndication Portal configuration using the Vantage Management Console > Application Configuration > Workflow Portal. Set the Mode to Syndication, and set the parameters in each tab. In Syndication Settings, specify the template you created as the Default template. Also select a Syndication mode:

   Stitching mode: Submitting from the portal generates a single CML file and a single Syndication XML file for the whole program. Stitching mode requires all segments to be normalized to the same frame rate.

   Segmenting mode: Submitting from the portal creates a separate job for each included segment. A CML file and a Syndication XML file are created for each job.

   Pass-Thru mode: Submitting from the portal does not create a CML. Instead, the Original from the ingest workflow is made available to the publish workflow and a Syndication XML is generated based on the Segment List. On the Forward To Workflows tab, select (Add) the publishing workflow.

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6. Open the Workflow Portal and use File > Change/Reload Application Configuration to load the Syndication Portal configuration created earlier. Refresh the catalogs, select the syndication catalog, and drag one or more binders into the Segment List.

Use the portal to preview and adjust segments manually.

7. Forward the updated show to the publication workflow by accessing the Forward To Workflows tab, selecting the workflow, and clicking Submit.

Media and metadata files are delivered to your automation system in ready-to-use formats.

Note: After you fine-tune the segments of a show, you can save the template from the portal using the Create Template button.

You also have the option when creating workflows to completely bypass the Syndication Portal, combine ingest and publishing into a contiguous workflow, and process all the files without human intervention.

Workflow Design Guidelines

This topic is for those who are designing and implementing workflows. It provides general guidelines for creating workflows intended for use in Workflow Portal applications.

Note: In addition to these general guidelines, there may be application-specific guidelines that must also be followed. These guidelines are noted in their respective topics in *Using Workflow Portal Configurations* for basic configurations; for product-specific guidelines, see the Tempo User Guide or the VOD Portal User Guide.

While you can use a single workflow to produce and distribute media, there are some media processing applications which require operator intervention using Workflow Portal, thus dividing the media processing into multiple workflows. Operator intervention tasks include QA, building clip lists, and for adding/editing metadata and variables prior to job submission for further processing.

Workflows for use in conjunction with Workflow Portal typically fall into two categories: ingest and publishing.

For example, an *ingest* workflow can automatically analyze source media and detect media attributes and characteristics such as frame rate, dimensions, letter boxing, and macro blocking. Ingest workflows often encode media into the required format for use in the publishing workflow. You typically use Register actions in the ingest workflow, to create binders in Vantage catalogs, which operators will browse for files to process.

Ingest workflows can also produce proxy media that you can view with the Workflow Portal media player to evaluate quality issues and quickly define timecodes for trim points or commercial insertion, for example.

A *publishing* workflow is a workflow designed to process media submitted by Workflow Portal operators. Publishing workflows always start with a Receive action so that operators can submit jobs to them (and they must be running). When your application calls for an ingest workflow, you use Workflow Portal to evaluate the ingest workflow results, take any action required, and then submit the job to a publishing workflow. Frequently, a given application has more than one publishing workflow.

You can also chain publishing workflows, providing operator intervention at more than one point in the process.

You might use Workflow Portal in a Browse Windows Network configuration, where your process may not require an ingest workflow. You can use Workflow Portal to select media, edit metadata and variables and submit jobs to a publishing workflow, rather than just placing media files in a watch file for automated processing. The advantage to operator submission is that you can set metadata and variables during submission, providing more control over publishing workflow processing.

These topics provide guidelines for creating workflows for use with Workflow Portal:

- Ingest Workflow Guidelines
- Publishing Workflow Guidelines

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Ingest Workflow Guidelines

When you use any Workflow Portal configuration other than Browse Windows Network, an ingest workflow, you must use an ingest workflow with a Register action (which should be located after all transcoding, and any metadata and variable modifications in the workflow), to create a binder in a catalog. One binder is created for each job that executes. In addition to referencing each file ingested or created in the workflow, metadata labels which you specify are stored in the binder, along with variables.

You can use the special nicknames *Vantage EDL*, *Vantage Proxy*, and *Vantage Thumbnail* in Workflow Portal ingest workflows Flip action for identifying specific-purpose files:

- *Vantage EDL*—in the Program Stream and Transport Stream encoders, for EDL configurations.
- *Vantage Proxy*—in the QuickTime and MP4 encoders, for all configurations which create clip lists and/or utilize the media player to scrub media
- *Vantage Thumbnail*—in the Keyframe encoder for configurations where you can browse catalogs.

When you browse catalogs in Workflow Portal, you can view binders created by each job, giving you access to all resources defined in the binder, including the source media.

When building ingest workflows, observe the following general guidelines:

- *Register Action Requirements*—to make a binder available to Workflow Portal operators in any catalog-enabled configuration, use a Register action to save the binder in the appropriate catalog.
- *Workflow Portal Windows Client Media Player Requirements*—Use the Flip action to create a proxy file, using the nickname *Vantage Proxy*. Required format:
  - QuickTime encoder, H.264 video codec, AAC audio codec, QuickTime 7.6.9 installed

    OR
  - MP4 encoder, x264 video codec, AAC audio codec, QuickTime 7.7.6 installed
  - See *Previewing Proxy Media in the Media Player* for additional proxy format details.
- Make sure that your encoded proxy file is the same frame rate and timecode notation as your production media. Configure container settings to generate a timecode track to support the Use Clip Start Time feature. You can also burn in the timecode to make sure it is present.
- *Workflow Portal Web Client Media Player Requirements*—Use the Flip action to create a proxy for previewing in the HTML5 media viewer. The required format is:

  Encoder: MP4 Encoder

  Video Codec: x264

  Audio Codec: AAC

  Container: MP4 File

  Make sure that your encoded proxy file is the same frame rate and timecode notation as your production media.

- *Proxy Viewing*—to enable a selected binder's media file to automatically display in the Workflow Portal media viewer, assign the *Vantage Proxy* file nickname to the media file.

- *Catalog Viewing*—To support operator viewing of binders by thumbnail (instead of by name), configure a Flip action with the Keyframes encoder to create a thumbnail that uses the *Vantage Thumbnail* file nickname.

- *Metadata and Variables*—To make media information available to operators for verification or editing, configure an Analysis action (or a Workorder action for submitting multiple jobs at one time, with metadata) to collect the information in variables. Use a metadata label to store this information in a binder to pass the values to another workflow indirectly. For example, an operator submits a job to a publishing workflow in Workflow Portal.

Publishing Workflow Guidelines

Unlike ingest workflows, publishing workflows can be designed and configured in almost any way you require. Few limits are imposed on the design of a publishing workflow that is used by Workflow Portal.

When you configure publishing workflows, follow these guidelines:

- The publishing workflow must start with a Receive action or other action that allows an operator to directly submit media to the workflow for processing.

- The publishing workflow should be configured to accept and process any metadata labels and variables that an operator enters, or that pass through from the ingest workflow jobs.

- The publishing workflow must use the type of transcoding action required to produce the output media you want and the Workflow Portal configuration you're using. For example, an EDL Portal job requires a Flip action, while a CML Portal configuration requires a Conform action.

There may be additional requirements for various configurations. See the respective configuration topic in *Using Workflow Portal Configurations* or available app notes or guides on the topic.

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Starting a Workflow Portal Session

The following topics describe how to start sessions with the Workflow Portal clients, and how to load a different configuration:

- Starting a Session with the Windows Client
- Starting a Session with the Web Client

Starting a Session with the Windows Client

To start a session with the Workflow Portal Windows client, do the following:

1. Start the Windows client as described in *Starting Workflow Portal*.

2. If you are prompted to select a Vantage domain, select a domain as described in *Selecting the Vantage Domain*.

   If you do not know the Vantage domain name, contact your Vantage domain administrator.

3. If you are prompted to enter a Vantage user name, log in as described in *Changing Vantage Users in Windows Client Programs*.

   If you do not know your Vantage user log in information, contact your Vantage domain administrator.

4. If you are prompted to select a Workflow Portal configuration, select the configuration you want to use for this session.

To change the Workflow Portal configuration, see *Changing or Reloading a Configuration*.

Starting a Session with the Web Client

To start a session with the Workflow Portal web client, do the following:

1. Start the web client as described in *Web App Home Page—Launching Web Apps*.

2. If you are prompted to select a Vantage domain, select a domain as described in *Logging In or Changing Domains from Web Applications*.

   If you do not know the Vantage domain name, contact your Vantage domain administrator.

3. If you are prompted to enter a Vantage user name, log in as described in *Changing Vantage Users in Web Applications*.

   If you do not know your Vantage user log in information, contact your Vantage domain administrator.

4. If you are prompted to select a Workflow Portal configuration, select the configuration you want to use for this session.

To change the Workflow Portal configuration, see *Changing or Reloading a Configuration*, below.

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Changing or Reloading a Configuration

You can change Workflow Portal configurations while you are running Workflow Portal.

If a Vantage domain administrator updates a Workflow Portal configuration while you are using it, the program continues to use the configuration as it was when you selected it. To obtain the updated version, reload it when advised by the administrator.

- Changing/Reloading a Configuration in the Windows Client
- Changing/Reloading a Configuration in the Web Client

Changing/Reloading a Configuration in the Windows Client

To change or reload a configuration in the *Windows client*, do the following:

1. Select File > Change/Reload Application Configuration.

2. When the Select Configuration dialog appears, select a configuration to use and click OK.

Changing/Reloading a Configuration in the Web Client

To change or reload a configuration in the *web client*, do the following:

1. Select Portals.

2. Select the configuration to which you want to change.

3. When the confirmation dialog appears, click OK.

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Managing Workflow Portal Projects

In any Workflow Portal configuration in the Windows client, you can select media and set up a job (with clips, metadata, variables, etc.) and submit it, then start over with new media for the next job, etc. You can also start working on a new job, and then save it, and open it later to complete the work and submit it for processing.

In Workflow Portal, the collective settings are referred to as a project. Using projects in Workflow Portal is similar to opening and working on files in Microsoft Word or Excel. You can create, edit, save, and re-open them any time you want.

Note: Projects are only valid for the domain they are created in and the Workflow Portal configuration they were saved from. You can not save projects from one domain and re-open the project for use in another domain. You also can not re-open a project if the configuration from which it was saved has been deleted from the domain.

- Creating a New Project
- Saving a Project
- Saving a Project With Another Name
- Opening a Project

Creating a New Project

To create a new project in Workflow Portal, select File > New Project, or select the New Project (+) button in the upper left corner of the Segment List tab.

Creating a new project is just like opening Workflow Portal and starting work. No media has been selected, no clips (if enabled) have been created or configured, and no metadata or variables have been modified. Everything is reset.

Creating a new project is handy if you are working continuously on selecting media and preparing it for submission to a workflow, then getting ready to select new media and starting another job: It clears out everything so you can start over again.

You can also create a new project when you have made an error that is not easy to fix, or you just want to start over with a clean slate.

You don't have to create a new project just because you may want to save it later.

Saving a Project

To save work you are performing on a given set of media, select File > Save Project.

When you save a project, Workflow Portal displays a File Save dialog. You can name the XML file anything you want, and save it where ever you want.

Note: Unlike other Vantage resources—workflows, Workflow Portal configurations, variables, etc. which are all stored in the Vantage domain's database—Workflow Portal projects are stored as XML files in a Windows directory of your choosing, just like any other program's data files.

Each time you save the project after the first time, it just updates the project file.

You can re-open it later using the Open Project command.

Saving a Project With Another Name

To save a project you have open under another name, select File > Save Project As. Workflow Portal displays a File Save dialog. You can rename the XML file anything you want, and save it where ever you want.

You can re-open it later using the Open Project command.

Opening a Project

To open a project that has been previously saved, select File > Open Project. Workflow Portal displays the Open File dialog. Navigate to the file and click Open.

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Performing Workflow Portal Tasks

The following topics describe how to use the components that comprise Workflow Portal, to perform these basic tasks:

- Browsing Catalogs for Media
- Selecting a Binder
- Previewing Proxy Media in the Media Player
- Creating Clip Lists/Segments
- Editing Metadata Labels
- Specifying Variable Values
- Specifying Forwarding Workflows
- Submitting Jobs in the Windows Client
- Submitting Jobs in the Web Client

Browsing Catalogs for Media

You can browse catalogs and select media in binders in all configurations except Browse Windows Network configurations.

Note: The binder list doesn't automatically update when binders are added or deleted as workflow jobs execute. To update the list, click the Refresh button at the top of the Binder table.

Depending on your configuration, you may be able to perform the following:

- Browse and select binders from multiple catalogs
- Select specific media in a binder for submission
- View the list of media in a selected binder
- Manually delete binders

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Selecting a Binder

To select a binder, do the following:

1. If the Catalogs panel (in the top left corner of the window) displays, select the catalog or catalog folder you want to browse.

Note: The catalogs that you can access are specified in the configuration. The catalog browser may be hidden, when the configuration only allows access to one catalog, with no subfolders.

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2. In the Binder table (directly above the tabbed workspace—upper right—displays the name of the catalog you are browsing), select the binder that you want to view.

In the Windows client (see below), use the Filter menu, located directly above the Binder Details panel, to help you filter binders. Use the Details menu (far right) to select Details or Thumbnails view.

The columns that display in this table are controlled by the configuration, and may include Binder Name, Created, Expiration, and the Play button and Submit button, and others.
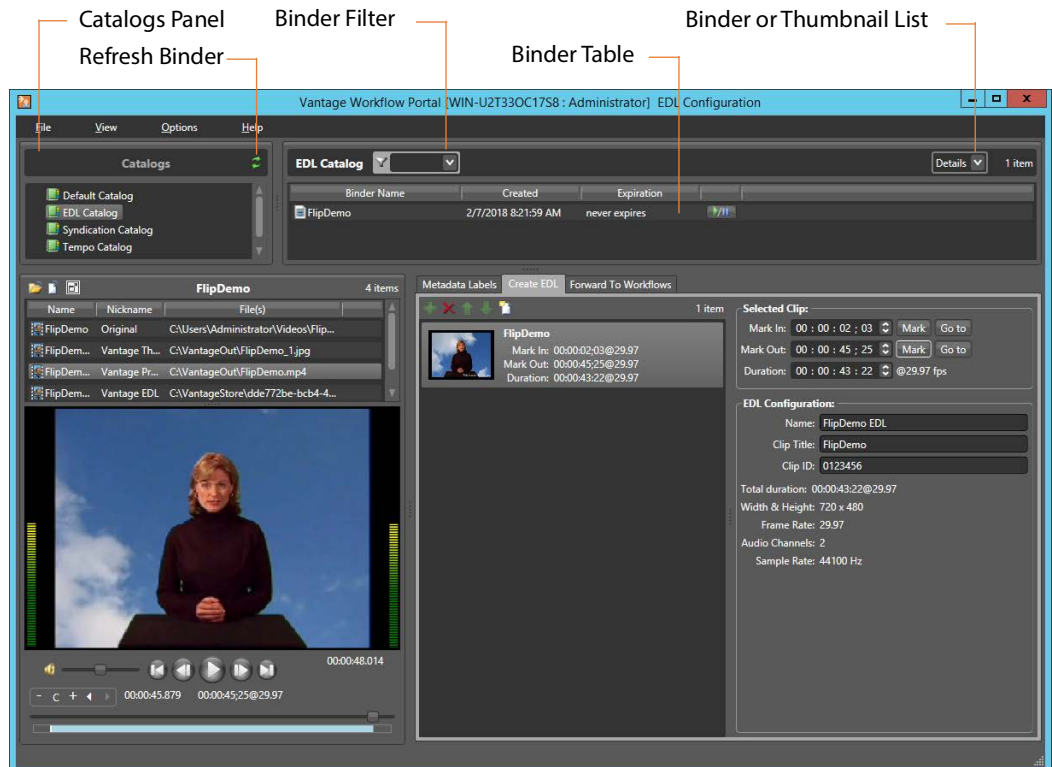
In the web client (see below), use the Filter menu (directly above the Binder Details panel) to help you filter binders. To return to an unfiltered list and display all binders, click the Filter icon again.
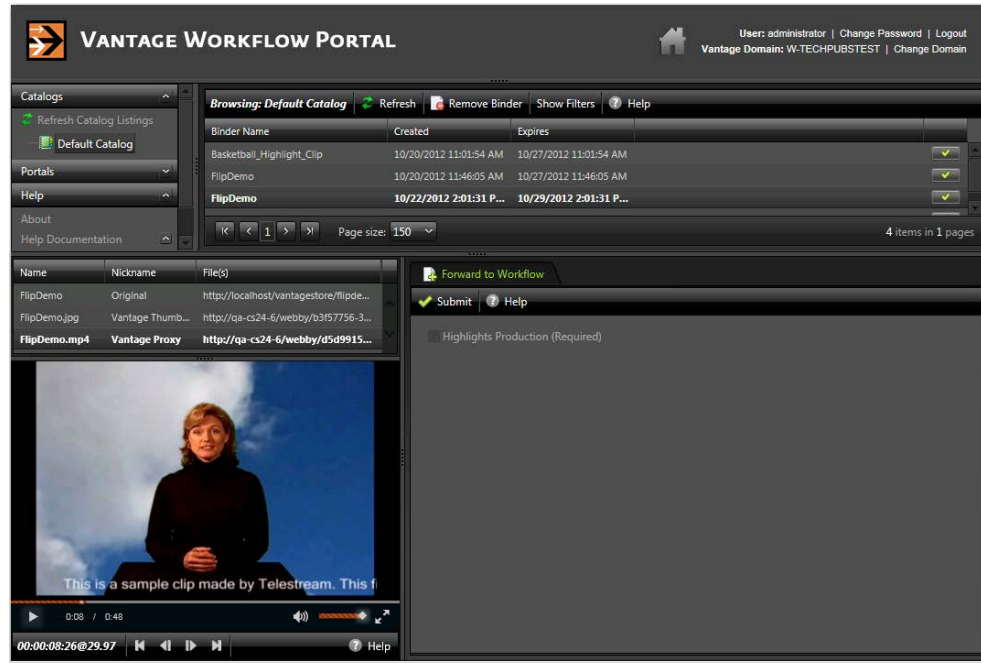
1. Select a binder. When a binder is selected, Workflow Portal display its contents in the Binder Details panel directly below the Catalogs panel.

Using Binder Table Controls

The Binder table supports the following features:

Filtering

Type text in the Filter field or select a previously-entered string from the menu to filter the binders in the currently-selected catalog. Delete the text to display all binders in the catalog.

Sorting and Re-arranging Columns

Click on any column heading to sort the binder list, and click repeatedly to toggle the sort by ascending or descending order. Drag column headings to re-arrange the order.

Playing/Pausing Video

If enabled in the configuration, you can click the Play/Pause button in a binder row to preview the media. Click Repeatedly to play or pause the video. (Windows client only; the web client excludes this feature.)

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Submitting a Binder

If enabled in the configuration, you can click the Submit button to display the Submit Jobs window.

Details/Thumbnails View

Select Details or Thumbnails from the menu.

Previewing Proxy Media in the Media Player

When you select a binder, Workflow Portal displays any file nicknamed *Vantage Proxy* in the media player, provided that it is encoded in a supported format. The binder contents may or may not display (above the media player), depending on the configuration.

Note: Some configurations allow you to perform tasks and access player controls that other configurations do not. This topic discusses the full functionality of the media player, not all of which may be visible in your current configuration.

The following topics describe how to preview media:

- Previewing Proxy Media in the Windows Client
- Previewing Proxy Media in the Web Client
- Previewing Non-proxy Media

Previewing Proxy Media in the Windows Client

When you preview proxy files in the Windows client, you are using the QuickTime Player. If you don't have QuickTime Player installed, download and install the player on your Workflow Portal workstation before you can preview these MOV files.
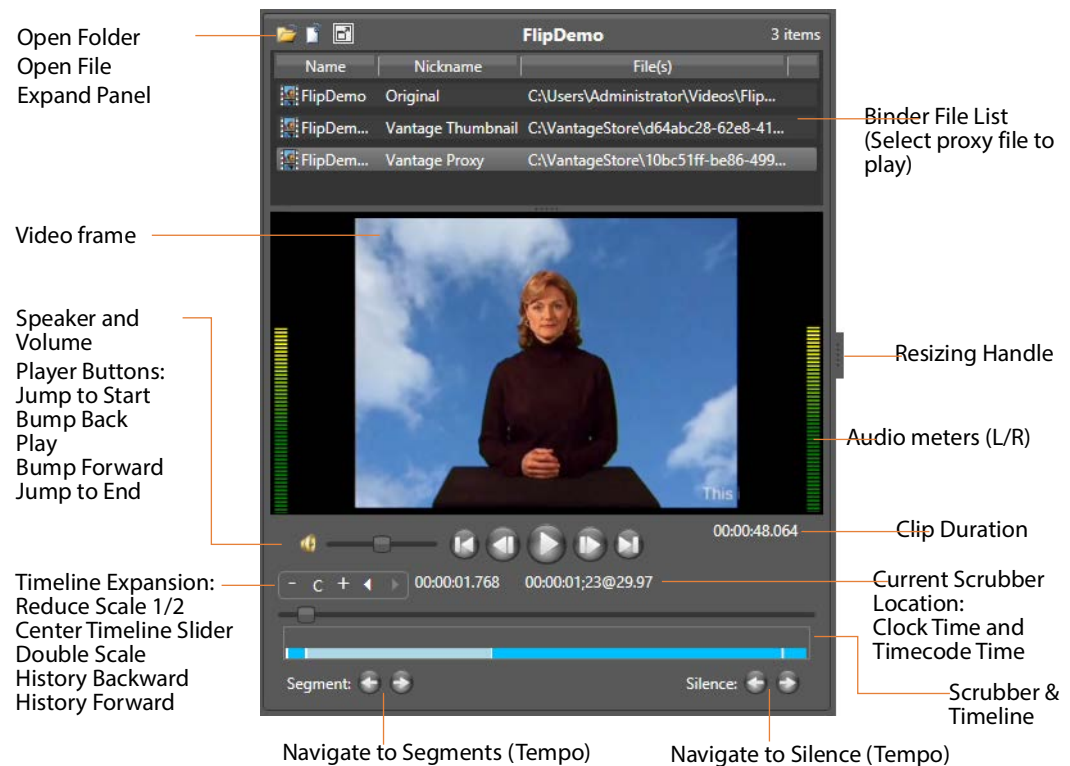
When you select a binder, Workflow Portal displays any video file nicknamed *Vantage Proxy,* **if present. You can use the window, keyboard, and mouse controls listed in** Window, Keyboard, and Mouse Controls **to control playback. You can also preview other supported media in the binder.**

Proxy Encoding Requirements

Use the Flip action configured with the QuickTime or MP4 encoder to create a proxy file for previewing/clipping in the Windows client version of Workflow Portal:

- For QuickTime 7.6.9: QuickTime encoder, H.264 video codec, AAC audio codec
- For QuickTime 7.7.6: MP4 encoder, x264 video codec, AAC audio codec.
- Set the proxy frame rate and timecode notation to match the source media.
- Assign the nickname *Vantage Proxy*, which the media player automatically loads.
- Set SD proxies (4:3) to a suggested 640 x 480 frame size.
- Set HD proxies (16:9) to a suggested 640 x 360 frame size.
- For x264 Video:
  - Set Video Profile to Baseline.
  - Set Interlace Mode to Progressive.
  - Set Video Bit Rate to 1,000,000 to 2,000,000 bits/second.
  - Set the IDR placement to Forced Interval Only (disable scene detection) and set Force IDR Interval to 50% of the frame rate—if frame rate is 30, set IDR to 15.
- Configure the QuickTime Movie or MP4 file container to generate a timecode track.
- Set AAC audio to Stereo (for stereo audio meters).

Note: For Create EDL from Catalogs mode, EDL processing requires Program Stream or Transport Stream MPEG-2 video, which must be included in the binder with the nickname *Vantage EDL*. Vantage also supports for MXF DV, IMX, and XDCAM HD video formats. All assets in the EDL must have the same frame size and frame rate.

Basic Media Player Controls

The Media Player panel displays the video in the viewing panel. The Media Player panel is resizable horizontally and vertically; the media frame displays the proper aspect ratio in the available space. A Maximize button in the upper left corner expands the player to fill the portal or reduces it back to the lower left corner.

You can play sound or mute it, by clicking the speaker icon just to the left of the volume adjustment bar, and you can vary the volume by adjusting the volume slider.

Audio meters display on the left and right, representing left and right channel stereo. When the video is playing (even when sound is muted) or as you scrub the media, the meters provide a visual clue representation of sound volume. The audio meters are designed to visually show the points of silence near where the operator is creating a new segment. In Tempo configurations, operators can use the Silence buttons to

navigate to and choose points of silence to create a new segment, to avoid audio anomalies during the re-timing process.

The scrubber and timeline below the display enables you to scrub the media; and the player buttons enable you to play, stop, bump forward and back, and go to the start and end of the clip.

The two bottom center timecodes display the current scrubber location clock time (HH:MM:SS.SSS) and timecode time (HH:MM:SS:FF@FPS). The timecode at the bottom right of the display shows total duration of the clip (HH:MM:SS.SSS).

Tick marks and coloring displayed on the timeline indicate mark in and mark out points and clip segments. (In Tempo only, overlapping segments are highlighted in red to indicate that operator adjustment is required.)

Timeline Expansion Controls

Timeline expansion controls above the scrubber enable finer control of longer projects by expanding the length of the timeline. These controls are enabled and disabled by selecting or deselecting *Options > Enable Preview Player Timeline Expansion*.

The + and - buttons allow you to double or halve the timeline length with each press, and the tooltip for each control shows how much expansion has been applied.

When the timeline is expanded, a new slider below it controls which portion of the expanded timeline is visible. The C button centers the timeline slider. The two arrow buttons enable you to move backward and forward in timeline history.

Note that the timeline automatically scrolls or centers the timeline when you perform actions on a part of the timeline that is not currently visible.
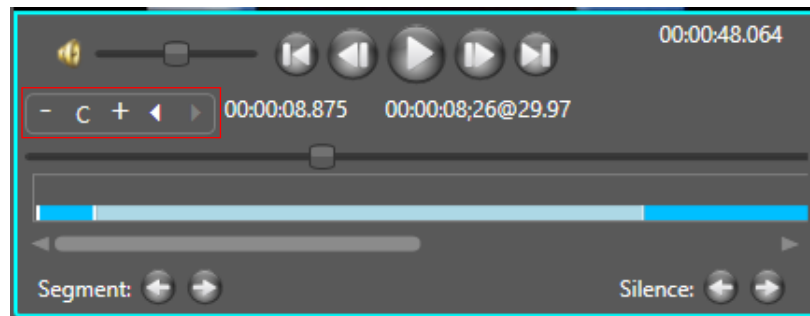
Window, Keyboard, and Mouse Controls

The Windows client window, keyboard, and mouse controls are listed in Window, Keyboard, and Mouse Controls.

Note: Clicking in the playback controls area or on the video focuses the preview player controls (indicated by the blue border). Focusing this area enables "JKL" controls instead of the shortcuts.

Function	Controls
Play/Pause/Reverse	*Ctrl+P or Ctrl+Space*
	J (Reverse play—repeat for -1.5x, -2x, -5x, -8x)
	K (Pause)
	L (Play—*repeat for 1.5x, 2x, 5x, 8x)*
	JK simultaneously (Reverse play slow motion -1/8x; repeat for -1/4x, -1/2x)
	KL simultaneously (Forward play slow motion 1/8x; repeat for 1/4x, 1/2x)
Stop	*Ctrl+S*
Forward Frame	*Ctrl+F*
	Ctrl+Mouse Wheel, one frame per wheel click
	K held down + L (Forward bump one frame)
	L held down with K already pressed (Forward bump repeat 1/4 speed)
	Left Arrow (Reverse bump one frame)
	Right Arrow (Forward bump one frame)
Forward/Reverse 10 Frames	Up Arrow (Forward bump 10 frames)
	Down Arrow (Reverse bump 10 frames)
Forward/Reverse One Second	*Mouse Wheel (no modifier keys)*—one second per wheel click
Forward/Reverse One Minute	*Shift+Mouse Wheel*—one minute per wheel click
Forward/Reverse One Hour	*Ctrl+Shift+Mouse Wheel*—one hour per wheel click

Function	Controls
Reverse Frame	*Ctrl+B*
	Ctrl+Mouse Wheel, one frame per wheel click
	K+J (Reverse bump one frame)
	k+J held down (Reverse bump repeat 1/4 speed)
Mark In	Ctrl+I or Ctrl+E (In points are indicated by tick marks on the timeline.)
Mark Out	Ctrl+O or Ctrl+R
Go to mark in frame	Ctrl+Q
Go to mark out frame	Ctrl+W
Go to start	*Ctrl+Home*
Go to end	*Ctrl+End*
Audio Mute (toggle)	Ctrl+M
Adjust Volume	*Drag volume button right or left to adjust volume.*
Scroll media	*Drag media button right or left to scrub (scroll) media.*
Duplicate selected clip	Ctrl+T (Selects the new clip and sets its mark in to the original clip's mark out, if appropriate)
Jump to next segment	Alt+Left | Right Arrow Jumps to the next or previous segment, as noted by the white bars on the scrubber bar. Works even when segment markers are not displayed.
Jump to next scene change marker	Shift-Alt+Left | Right Arrow Jumps to the next or previous scene change marker, as noted by the green bars on the scrubber bar. Works even when scene change markers are not displayed.

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Previewing Proxy Media in the Web Client

When you view proxy files in the Workflow Portal web client, you are utilizing the native HTML5 Video Player in the web browser.
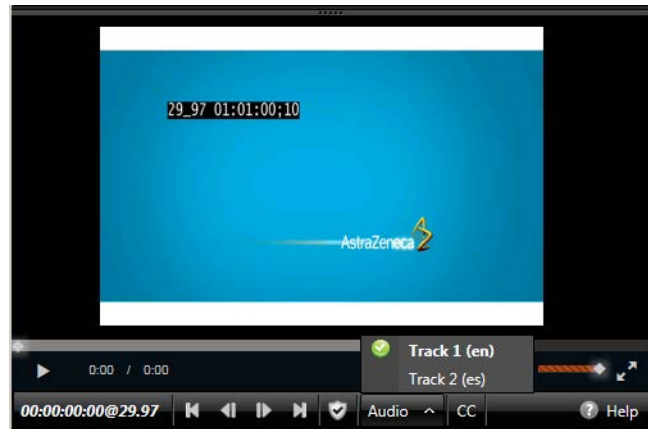
Note: The appearance of captions in the proxy may vary, depending on the browser you're using. Try supported browsers to find one that best suits your requirements.

Web Workflow Portal Proxy Encoding Requirements

Use the Flip action to produce a proxy file for previewing in the Workflow Portal web client's HTML5 media viewer, using these settings:

- For QuickTime 7.6.9: QuickTime encoder, H.264 video codec, AAC audio codec
- For QuickTime 7.7.6: MP4 encoder, x264 video codec, AAC audio codec.
- Set the proxy frame rate and timecode notation to match the source media.
- Assign the nickname *Vantage Proxy*, which the media player automatically loads.
- Set SD proxies (4:3) to a suggested 640 x 480 frame size.
- Set HD proxies (16:9) to a suggested 640 x 360 frame size.
- For x264 Video:
  - Set Video Profile to Baseline.
  - Set Interlace Mode to Progressive.
  - Set Video Bit Rate to 1,000,000 to 2,000,000 bits/second.
  - Set the IDR placement to Forced Interval Only (disable scene detection) and set Force IDR Interval to 50% of the frame rate—if frame rate is 30, set IDR to 15.
- Configure the QuickTime Movie or MP4 file container to generate a timecode track.
- Set AAC audio to Stereo (for stereo audio meters).

Note: You can right-click on the video to display a context menu with many player commands as an alternative to using the player controls or keyboard shortcuts. The available controls vary with the browser.

To view a proxy, select a binder and use the controls in Web Workflow Portal Keyboard Controls to control playback.

Previewing WebVTT Caption Files

Vantage can process media containing closed captions and produce a proxy media file and an accompanying WebVTT caption file. The proxy can be previewed with WebVTT captions using the HTML5 media player in Internet Explorer.

Note: Only Internet Explorer supports this playback feature.

To create a proxy with WebVTT captions, follow these requirements in an ingest transcoding workflow:

- Use an Analyze action, with *Ancillary Data Detection* > *Publish Metadata* > *Generate WebVTT Attachment* implemented to create a WebVTT file. It must be nicknamed *Vantage Caption Source*. The file will be saved in a Vantage store.

- A newer alternative to creating a WebVTT file is the Timed Text Flip action. Specify the input media, caption, or subtitle file to decode; then specify a WebVTT output.

Note: An HTTP alias must be set up for the web portal. See *Web Application Browser Requirements*.

- Use a Flip action to transcode the file using the MP4 x264 encoder with closed captions enabled.

- Use a Register action to add the job (for accessing the proxy and the WebVTT files) in a catalog.

- Display the proxy with captions in the Workflow Portal web applications' media player. Be sure to set the player caption control in the gear menu to enable Closed Captions.

Listening to Individual Audio Tracks

To listen to individual audio tracks in a proxy file using the web version of Workflow Portal, enable multiple audio streams in the Flip action (encoding MP4) that produces the *Vantage Proxy* nicknamed proxy file in the ingest workflow.
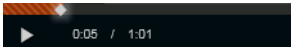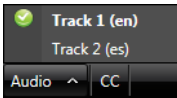
Note: Only Internet Explorer supports this playback feature.

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Web Workflow Portal Keyboard Controls

The keyboard controls are dependent on the web browser (and the version) that you use. Most browsers provide fast forward, and some—such as Internet Explorer—provide reverse as well. Workflow Portal's playback rates aren't generally implemented in every step—usually only x2 and x8 are supported.

Note: The HTML5 Video Viewer must be in focus (you must click in the video frame) in order to use the player controls and keyboard shortcuts.

Function	Controls
Play *Enabled in play mode (click Play button or press K key).*	▶ ▶‖ (appears in binder list) Press L x 1—play 1x speed (normal). Press L x 2—play 2x speed. Press L x 3—play 3x speed. Press L x 4—play 5x speed. Press L x 5—play 8x speed. (IE only) Tap the + (plus) key to accelerate the clip's play speed to the next level. Press the - (minus) key to decelerate the clip's play speed down the next level.
Reverse Play *Enabled in play mode (click Play button or press K key).*	◀‖ Press J x—reverse play. Press J x 2—reverse play 2x speed. Press J x 3—reverse play 3x speed. Press J x 4—reverse play 5x speed. Press J x 5—reverse play 8x speed. (IE only) Press the + (plus) key to accelerate the clip's play speed up to the next level. Press the - (minus) key to decelerate the clip's play speed down the next level.
Play/Pause	◻ Press K—play forward or pause. Hold K down to step in reverse.
Forward Frames	‖▶ Press L—step forward one frame. (IE only) Press the Right Arrow key—move forward 10 frames. (Chrome and IE 11) Press the Right Arrow key—move forward 1 frame. Press the Up Arrow key to move forward 10 frames. The arrow keys on the numbers keypad function in the same manner.

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Function	Controls
Reverse Frames	Tap J—move reverse one frame.
	(IE only) Press the Left Arrow key—move reverse 10 frames.
	(Chrome and IE 11) Press the Left Arrow key—move reverse 1 frame. Press the Down Arrow key to move reverse 10 frames.
	The arrow keys on the numbers keypad function in the same manner.
Go to start	(IE only) Press the Home key.
Go to end	(IE only) Press the End key.
Mute audio	(IE only) Press the M key during play. Press again to unmute.
Scroll media	
Full screen mode	Press this button to expand to full screen mode.
Zoom mode	(IE 11 only) Press Z to zoom in. Press Z again to zoom back out.
Video-safe overlay	Click to display/hide the video safe overlay frame, for SD and HD proxies.
Closed captioning	Click to display closed captions, when provided by browser.
Audio track menu	When multiple audio tracks are present, the Audio menu displays. Click to select the track you want to hear. (IE only).

Previewing Non-proxy Media

Note: This feature is only supported in the Windows client and only when the binder detail display is enabled in the configuration.

Media with a nickname other than *Vantage Proxy* may be played under certain conditions. Select the media in the binder list (directly above the media player) and try these methods:

1. For QuickTime (.mov) files, select the file and use the media player controls to play the media file.

2. To play a QuickTime file outside the embedded media player, right-click the media and select Open With Default Program or click the file icon directly above the binder list to play the media file in the default program for MOV files.

3. If you don't have a default program assigned to handle MOV files, right-click the media asset, and select Open Containing Folder or click the folder icon directly above the binder list. The Windows folder containing the media opens, so you can right-click the file and play it using Open With to select a suitable program.

4. For files other than QuickTime, right-click the media and select Open With Default Program or click the file icon directly above the binder list to play the media file in the default program for the specified suffix of the file.

5. If you don't have a default program assigned to play this file type, right-click the media asset, and select Open Containing Folder or click the folder icon directly above the binder list. The Windows folder containing the media opens, so you can right-click the file and play it using Open With to select a suitable program.

Previewing Media Using the Switch Player

The Telestream Switch video player can be installed and used (without a separate license) as an alternative to the Workflow Portal preview player in portal configurations that support Switch. When available, Switch player access appears as a small red Switch logo in the preview player toolbar. Click the logo button, and if Switch is properly installed on the client computer, it will open the selected clip. See the Switch guide and Help for Switch installation and operation.

Creating Clip Lists/Segments

Note: Microsoft User Account Control, by default, prevents Windows programs (such as the Workflow Portal client program) from writing files in certain protected folders. If you receive an error message indicating that access to a particular Vantage store or folder is denied, contact your Vantage administrator. Solutions include changing the location of the store/folder or disabling UAC on computers running Vantage clients.

Configurations that support clip/segment lists display a clip or segment management tab in the workspace (this tab differs, depending on the configuration):
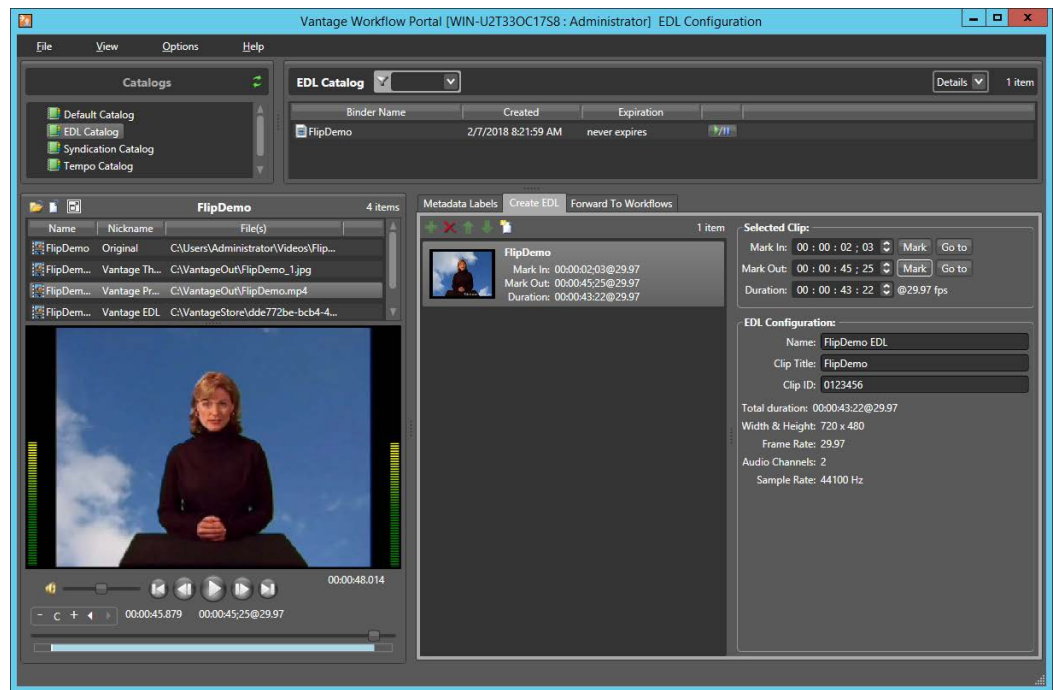
To create a clip/segment list, do the following:

1. Browse the binders in the selected catalog, and select a binder to display its proxy in the media player.

2. Display the clip management tab (named *Create EDL | Create CML | Create Parts | Segment List*, depending on the configuration), and use the following topics to create and configure clips/segments:

■ Adding Clips

■ Evaluating Clip Metadata and Attributes

■ Editing Clip Start and End Times

■ Updating Segment Attributes in VOD/DAI Configurations

■ Updating a Selected Segment and Configuration

■ Deleting Clips

■ Reordering Clips

Adding Clips

You can add multiple clips to a list, and you can add the same clip multiple times.

Note: If you do not want to combine clips in one file, you can clip the same file multiple times. For example, if you are extracting multiple highlights from a single media file, you can mark a highlight, select Submit, and then mark a new highlight without affecting the first one.

To add a clip to the list from the media in the selected binder, click the Add button , or drag the binder to the list.

Note: EDL/Segment List clips must have the same frame size and frame rate. In a CML configuration, this is not a requirement. When you add the first clip to an EDL, the frame size and rate of the EDL are set to the metrics of that clip. Once the frame size and rate are set for a list, Workflow Portal does not allow you to add an incompatible clip. If you select a binder with a clip that is incompatible, the Add button is disabled to indicate that the clip cannot be added.

Each clip you add creates a tick mark on the timeline where the Mark In point is located.

Evaluating Clip Metadata and Attributes

When you select a clip, Workflow Portal displays the clip details to the right. The information may include the frame size and the frame rate, as well as other information about the selected clip, depending on the configuration.

Editing Clip Start and End Times

The default clip start and end times are the start and end times defined in the source media file. To trim the clip, edit the start and end times to define the clip you want.

To change the clip start time do any of the following:
- Use the media player to scrub to the start time and frame, then click the Mark In button to set the mark in time.
- Click in the Mark In time setting and press Ctrl+M.
- Type time or frame values in the Mark In time setting. The displayed format is: HH:MM:SS;FF, where HH indicates hours, MM indicates minutes, SS indicates seconds, and FF indicates frames.
- In the Mark In time setting, click one of the numbers and use the up and down controls to change the value.

To change the clip end time do any of the following:
- Use the media player to scrub to the end time and frame, then click the Mark Out button to set the mark out time.
- Click in the Mark Out time setting and press Ctrl+M.

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- Type time or frame values in the Mark Out time setting. The displayed format is: HH:MM:SS;FF, where HH indicates hours, MM indicates minutes, SS indicates seconds, and FF indicates frames.

- In the Mark Out time setting, click one of the numbers and use the up and down controls to change the value.

- Adjust the duration timecode, which adjusts the mark out point relative to the mark in point. This field indicates the duration of the media between the mark in/out points of the currently selected clip.

If you specify a mark in, mark out, or duration timecode that makes one or more of the timecodes invalid, the affected timecodes display a red background. For example if you select a Mark In timecode that starts after the Mark Out timecode, the Mark In and Duration timecodes display red. Also, if the duration timecode moves the mark out timecode beyond the end of the clip timeline, both the Duration and Mark Out fields display red to indicate the error.

The duration timecode can be dropframe or non-dropframe, depending on the setting of the *Use dropframe notation for duration when appropriate* checkbox in the Vantage Management Console Workflow Portal Configurations panel. By default (unchecked), durations are always shown in non-dropframe. When checked, durations match the dropframe setting of the in/out values. (The Web Workflow Portal uses non-dropframe notation only.)

Updating Segment Attributes in VOD/DAI Configurations

VOD/DAI configurations include Segment Metadata which is adapted for ad insertion.

A check box allows the rating graphic to be inserted into the selected segment. Details for the rating graphic are specified in the Vantage Management Console VOD/DAI Portal configuration Graphic Settings tab. These details include the graphic file to use, its screen location, duration on the screen, and other attributes,

An SCC caption file can be included for each segment by browsing for the file.

An *Ad insertion* selection specifies the segment type:

Segment—This segment is marked for replacement by a dynamically inserted advertisement.

Head—This segment follows a dynamically inserted advertisement.

OTT—This segment consists of content to be delivered over-the-top (streamed).

None—This segment is program content or other content not designated for replacement by an ad (the default).

A Descriptor for Segment and Head can be selected to put ad breaks into the correct locations in the Canoe CSV report—at lead black, pre-roll, mid-roll, or post-roll. See the *Post Producer Developer's Guide* for rules governing these selections.

CML Configuration settings (in CML and DPP Portals) allow you to specify an Output File Name for the completed project, indicates the approximate duration of the entire

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project, and allows you to choose to unjoin segments that were joined previously using the portal.

Updating a Selected Segment and Configuration

For some portals types, such as Logging, a selected segment displays and allows you to edit segment and configuration details. These details vary by portal:

Mark In—The time marked in using the portal player.

Mark Out—The time marked out using the portal player.

Duration—The segment duration (difference between mark in and mark out).

Name—Segment name.

Description—Segment description.

Type—Segment type (a descriptive term selected from a list created in the Vantage Management Console).

Attachment Name—The XML clip list attachment generated by the portal and read by the target workflow. The default name for logging is *[clip name]_DATA*.

CML Name—(in CML and DPP Portals) The CML clip list name attachment for logging is *[clip name]_CML*.

Job Name—A name you choose for the job. The default is the clip name.

In some portals you can also check Not Included to exclude a segment from the output. When a segment doesn't match the type or the Not Included template setting, the clip is marked with a badge to alert you of the inconsistency, which may indicate a problem.

You can also modify the base name of the output files (an updated mezzanine metadata file and a CML file), and create a new template using the current segment configuration.

The configuration panel also includes segment cropping values for both the preview and Switch players. The Switch player's values can be assigned to variables.

Reordering Clips

To change the order of a clip in the list, click on the clip and click the up ⬆ and down ⬇ buttons, or click and drag the clips, to change the clip position.

Joining (Merging) and Unjoining (Splitting) Clips

Some configurations include a *Join/Merge* button ⬚ that allows you to join or combine two or more clips selected by Ctrl+clicking. When joined, the clips become one clip. To unjoin (split) clips and separate them again into individual segments, select *Unjoin/Split* button ⬚.

Deleting Clips

To delete a clip from the list, click on the clip and click the Delete button ✖.

Editing Metadata Labels

When the Workflow Portal configuration permits it, you can view and update the metadata labels ingested, produced, updated, or passed through previous workflows.

Note: In a Forward Binder configuration, you edit metadata before submitting the binder to a publishing workflow. Changes are made in the binder you selected in the catalog.

In a Copy Binder and Logging configurations, you click Submit and then enter metadata for the new binder you are creating. Your edits do not affect the original binder you selected from the catalog—only the new, copied binder.

In a VOD/DAI configuration, a *Metadata Label source clip* check box specifies which clip should be used as the source for metadata labels. The Metadata Labels tab then shows the labels associated with the selected clip.

When you submit a binder, all metadata labels are included. If the configuration supports metadata entry and editing, you can modify metadata labels before you submit. All metadata labels are applied to all media files that are being submitted.

The following topics describe how to edit metadata labels:

- Editing Metadata in the Windows Client
- Editing Metadata in the Web Client

Editing Metadata in the Windows Client

If the configuration supports metadata editing, you can edit them as follows:

1. Display the Metadata Labels tab.
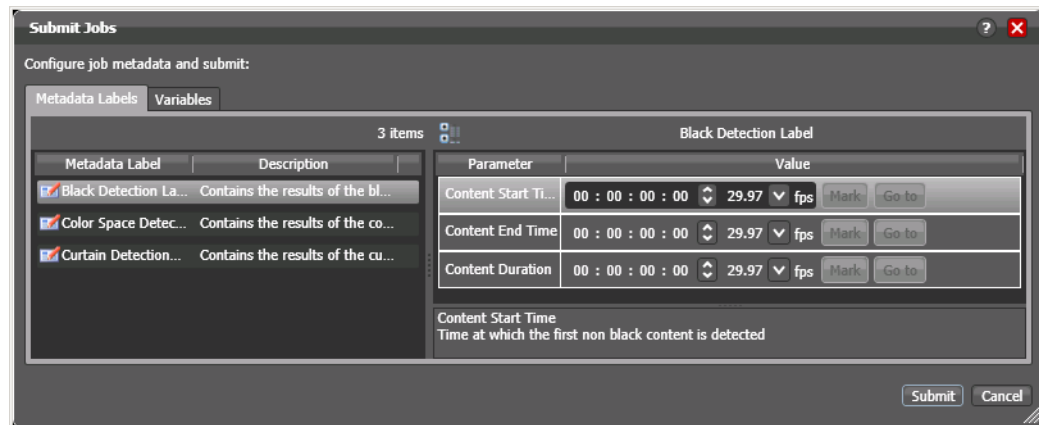
2. Select the label you want to edit in the Metadata Label list.

3. In the Parameter list to the right, edit the parameter values.

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4. If the metadata label you want to configure does not display in the list and the configuration permits adding labels, click the new label button, select a label to add, and click OK.

Note: This option is not available when submitting files in a Browse Windows Network configuration.

Editing Timecode Values with Hot Keys

If hot keys are assigned to input, output, or duration parameters in this configuration, you can use them to set these values as you scrub the media in the player. Roll over the mark button to display the assigned hot key in the tool tip.

Editing Timecode Values in Trim Groups

If trim groups are defined (a set of input, output, and duration parameters) in this configuration, the duration is automatically calculated. If you change the input value or output value, duration is automatically updated. If you change the duration value, the output value is automatically updated.

The duration timecode can be dropframe or non-dropframe, depending on the setting of the *Use dropframe notation for duration when appropriate* checkbox in the Vantage Management Console Workflow Portal Configurations panel. By default (unchecked), durations are always shown in non-dropframe. When checked, durations match the dropframe setting of the in/out values.

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Editing Metadata in the Web Client

If the configuration supports metadata editing, you can configure them as follows:

1. Initiate submit mode as described in *Submitting Jobs in the Web Client*.
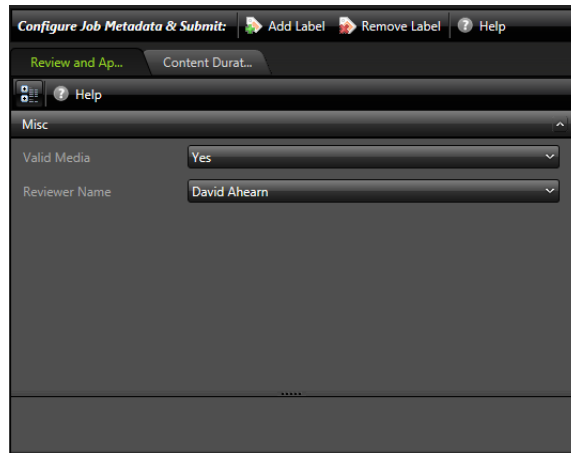
2. To add a metadata label to configure, do the following:

    a. Click Add Label.

    b. Select a label to add from the Add Metadata Labels dialog.

    c. Click Add.

3. To edit metadata label parameters, locate the tab for the label, select the tab, and configure the label parameters.

Note: If a label parameter includes a valid URL, an *Open* button automatically appears next to the parameter, allowing you to open to that URL by clicking the button.

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4. To remove a metadata label configuration, locate the tab for the label, select the tab, and click Remove Label.

5. Repeat metadata label selection and parameter configuration until all required metadata labels are configured.

6. If you need to configure variables, see *Specifying Variable Values*.

7. When you are done preparing for submission, click Submit.

Specifying Variable Values

You can set up Workflow Portal configuration to enable you to review and edit/add variable values stored in a binder from a previous job, before you submit the media (and the variables) to a publishing workflow.

Note: In Forward Binder configurations, you can edit variables in the main window; in Copy Binder configurations, you can only edit variables *after* you click the Submit button, in the Submit Jobs window. For details, see *Browse Catalogs Copy Binder and Forward Binder Configurations*.

Edit run-time variable values as follows:

Display the Variables tab on the main window or the Submit Jobs window (depending on the type of configuration), as shown below:
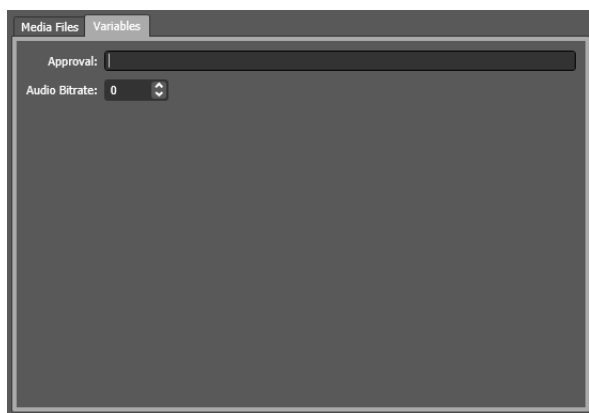
For each variable displayed, enter or update the run-time value as required.

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Specifying Forwarding Workflows

Depending on your configuration setup, you may or may not be able to specify which workflow to submit jobs to:

- One or more workflows have been set as required in the configuration, and they are displayed as checked and disabled.

- One or more workflows have been set as required in the configuration, but the workflows list is hidden.

- One or more workflows are displayed; you can check those that you want to process this job. If this is the case, the Forward to Workflows panel displays:
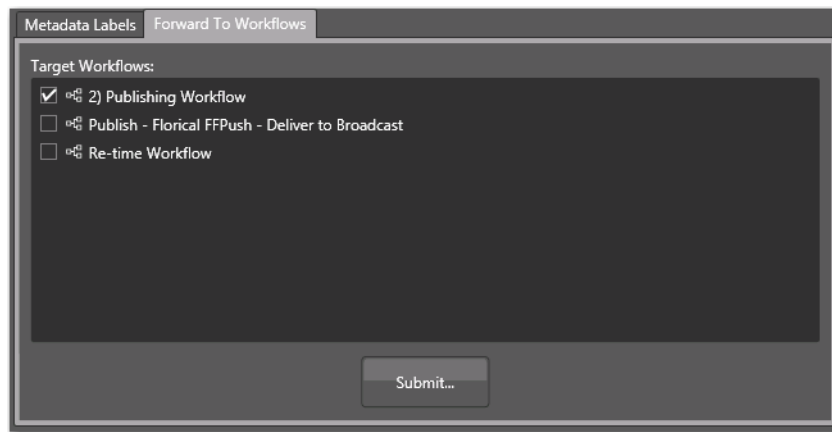
Check the workflows you want to submit this job to and click Submit. (These workflows must be activated in Workflow Designer, or your jobs will fail to run.)

For details on submitted jobs, see *Submitting Jobs in the Windows Client* or *Submitting Jobs in the Web Client*.

Submitting Jobs in the Windows Client

When you click Submit, depending on the Workflow Portal configuration you are using, you may or may not have performed the following tasks at this point in the process:

- Previewing Proxy Media in the Media Player
- Editing Metadata Labels
- Specifying Variable Values
- Specifying Forwarding Workflows

For each of these tasks (which must be performed before you can submit the media to the publishing workflow for processing), the associated panel is displayed.

Click the link above to display the help topic for the task you are performing.

Submitting Jobs in the Web Client

When you initiate job submission in the web client, the Workflow Portal view changes from displaying media information to submitting information.

The Workflow Portal configuration may specify one or more required workflows, or you might be allowed to select one or more workflows from a list. Some of these options are limited to a particular configuration, and some of them can be disabled. The options that apply to your environment are defined by the Vantage domain administrator and the workflow designer.

If the selected configuration allows you to view the workflows to which you can submit, Workflow Portal displays a Forward to Workflow tab. If the configuration does not support operator viewing of workflows, Workflow Portal just displays a Submit button.

To initiate submit mode, do the following:

1. If the Workflow Portal window displays a Forward to Workflows tab, do the following:

   a. Select the Forward to Workflow tab.
   b. Check or clear each workflow checkbox to specify which publishing workflows should process the job.
   c. Click Submit to enter submit mode.

2. If Workflow Portal does not display a Forward to Workflows tab, do one of the following to initiate submit mode:

   - Click the Submit button.
   - Click the submit button ▣ to the right of the binder name in the binder list.

   If no other configuration options are available, the binder is submitted to the selected workflows.

3. If other configuration settings are available, Workflow Portal displays a dialog in which you can configure those options. For more information, refer to *Editing Metadata Labels* and *Specifying Variable Values*.

4. When you are done preparing for submission, click Submit.

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Windows Client Menus

This table describes the menu selections in the Workflow Portal Windows client.

Menu	Selection	Description
File	Change Vantage Domain	Enables you to log into another Vantage domain. See *Selecting Vantage Domains and Logging In*.
	Change Vantage User	Enables you to change Vantage users. See *Changing Vantage Users in Windows Client Programs*.
	Recent Domains	Lists the last few Vantage domains that were used in this client.
	Change/Reload Application Configuration	Enables you to select another configuration, or reload a configuration that has been modified to pick up the changes. See *Changing or Reloading a Configuration*.
	New Project	Resets the Workflow Portal configuration to a new state, clearing all media and data in all tabs. See *Creating a New Project*.
	Open Project	Opens a project that was previously saved so that you can continue working or submit a job. See *Opening a Project*.
	Save Project	Saves the project in its current state—media you've selected, and all data you've entered or set, for future use. See *Saving a Project*.
	Save Project As...	Saves the current project under another name, replicating the media and data and settings as another project. See *Saving a Project With Another Name*.
	Exit	Closes the Workflow Portal program.
Options	Restore Tips & Warnings	Restores the display of Workflow Portal tips and warnings after the feature has been disabled.
	Hide Tips & Warnings	Hides Workflow Portal tips and warnings.

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Menu	Selection	Description
	Use Clip Start Time	Toggle this feature. When a check displays, the preview window uses the start time defined in the proxy media. If no check displays, the start time begins at zero.
Help	Contents	Display a Windows help version of this guide.
	Index	Display the index of this guide.
	Search	Search for key words in this guide.
	Online Help	Display the Vantage guides available on the Telestream web site.
	About	Display the Workflow Portal version information.

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Web Client Menus

This table describes the menu selections and title bar options in the web clients.

Menu	Selection	Description
Title bar options	Change Password	See *Changing Passwords in Windows Client Programs*.
	Logout	Log out the current Vantage user.
	Change Domain	See *Selecting Vantage Domains and Logging In*.
Catalogs menu	Refresh Catalog Listings	Click to refresh the display of catalogs.
Help menu	About	Select to display Workflow Portal product version information.
	Help Documentation	Click this entry to toggle the display of the submenu.
	User Guide	Click to display the PDF version of this guide in a separate browser window.
	Web Help	Click to display the HTML version of this guide in a separate browser window.

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Troubleshooting Workflow Portal

Use the following topics to help you solve certain problems with Workflow Portal:

■ Opening Workflow Portal the First Time

■ Difficulties Changing Configurations

■ Problems Playing Proxy Files

■ Configurations Don't Display in the Web Client

■ No Session Licenses Available

Note: For customer service, see *Contacting Telestream*. You may use the *Data Collection Utility* (Vantage Management Console > Support Utilities > Data Collection). You may also use the *Change Log* or *Error Log* utilities to provide information during your service call.

Opening Workflow Portal the First Time

When opening Workflow Portal for the first time, depending on the design of your network and the location of your client workstation and Vantage domain server, the Domain login dialog may not display your Vantage domain. If this is the case, you may be able to log in by using the name or IP address of the Vantage domain server. For more details, see *Selecting Vantage Domains and Logging In*.

Difficulties Changing Configurations

When you change domains or configurations, you may also encounter these problems:

* No Configurations Available...

    Workflow Portal displays this error when you log in to a domain where no Workflow Portal configurations are defined or where you do not have access to any of the defined configurations.

    Contact your Vantage domain administrator.

* No session licenses available for this application...

    Either the domain is not licensed for running Workflow Portal or all available Workflow Portal licenses are in use. Workflow Portal will operate in unlicensed/demo mode, but will not allow you to submit jobs or edit metadata labels until a Workflow Portal license becomes available.

    Contact your Vantage domain administrator.

Note: An administrator can release a license in the Vantage Management Console.

- Problem communicating with database—could not find stored procedure Select-SessionsByExecution...

  This error displays when Workflow Portal is attempting to display a list of configurations from the selected domain, but the version of the domain is not compatible with your client. Contact your Vantage domain administrator to upgrade the Workflow Portal program on your computer.

- The requested workflows are either not running or no longer exist...

  This error displays when you submit an asset or media file to a workflow that has been deleted, or is not activated. Contact your Vantage domain administrator, who can activate the Vantage workflow or edit the configuration to correct the problem.

Problems Playing Proxy Files

If you can't play proxy files in a binder, review these issues:

- In the web client, the Wait cursor displays forever:
  Your virtual directory may not be implemented in IIS

- The location path may not be specified correctly, or it may be using a letter drive where a UNC path is required for remote client/service access

- The alias to the directory may not be specified in the store

- The alias path may be incorrect.

  It is valid to use a drive letter as part of a Virtual Directory. This imposes no restrictions other than requiring the Vantage store to be located on a drive attached to the web apps host (such as a local hard drive or more commonly a SAN).

- In Workflow Portal, make sure that you create a QuickTime H.264/AAC proxy for previewing media or creating clips. Use the QuickTime encoder, and configure the container settings to generate a timecode track. Make sure that your encoded proxy file is the same frame rate and timecode notation as your production media. Assign the nickname *Vantage Proxy*, so that the media player in Workflow Portal automatically loads and displays your proxy.

- Alternatively, the Workflow Portal Windows Client Media Player supports MP4 with x264-encoded H.264/AAC, provided that QuickTime 7.7.6 or later is installed on the computer running the Workflow Portal Windows client.

- For previewing media in the Workflow Portal web client's HTML5 media viewer, make sure the video is encoded using the Flip action (and nicknamed *Vantage Proxy*), with these settings:

  Encoder: MP4 Encoder

  Video Codec: x264

  Audio Codec: AAC

  Container: MP4 File

- Previewing EDL clips and working with them in the Create EDL clip list requires an MPEG-2 file nicknamed Vantage EDL. If an EDL catalog does not display a binder, the absence of a Vantage EDL file in the binder may be the cause.

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- When using the Workflow Portal Web Application on a Windows Server platform, you must install the Desktop Experience feature in order to view proxy media in the HTML5 Media Player.

- When playing to the end of a proxy in Chrome, versions 35 and 36, Telestream has observed that the media player may display an incorrect duration as a result of a round-up error. This anomaly is cosmetic. If you set this frame as a mark-out point, the correct timecode is entered by Workflow Portal.

Configurations Don't Display in the Web Client

You've created a new configuration, but you can't select it in the web Workflow Portal.

- Perhaps it is not a Copy Binder or Forward Binder configuration— the other types are not designed to function in the web client, only the Windows client.

- Perhaps you (your Vantage user) don't have permission to use it.

No Session Licenses Available

Workflow Portal displays this message when the number of active session licenses is equal to the number of authorized seats in your license, and no more are available.

Note: Open the Vantage Management Console > Licenses and use the Licenses and Portal Sessions tabs to determine how many servers can run Workflow Portal concurrently, and how many sessions are currently active.

Identify the reason and resolution:

- The maximum number of operators are concurrently using Workflow Portal. Either increase the number of authorized servers (concurrent instances) or wait until someone closes Workflow Portal and releases a license. Open the Vantage Management Console > Licenses and display the Licenses tab to review your license.

- Workflow Portal has crashed one or more times, and the session is still active even though that instance of Workflow Portal is not. Open the Vantage Management Console > Licenses and display the Portal Sessions tab to verify each active session and the associated computer. If Workflow Portal is not running on that server, select and delete the session to release it.

Using the Job Status Views Web Application

Job Status Views is a web application that enables basic Vantage job management via a web browser. You can use Job Status Views to access job information and manage jobs in your Vantage domain from anywhere on the LAN, or via the Internet if you provide such access your Vantage domain.

Note: For information about Vantage web application requirements, starting and stopping web applications, and other basic topics, see *Vantage Client Programs Overview*.

Topics

- About the Job Status Views Web Application
- Job Status Views Web Application Overview
- Using Public and Private Views
- Sorting Jobs by Column
- Paging Through Job Tables & Setting Page Size
- Filtering the Job Table
- Highlighting Job States Row by Row
- Managing Jobs
- Troubleshooting

About the Job Status Views Web Application

You can use the Job Status Views web application to do the following:

- Display information about submitted jobs

- Sort and filter job entries

- Highlight and identify jobs in different states

- Stop, restart, and delete jobs

- Troubleshoot job processing issues

The *views* that you see in Job Status Views are defined by Vantage administrators, who control which job information displays and which job control functions (such as the ability to delete a job) are allowed. Views may be public or private. Public views are available to everyone, and private views are for use by specified Vantage users.

Changing Web Applications Language and Date Format

Vantage Web Applications detect the language and date format specified in your browser. For example, selecting English (United Kingdom) as the language displays UK spelling and date format (DD/MM/YYYY). Selecting English (US) as the language displays US spelling and date format (MM/DD/YYYY).

To change language and date formats, follow these steps:

Internet Explorer Language and Date

1. Open Internet Explorer.
2. Select the Tools menu and then Internet Options.
3. Click Languages.
4. Click Set Language Preferences.
5. Choose your language, for example, English (US) or English (United Kingdom).
6. Close and reopen the browser and access the web apps. Your language and date format should be displayed in the web apps.

Chrome Language and Date

7. Open Chrome.
8. Select the "three dots" menu at the far right, and then select Settings.
9. Expand the Advanced link at the bottom.
10. Under Languages, expand Language.
11. Click Add Languages, scroll and select a language, and click Add.
12. Click the menu button to the right of the desired language, check *Display Google Chrome in this language,* and click *Move to the top*. The language at the top should display your selected language.
13. Close and reopen the browser and check the web apps language and date format.

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Job Status Views Web Application Overview

The Job Status Views web application displays the jobs table, as shown here.
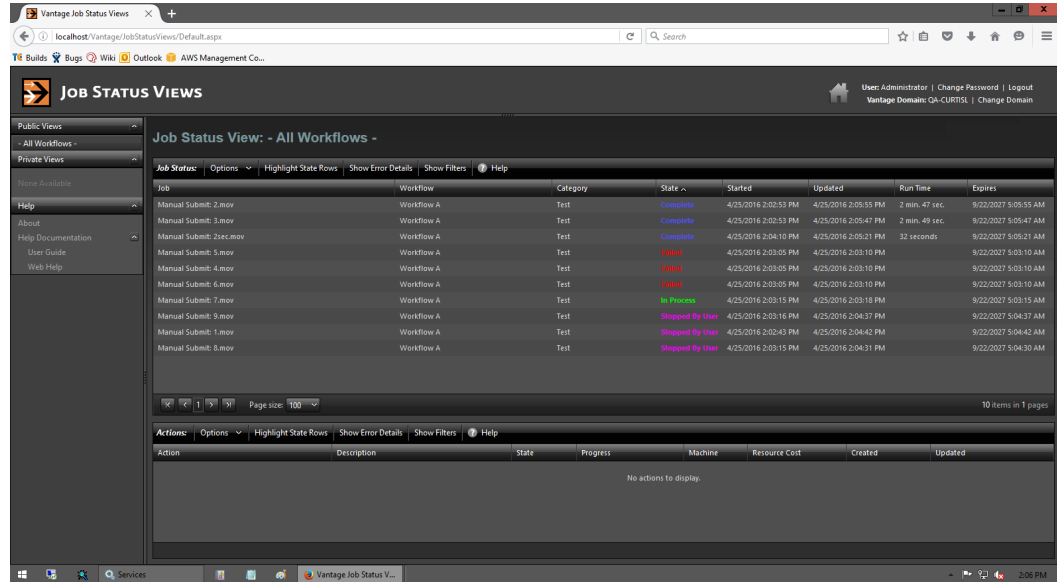
The Job Status Views display is presented in three panels.

To display or hide the title or panels, click the Show/Hide controls.

- *Title panel (top)*—displays the home button, Vantage domain and user name, and controls to manage the user password, change domains, and to log out of the domain.

- *View panel (left)*—displays views that define which jobs are listed in the job list. This panel also includes controls to display product version information and this guide.

- *Job list panel*—Center, right—displays the job list in table format, along with the program's toolbar, which contains command buttons and menus.

Note: If you don't log in as a Vantage user, private views display *None Available*.

The following sections describe how to use the web application:

- Using Public and Private Views
- Sorting Jobs by Column
- Paging Through Job Tables & Setting Page Size
- Filtering the Job Table
- Highlighting Job States Row by Row
- Managing Jobs
- Troubleshooting

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Using Public and Private Views

All views are defined either as public or private, and are created and configured in the Management Console. Click on the view to select it, and display jobs for this workflow. Only private views that are enabled for your Vantage user name are listed.

The default view is the *All Workflows* public view, which displays jobs for all workflows. The information that *All Workflows* displays depends on how it is configured in the Management Console, and whether it is enabled or not. If no private views have been defined, or if you log in as *Public*, the Private Views list displays *None Available*.

The following topics provide more information on views:

- About Public and Private Views
- About View Definitions

About Public and Private Views

Public views are views that the Vantage administrator has made available to all Vantage users. Anyone who connects to the Vantage domain can display public views in the Job Status Views web application.

Private views are views that are available only to those Vantage users for which the Vantage administrator has enabled access. The administrator might configure custom views for different departments, users by role, or customers, and limit access to those views to the appropriate users.

About View Definitions

All views that you create are based on a specific workflow. In addition to being public or private, views limit the information that is displayed and specify which job control features (if any) the user has to use. If no controls are enabled, the view is considered a read-only view. You cannot create or configure views directly in Job Status Views; views are created by the Vantage administrator, via the Vantage Management Console, and specified as public or private; enforced by which user logs in.

There are many options for views, and displaying all options usually provides too much information for most applications. For example, it might be more convenient to display fewer columns. This view might only display active jobs, and it might disable controls that allow jobs to be restarted, stopped, or deleted.

The following topics provide information on what can be customized (and thus, may or may not be present) in views

- Displaying Items in Views
- Controls in Views

Note: Administrators should refer to the *Vantage Domain Management Guide* for information on how to set up custom views.

Displaying Items in Views

Two items of information are always displayed as columns in a view:

- *Job*—The name of the file submitted to start the job, and the type of submission: *Manual Submit*, for example.
- *State*—The current state of the job, which can be:

State—This column displays color-coded key words to identify the status of the job:

- *In Process*—the job is active (being processed).
- *Paused*—the actions in this job have been paused.
- *Complete*—all of the actions in this job have completed successfully.
- *Failed*—one or more of the actions in this job have failed.
- *Waiting*—the job is active, but is currently waiting for a resource (a service) to accept and process one of the actions in the workflow.
- *Stopped by User*—the job was stopped by a user.
- *Waiting to Retry*—the job is active, but is currently waiting for one of the actions in the workflow to re-execute.

These optional columns can be added to a view:

- *Total Progress*—The progress of the job (in percent) if still running.
- *Started*—The date and time the job was started.
- *Updated*—The date and time the job was last updated.
- *Workflow*—The name of the workflow that started the job.
- *Run Time*—Displays the total elapsed execution time for the job.
- *Expires*—The date and time when the job expires and both the job entry and the job entry is deleted.

Controls in Views

An administrator can configure the following controls in a view:

- *Enable*—Enables or disables use of the view.
- *Show Only In Process Jobs*—Displays only jobs that are currently running.
- *Stop | Start | Delete*—Enables or displays the ability of the operator to manage jobs—stopping, restarting, and deleting them.

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Sorting Jobs by Column

To sort the displayed job list according to the entries in any column, click that column label. Each time you click the column label, the sort changes in the following sequence: ascending order, descending order, and default sort order.

Paging Through Job Tables & Setting Page Size

A job table may span multiple pages. Use the page size control at the bottom center of the job list to specify the number of jobs to display on a page.

The page controls on the bottom left allow you to change pages and jump to the first or last page of a job list. The figure below indicates where the page controls appear in the job panel.

Page controls   Page size
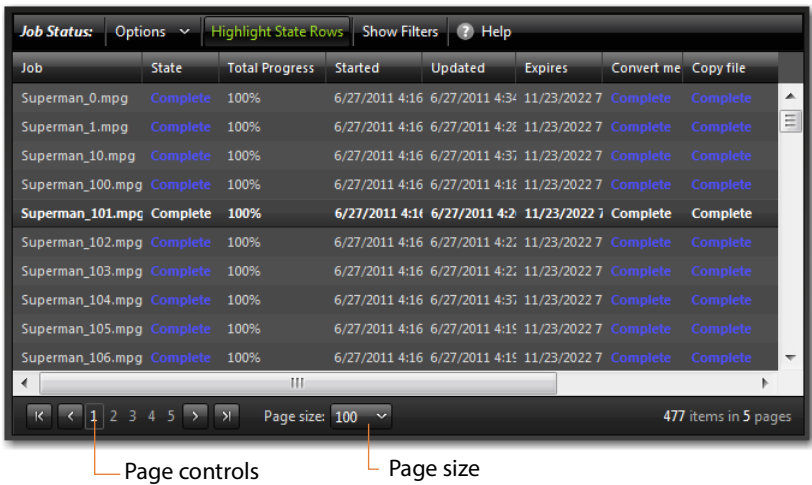
Filtering the Job Table

Job filters allow you dynamically control which jobs display in the job table. The default configuration displays all jobs specified in the view for the workflow. However, during troubleshooting, you might want to display only those jobs that are in a failure state. Other times, you might want to display only those jobs that are in progress.

To display the Job List filters, click Show Filters in the toolbar. The filters are displayed directly below the column titles in the job list table, as shown in this figure:

To hide filters, click Show Filters again.

Which jobs display in the job list is determined by all the filters working together to filter the list. If multiple filters are configured, the job list includes all jobs that meet the criteria of all configured filters.

- Setting the Job Name Filter
- Setting the Job State Filter
- Setting the Total Progress Filter
- Setting the Date and Time Filters

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Setting the Job Name Filter

You can use the job name filter to limit the job list display to only those jobs with a name that meet criteria you specify. The following sections describe how to set and clear the job name filter:

- Specifying a Job Name Filter
- Clearing the Job Name Filter

Specifying a Job Name Filter

To specify a job name filter, do the following:

1. If the filters are not visible above the job list, click the Show Filters button.

2. In the text box above the job names, enter text that is part of job names that you want to include or exclude from the list.

3. Click the control to the right of the filter text box and select one of the following filters:

- *Contains*—Displays all jobs that have a name that contains the text you specified.
- *DoesNotContain*—Displays all jobs except those that have a name that contains the text you specified.
- *EqualTo*—Displays only those jobs that have names that exactly match the text you specified.
- *NotEqualTo*—Displays all jobs except those that have a name that exactly matches the text you specified.

Clearing the Job Name Filter

To clear a job name filter, do the following:

1. If the filters are not visible above the job list, click the Show Filters button.

2. Click the control to the right of the filter text box and select No Filter.

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Setting the Job State Filter

The job state filter allows you to selectively exclude jobs from the job list based on the job state. The default configuration displays jobs for all of the following job states:

- Complete
- Failed
- In Process
- Stopped By User
- Waiting
- Waiting to Retry

When the job state filter is set to display jobs in all states, the filter name for the *State* column is *All States*. When the job state filters disable the display for jobs in one or more states, the filter name for the *State* column changes to *Custom*.

To specify a state filter, do the following:

1. If the filters are not visible above the job list, click the Show Filters button.
2. Click the control below the State column head and check and clear the checkboxes to define the states for which you want to display jobs.

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Setting the Total Progress Filter

You can use the total progress filter to limit the job list display to only those jobs that meet progress criteria that you specify. The following topics describe how to set and clear the total progress filter:

- Specifying a Total Progress Filter
- Clearing the Total Progress Filter

Specifying a Total Progress Filter

To specify a total progress filter, do the following:

1. If the filters are not visible above the job list, click the Show Filters button.

2. In the text box below the Total Progress column name, enter the progress level you want to include or exclude from the list. The range is 0% to 100%.

3. Click the control to the right of the total progress text box and select one of the following filters:

   - *Contains*. Displays all jobs for which the total progress includes the value you specified.

   - *DoesNotContain*. Displays all jobs except those for which the total progress includes the value you specified.

   - *EqualTo*. Displays only those jobs for which the total progress matches the value you specified.

   - *NotEqualTo*. Displays all jobs except those for which the total progress matches the value you specified.

Clearing the Total Progress Filter

To clear a job name filter, do the following:

1. If the filters are not visible above the job list, click the Show Filters button.

2. Click the control to the right of the Total Progress text box and select NoFilter.

Setting the Date and Time Filters

The date and time filters allow you to limit the job display list to jobs that started, updated, or expire within a specified time period. There are three separate date and time filters for:

- Started
- Updated
- Expires

The following topics describe how to set and clear the date and time filters:

- Specifying a Date and Time Filter
- Clearing a Date and Time Filter

Specifying a Date and Time Filter

To set any of the date and time filters, do the following:

1. If the filters are not visible above the job list, click the Show Filters button.
2. Click the control to the right of the filter label box in the appropriate column.

   If the filter label box is empty, no filter is defined. If a filter is defined, the filter label box displays *Custom*.

3. In the panel that appears, click on the calendar and clock buttons to set the date and time for the period start and period end.

   If you omit the period *From* date and time, the program displays all jobs up to the *To* date and time. If you omit the period *To* date and time, the program displays all jobs after the *From* date and time.

4. When the period is defined, click Apply.

Clearing a Date and Time Filter

To clear a date and time filter, do the following:

1. If the filters are not visible above the job list, click the Show Filters button.
2. Click the control to the right of the filter label box.
3. Click Clear.

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Highlighting Job States Row by Row

Job state highlighting allows you to use colors to make the different job states more visible. Or, you can use the same color for all job states to draw less attention to the job states.

To toggle job state highlighting, click the Highlight State Rows button in the toolbar. Each time you click the button, the job state highlighting changes from the current state to the opposite state.

Managing Jobs

Job management, when enabled in a view, enables you to stop, restart, and delete jobs.

The following topics describe how to stop, restart, and delete jobs:

- Stopping Jobs
- Restarting Jobs
- Deleting Jobs

Stopping Jobs

You might want to stop a job to make Vantage resources available for another job, or you might stop a job in preparation for system maintenance.

To stop a job, do one of the following:

- Right-click on a job in the job list, and select Stop.
- Select a job in the job list, then click the Options menu in the toolbar, and select Stop.

Restarting Jobs

Jobs can be stopped by service or network interruptions, or an operator might stop a job to give another job priority. To restart a job, do one of the following:

- Right-click on a job in the job list, and select Restart.
- Select a job in the job list, then click the Options menu in the toolbar, and select Restart.

Deleting Jobs

You might want to delete a job because the job has failed, or because the output file is no longer needed, for example.

To delete a job, do either of the following:

- Right-click on a job in the job list and select Delete.
- Select a job in the job list, then click the Options menu in the toolbar, and select Delete.

Troubleshooting

Job Status Views enables troubleshooting and correction at the job level. For more comprehensive troubleshooting, use the Vantage Dashboard web application.

The first step in Vantage troubleshooting with Job Status Views is to identify the jobs that are having problems. There are several ways to do this:

- Enable *Highlight State Rows* to indicate job status with colors. Failed jobs are high-lighted in red, and other states have distinct colors. (See *Highlighting Job States Row by Row* for more information.)
- Click the State column head to sort the jobs by the current state, then locate the group of jobs you want to investigate.
- Use filters to display only the jobs in the state you are investigating. (See *Filtering the Job Table* for more information.)

After you locate the jobs with issues, look for common traits among those jobs. The following are some possible issues and suggestions for resolution:

- *All jobs are failed or waiting.* Look for network, database, or service issues. If all jobs within a certain time period had problems, there might have been a temporary issue that has since been corrected. Restart failed jobs as described in *Restarting Jobs*.
- *All jobs for a specific workflow have failed or are waiting.* Look for issues with the workflow. Has the workflow ever worked? Are all resources used by that workflow available?
- *All jobs for a particular watch folder or destination have failed or are waiting.* If you know that all the troubled jobs use the same watch folder or destination, it could be that the location is not available.

After you resolve a problem, some jobs might restart on their own, and others might require further action from you. If your view is so enabled, you can take the following actions on jobs in the job list:

- *Restart*—Restart stopped jobs as described in *Restarting Jobs*.
- *Delete*—Delete jobs as described in *Deleting Jobs*.
- *Stop*—If a job seems unlikely to complete or stop, you can stop the job as described in *Stopping Jobs*. Once a job is stopped, you can try to restart the job or delete it.

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Shortcut Keys

Vantage implements keyboard shortcuts in many Vantage client programs to improve usability.

Topics

- Vantage Workflow Designer Shortcuts
- Workflow Portal Shortcuts
- Portal Player Shortcuts
- Vantage Dublist Portal Shortcuts
- Web Apps Shortcuts
- Vantage Management Console Shortcuts

Vantage Workflow Designer Shortcuts

The following functions and shortcut keys apply to the Vantage Workflow Designer.

Function	Shortcut
Ctrl+A	Selects all actions in the current workflow.
Ctrl+C, Ctrl+V	Duplicates the selected action or text entry.
Ctrl+D	Alternates between detailed and simple action view.
Ctrl+G	Turns grid lines on or off.
Ctrl+O	Display/hide action annotations in the workflow
Ctrl+Q	Exit the program.
Ctrl+R	Re-centers the workflow in the design space.
Ctrl+V	Pastes cut or copied text.
Ctrl+W	Creates a new workflow.
Ctrl+X	Cuts the selected text.
Ctrl++, Ctrl+-	Zooms in, zooms out.
F1	Opens the Vantage User Guide.
Alt+F4	Closes the Vantage User Guide.
F5	Opens the selected workflow.
F10	Selects the File menu for mouse-free operation. Use right and left arrows to move to other top menus. Use up and down arrows to navigate menu selections. Press Enter to select the highlighted menu.
Arrow keys	Used in various menus to navigate instead of the mouse.
Tab	Moves through functions to enable mouse-free operation.

Workflow Portal Shortcuts

The following functions and shortcut keys apply to the Vantage Workflow Portal.

Function	Shortcut
Ctrl+A	Selects all files in the current list.
Ctrl+G	Opens the selected file in the Switch player.
Ctrl+G	For Tempo Portal only when playing files in Switch, gets timecode from Switch and copies it to the Tempo proxy player
Ctrl+C | Ctrl+V	Duplicates the selected item or text entry.
Ctrl+Q	Exits the program.
Ctrl+S	For the Tempo Portal playing TIFO files only, opens the Switch Player and sets the player's timecode to Tempo timecode.
Ctrl+T	Duplicates the selected segment (TrafficManager & Tempo)
Ctrl+V	Pastes cut or copied text.
Ctrl+X	Cuts the selected text.
Ctrl+0 (Zero)	Half sized video (TrafficManager & Tempo)
Ctrl+1	Normal sized video (TrafficManager & Tempo)
Ctrl+2	Double sized video (TrafficManager & Tempo)
Ctrl+3	Scale video to fit (TrafficManager & Tempo)
F1	Opens the appropriate user guide for the portal configuration.
Alt+F4	Closes the user guide.
F10	Selects the File menu for mouse-free operation. Use right and left arrows to move to other top menus. Use up and down arrows to navigate menu selections. Press Enter to select the highlighted menu.
F11	Save Project
F12	Save Project As...
Tab	Moves through functions to enable mouse-free operation.

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Portal Player Shortcuts

The following shortcuts operate the Workflow Portal Preview Player.

Clicking in the playback controls area or on the video focuses the preview player controls (indicated by the blue border). Focusing this area enables the "JKL" controls, so that you don't have to use shortcuts.

Function	Controls
Play/Pause/Reverse	*Ctrl+P or Ctrl+Space*
	J (Reverse play—repeat for -1.5x, -2x, -5x, -8x)
	K (Pause)
	L (Play—*repeat for 1.5x, 2x, 5x, 8x)*
	JK simultaneously (Reverse play slow motion -1/8x; repeat for -1/4x, -1/2x)
	KL simultaneously (Forward play slow motion 1/8x; repeat for 1/4x, 1/2x)
Stop	*Ctrl+S*
Forward Frame	*Ctrl+F*
	Ctrl+Mouse Wheel, one frame per wheel click
	K+L (Forward bump one frame)
	K+L held down (Forward bump repeat 1/4 speed)
	Left Arrow (Reverse bump one frame)
	Right Arrow (Forward bump one frame)
Forward/Reverse 10 Frames	Up Arrow —Forward bump 10 frames
	Down Arrow—Reverse bump 10 frames
Forward/Reverse One Second	*Mouse Wheel (no modifier keys)*—one second per wheel click
	Shift + Left Arrow (Reverse bump one second)
	Shift + Right Arrow (Forward bump one second)
Forward/Reverse One Minute	*Shift +Mouse Wheel*—one minute per wheel click
Forward/Reverse One Hour	*Ctrl+Shift+Mouse Wheel*—one hour per wheel click
Reverse Frame	*Ctrl+B*
	Ctrl+Mouse Wheel—one frame per wheel click
	K+J—Reverse bump one frame
	K+J held down—Reverse bump repeat 1/4 speed

Function	Controls
Mark In	Ctrl+I or Ctrl+E (In points are indicated by tick marks on the timeline.)
Mark Out	Ctrl+O or Ctrl+R
Go to mark in frame	Ctrl+Q
Go to mark out frame	Ctrl+W
Go to start	*Ctrl+Home*
Go to end	*Ctrl+End*
Audio Mute (toggle)	Ctrl+M
Adjust Volume	*Drag volume button right or left to adjust volume.*
Scroll media	*Drag media button right or left to scrub (scroll) media.*
Duplicate selected clip	Ctrl+T (Selects the new clip and sets its mark in to the original clip's mark out, if appropriate)
Jump to next segment	Alt+Left | Right Arrow Jumps to the next or previous segment, as noted by the white bars on the scrubber bar. Works even when segment markers are not displayed.
Jump to next scene change marker	Shift-Alt+Left | Right Arrow Jumps to the next or previous scene change marker, as noted by the green bars on the scrubber bar. Works even when scene change markers are not displayed.
Ctrl+:	Switches to dropframe timecode.
Ctrl+;	Switches to non-dropframe timecode.
Tab	Moves through functions to enable mouse-free operation.

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Vantage Dublist Portal Shortcuts
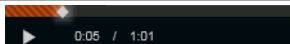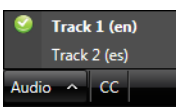
The following functions and shortcut keys apply to the Vantage Dublist Portal.

Function	Shortcut
Ctrl+A	Selects all in the current list.
Ctrl+C, Ctrl+V	Duplicates the selected item or text entry.
Ctrl+Q	Exits the program.
Ctrl+V	Pastes cut or copied text.
Ctrl+X	Cuts the selected text.
F1	Opens the Vantage Domain Management Guide.
Alt-F4	Closes the Vantage Domain Management Guide.
F10	Selects the File menu for mouse-free operation. Use right and left arrows to move to other top menus. Use up and down arrows to navigate menu selections. Press Enter to select the highlighted menu.
Tab	Moves through functions to enable mouse-free operation.

Web Apps Shortcuts

The media player shortcuts are described below for the apps that include the player.

Function	Controls
Play *Enabled in play mode (click Play button or press K key).*	▶ ▶‖ (appears in binder list) Press L x 1—play 1x speed (normal). Press L x 2—play 2x speed. Press L x 3—play 3x speed. Press L x 4—play 5x speed. Press L x 5—play 8x speed. (IE only) Tap the + (plus) key to accelerate the clip's play speed to the next level. Press the - (minus) key to decelerate the clip's play speed down the next level.
Reverse Play *Enabled in play mode (click Play button or press K key).*	◀‖ Press J x—reverse play. Press J x 2—reverse play 2x speed. Press J x 3—reverse play 3x speed. Press J x 4—reverse play 5x speed. Press J x 5—reverse play 8x speed. (IE only) Press the + (plus) key to accelerate the clip's play speed up to the next level. Press the - (minus) key to decelerate the clip's play speed down the next level.
Play/Pause	▢ Press K—play forward or pause. Hold K down to step in reverse.
Forward Frames	‖▶ Press L—step forward one frame. (IE only) Press the Right Arrow key—move forward 10 frames. (Chrome and IE 11) Press the Right Arrow key—move forward 1 frame. Press the Up Arrow key to move forward 10 frames. The arrow keys on the numbers keypad function in the same manner.

Function	Controls
Reverse Frames	◀❙
	Tap J—move reverse one frame.
	(IE only) Press the Left Arrow key—move reverse 10 frames.
	(Chrome and IE 11) Press the Left Arrow key—move reverse 1 frame. Press the Down Arrow key to move reverse 10 frames.
	The arrow keys on the numbers keypad function in the same manner.
Go to start	❙◀
	(IE only) Press the Home key.
Go to end	▶❙
	(IE only) Press the End key.
Mute audio	🔊
	(IE only) Press the M key during play. Press again to unmute.
Scroll media	▶ 0:05 / 1:01
Full screen mode	⤢
	Press this button to expand to full screen mode.
Zoom mode	(IE 11 only) Press Z to zoom in. Press Z again to zoom back out.
Video-safe overlay	✓
	Click to display/hide the video safe overlay frame, for SD and HD proxies.
Closed captioning	CC
	Click to display closed captions, when provided by browser.
Audio track menu	Track 1 (en) / Track 2 (es) / Audio ^ CC
	When multiple audio tracks are present, the Audio menu displays. Click to select the track you want to hear. (IE only).
Tab	Moves through functions to enable mouse-free operation.

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Vantage Management Console Shortcuts

The following functions and shortcut keys apply to the Vantage Management Console.

Function	Shortcut
Ctrl+A	Selects all in the current list.
Ctrl+C, Ctrl+V	Duplicates the selected item or text entry.
Ctrl+Q	Exits the program.
Ctrl+V	Pastes cut or copied text.
Ctrl+X	Cuts the selected text.
F1	Opens the Vantage Domain Management Guide.
Alt-F4	Closes the Vantage Domain Management Guide.
F10	Selects the File menu for mouse-free operation. Use right and left arrows to move to other top menus. Use up and down arrows to navigate menu selections. Press Enter to select the highlighted menu.
Tab	Moves through functions to enable mouse-free operation.

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Vantage Glossary

action

An *action* is the smallest unit of work that can be specified in a Vantage workflow. Actions are connected together in a workflow to perform a useful task. Each action must be configured to perform its task in the context of the workflow, using an action Inspector. Action inspectors are specific to each type of action.

Actions are grouped in Workflow Designer by functional categories: communication, transcoding, file operations, metadata processing, etc. Each action is defined by the specific task it performs. For example, an email action, or a metadata label/file transformation action. All actions are executed by Vantage Windows services, which correlate to the functional categories.

Actions have limited interdependency, and so, are very flexible. You may impose limitations on actions in a workflow. For example, you might require action B to depend on action A in a Vantage workflow.

During execution, actions operate on files, binders, variables, and states, and they generate an action state when they complete. Actions are executed by Vantage services, which perform the requirements of the action. In the case of the *Vantage Transport Service* and most transcoding services, the services may manage file transfers and transcoding/rendering via an out-of-process resource.

AAF action

The AAF action uses the Vantage Avid Service to ingest incoming AAF files and processes the MXF folder referenced in the AAF file. Avid Media Composer then utilizes Persistent Media Record (PMR) files for information about the online status of file Media Object information (MOB). Each PMR file provides an index in a form that an editor can quickly load all the file MOBs and their associated media files in the media directory in which the PMR file resides.

action state

The *action state* describes the condition of an action execution in process and after completion.

During execution, an action may be Queued | Paused | In Process | Waiting. After execution, an action's final state may be Success | Ignore | Failure. Certain actions (Decide/Examine/Compare/Identify, for example) allow the use to specify the post-

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execution state, including Ignore. For all other actions, the post-execution state is set by the service, and is either Success or Failure. These states display in the Vantage Workflow Designer Job Status tab.

Action states are always passed to subsequent actions. The incoming state is tested by the next actions to determine whether or not following actions should execute.

Some actions allow you to specify that an action should execute on a specific state (right-click the action, and select Perform On > Success | Failure | Ignore | Any).

If an action fails, then the next action will inherit the Failure state and (in most cases) will not execute. If one action fails, the entire job fails.

Similarly, if you specify an action to set the Ignore state, the next action will inherit the Ignore state and will also likely not execute. Certain special actions, such as Message, can be configured to perform on any state (Failure, for example)—this allows workflows to send an email if they detect a failure.

Action states have precedence when an action receives states from multiple incoming actions (a merge of multiple branches):

- If at least one incoming state is Failure, regardless of other incoming states, the action will inherit the Failure state. Failure has precedence over all action states.

- If there is no Failure state, but at least one Success state, then the action will inherit the Success state. Success has precedence over Ignore states.

- If all incoming states are Ignore, the action will inherit the Ignore state. Ignore has lowest precedence of the three states. If an action receives an Ignore state and does not explicitly fail, then it emits a Success state. Otherwise, it emits a Failure state *unless* it is an action which can emit Ignore, and you have configured it to do so.

Alchemist File action

The Alchemist File action, which is executed by the Vantage Alchemist Service, allows you to configure connection settings with an existing installation of Grass Valley Alchemist File software.

Vantage Alchemist Service

The *Alchemist Service* allows Vantage to interact with an installation of the Grass Valley Alchemist software via the Alchemist File action. For configuration and set up details, see the *Alchemist File* app note available on the Telestream web site.

All-in-one domain

An *all-in-one* (or single-node or single-server) Vantage domain is one in which all server components of Vantage—the Microsoft SQL Server database, all Vantage services, and the optional Vantage web applications—are installed and operate on a single computer.

See also Vantage array.

Analyze action

The *Analyze action*, which is executed by the Vantage Analysis Service on-premises or the Cloud Service when in Vantage Cloud mode, enables you to perform analysis on media using a variety of analysis tools, specifying the result of the analysis in variables, for use in downstream actions. It is Vantage Cloud capable.

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Vantage Analysis Service

The *Analysis Service* is the Vantage component which executes the actions relating to the analysis of content: Examine action, Compare action, Identify action, Analyze action, Report action, and MediaInfo action.

Archive action

An *Archive action*, which is executed by the Vantage Staging Service, uses the selected archiver (TAR, for example) to convert the selected input file to another format, usually in preparation for copying, moving, or deploying a file to a given system that has special file format requirements.

array

An informal term for Vantage array.

Vantage Aspera Service

An *Aspera Service* implements the Aspera software for Vantage, and provides two-way communication between workflows (and the Faspex Delivery action) utilizing the Aspera software itself.

Asset Monitor action

The Asset Monitor is an origin action. It uses the Vantage Avid Service to monitor the specified Interplay server for new files to ingest and generate output in one or more media descriptor formats [CML (Interplay Metadata) or MPEG 4 Reference files] from the ingested input file. This action is Open Workflow capable.

When a new file is discovered, the Asset Monitor action submits a job for the workflow to process the file.

Associate action

An *Associate action* uses the Vantage Monitor Service to continually (and at regular periods) poll a target location (a directory, for example) on a device or file system (FTP, network folder, etc.) to discover new files, based on some permutation of the name of the file being processed by the current job.

Associate actions can be executed on any action state.

Generally, the Associate action uses the file name of an existing media file or attachment as the basis for discovering new files. For example, if media file *Vantage.mpg* is currently in the workflow, then the Associate action may look for *Vantage.scc*. This behavior can be configured in the Associate action's Inspector.

Associate actions begin executing when a job is submitted, and execute until a new file is discovered—subsequent actions do not execute until the file is found. When the new file is discovered, the Associate action makes the file available to the other actions in the workflow.

Configuration is accomplished in the inspector, and is based on the target device/file system being monitored and other requirements.

attachment

An *attachment* is a non-media file that is associated with media during execution of a workflow. For example, an attachment may be an XML file that contains

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metadata, an SCC caption file, or an STL or PAC subtitle file. An attachment may also be a PDF file, Excel spreadsheet, or Word document, for example. Attachments are identified and processed using nicknames for simplicity. Processing is optional—attachments may be simply passed through a workflow for storage with the processed media and registered in a Vantage catalog.

attachment nickname

An *attachment nickname* is an alias or alternate name that is assigned to an attachment file during Vantage workflow execution. When an attachment file is submitted to a workflow, the actual file name and location is stored in a Vantage binder along with a nickname as defined in the workflow. Within the workflow, all references to a file are by nickname. However, when Vantage needs to access a file, Vantage uses the actual file name and location stored in the binder.

See media nickname and nickname.

AudioTools action

An *AudioTools action* is an optional, licensed feature in Vantage. It uses the Vantage AudioTools Service to enable Vantage workflows to utilize and interact with various AudioTools products from Minnetonka Audio Software. The AudioTools Custom Workflow executes a selected, pre-defined AudioTools Server workflow. AudioTools Loudness Control executes the typical loudness processes, including hitting multiple target parameters using an iterative processing pass.

Vantage AudioTools Service

The *AudioTools Service* implements the AudioTools Connector and enables Vantage workflows to utilize and interact with various AudioTools products from Minnetonka Audio Software.

Aurora action

An *Aurora action* is an optional, licensed feature in Vantage. It uses the Vantage Aurora Service to enable Vantage workflows to utilize and interact with various QC tests provided by the Digimetrics Aurora software. The tests provide the ability to determine whether a particular input media (specified by nickname) either passes or fails a particular QC check. Each test also generates a report file that may be utilized during later stages of the workflow.

Vantage Aurora Service

The *Aurora Service* implements the Digimetrics Aurora software for Vantage, and provides two-way communication between workflows (and the Aurora action) utilizing Aurora and the Aurora software itself.

Automate action

The *Automate action*, which is executed by the Vantage Communicate Service, is similar to the Notify action. It contains system-integration extensions which are relevant to TrafficManager workflows, enabling you to save job or other metadata to a file and interface/integrate with external automation systems. This capability ranges from writing XML-based material to a file system to direct integration with specific automation systems.

In TrafficManager applications, this action is useful to notify automation systems that a commercial has been processed and is available for air. For example, a Notify action can create text or CSV dublists and provide them to automation systems that are capable of processing dublists in that format.

Vantage Avid Service

The *Avid Service* is the Vantage component which executes the actions relating to use of media on Avid Interplay servers using the Media Creation action, Asset Monitor action, and AAF action. Before you can use these actions in a Vantage workflow with a given Avid Interplay server, you must first create an Avid Interplay connection in the Vantage Management Console and configure it.

Baton action

A *Baton action* is an optional, licensed feature in Vantage. It uses the Vantage Baton Service to enable Vantage workflows to utilize and interact with various QC tests provided by the Baton software. The tests provide the ability to determine whether a particular input media (specified by nickname) either passes or fails a particular QC check. Each test also generates a report file that may be utilized during later stages of the workflow.

Vantage Baton Service

The *Baton Service* implements the Baton software for Vantage, and provides two-way communication between workflows (and the Baton action) utilizing the Baton software itself.

binder

A *binder* is a collection of file and metadata information, created for each job that Vantage executes. A binder contains media and attachment file references and metadata labels that were ingested or created during the job. While a binder is created for every job, many binders are never used. Therefore, only media processing scenarios which require operator intervention should use the Register action in ingest workflows to create binders in a user-accessible Vantage catalog.

You use the Register action to automatically create binders during a job, and you use Exist to determine if a binder of a certain name has already been created. Binders are most often named by some permutation of the name of the file that started the job. Binders that are not explicitly registered are accessible to users only in Workflow Designer, in the Job Status tabs.

Vantage catalogs and their binders are accessible in Workflow Portal. Binders are saved in the Vantage domain database until deleted manually or by job expiration policies. You can also view binders in the Vantage Management Console, and manually create them there—or delete them.

Binders are not file folders and are not part of the Windows file system—they are records in the Vantage database. Thus, binders do not contain the files themselves; they only have the paths to those files.

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Camera Ingest action

A *Camera action* is an origin action; it uses the Vantage Monitor Service to regularly poll a target location (a directory, for example) on a card reader device or Windows file system to discover new camera files.

When a new file or shot is discovered, the Camera action submits a job for the workflow which it is part of, for processing.

Capture action

A Capture action is an origin action; it supports Open Workflows on the outbound side and it is used to capture live SDI | IP inputs and output captured media files to Live Storage using the specified output container and encoder. The Capture action is executed by the Vantage Live Service, and only works in a Vantage domain on a Lightspeed Live Server hosting Capture.

catalog

Similar in concept to the folders in a file system, a Vantage *catalog* is a container that stores binders. *Catalog folders* are sub-containers that organize binders. To access a binder, Workflow Portal operators search through the visible catalogs and folders, just as they might sort through folders in a file system.

Vantage Catalog Service

The *Catalog Service* is the Vantage component that executes the Register action and Exist action.

Catch action

A *Catch action* is an origin action; it is a specialized origin action for ingesting commercials and syndicated media assets (including metadata) from catch servers in TrafficManager applications. It uses the Vantage Traffic Service to regularly poll the catch server to discover new files.

When a new file is discovered, the Catch action exposes all relevant metadata and submits a job to the workflow for processing. Typically, the workflow is an ingest workflow which localizes the media, populates a metadata label, creates proxies and thumbnails, and registers the asset in a Vantage catalog. The Catch action also includes an interface to common cloud storage systems, allowing storage in the cloud to be monitored. For more details, see the TrafficManager User Guide.

Cerify action

A *Cerify action* is an optional, licensed feature in Vantage. It uses the Vantage Cerify Service to enable Vantage workflows to utilize the Tektronix Cerify suite of QC components. Cerify is a fully automated system for verifying and checking file-based content.

Vantage Cerify Service

The *Cerify Service* implements the Cerify software for Vantage, and provides two-way communication between workflows (and the Cerify action) utilizing the Baton software itself.

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Change Log

The *Change Log* (Vantage Management Console > Support Utilities) captures changes to the Vantage domain configuration and operation and records the following details: date and time of change, Vantage user who made the change, host computer where the change occurred, change summary message.

Chronicle action

The *Chronicle action*, along with Colocate, Compose, and Conform actions, are part of the optional, licensed Post Producer feature in Vantage. The Chronicle action uses the Vantage Edit Service to convert post-rendered Composition XML files into formats for use in other systems—ad-insertion systems, for example.

Vantage Cloud mode

Vantage Cloud mode is an execution option that you can enable in Vantage Cloud-capable actions to enable processing in the cloud (enabled by configuring your Vantage domain with a valid Telestream Cloud account). When supported actions execute in the Vantage Cloud mode, they are executed by the Cloud Service.

Cloud Service

The *Cloud Service* connects a Vantage domain with Telestream Cloud or Encoding.com. The Cloud service acts primarily as a proxy for Telestream Cloud as the Vantage component that is responsible for transporting files and executing actions which interact with resources in Telestream Cloud or are related to Cloud processing: Cloud Qualify action | Cloud Speech action | Location action. In addition, the Qualify Action is provided, in the Cloud category. The *Cloud Service* is also responsible for executing the Analyze action | Conform action | Flip64 action | IPTV Flip action | Multiscreen Flip action | Tempo action | Timed Text Conform action | Timed Text Flip action when these actions execute in Vantage Cloud mode.

To use the Cloud Service and its associated actions and features in your workflows, you must have an Encoding.com account or Telestream Cloud account. For Encoding.com accounts, contact your Telestream support team.
You can create a Telestream Cloud account on the Telestream Cloud web site: https://cloud.telestream.net. When you create your Telestream Cloud account, you are supplied an API key. Use this key in the Vantage Management Console > Settings & Options > Telestream Cloud tab to allow Vantage to log into your Telestream Cloud account automatically to perform cloud processing that you specify in workflows.

Cloud Qualify action

The *Cloud Qualify action* The Cloud Qualify action is part of the Cloud group, which is executed by the Vantage Telestream Cloud service. The Cloud Qualify action is supported in Vantage Cloud hosted workflows. For details on using hosted workflows, consult the Vantage Cloud User Guide.

To use the Cloud Qualify action you must have a Telestream Cloud account and it must be registered in Vantage. In your account, you should create one or more Quality Control projects that can be executed by Cloud Qualify workflows in Vantage.

The Cloud Qualify action processes a media file (identified by nickname) in a Qualify project in your account, and returns a report and the result: A string variable with the results of the test.

Cloud Speech action

The *Cloud Speech action* submits media from Vantage workflows to Telestream Cloud for speech-to-text conversion. To use the Cloud Speech action you must have a Telestream Cloud account and enter the account credentials in the Vantage Management Console Settings to enable Vantage to access the account. When the Cloud Speech action executes, the input file is uploaded and processed according to the Cloud Timed Text Speech project chosen in the Cloud Speech action, and the results and status are returned to the on premises workflow. The Cloud Speech action is supported in Vantage Cloud hosted workflows. For details on using hosted workflows, consult the Vantage Cloud User Guide available on the Telestream web site.

Colocate action

The *Colocate action*, along with Chronicle, Compose, and Conform actions, are part of the optional, licensed Post Producer feature in Vantage. The Colocate action uses the Vantage Edit Service to ingest Composition XML files with references to non-file-based URLS (for example, Amazon S3), localize the files, and convert the media references in a copy of the CML into paths to the localized files.

Common action

Common actions are implemented in multiple Vantage services (Catalog, Communicate, Staging, and Metadata) so they are not restricted to execution by a single service. See Receive action, Forward action, Decide action, Compute action, Construct action, Synchronize action.

ComponentPac

Vantage *ComponentPacs* are version-controlled Vantage components, such as an updated Capture action. ComponentPac versions are controlled using Telestream's Secure Version Control. For details, see the Secured Version Control application note on the Telestream web site.

Secured Version Control provides the ability to update Vantage—and create or update workflows that utilize new versions of actions—while keeping existing workflows untouched and operating using existing versions of actions. When you want to upgrade an action in a workflow, you can do so at a convenient time.

Vantage Communicate Service

The *Communicate Service* is the Vantage component that executes the actions relating to electronic messaging: Message action, and Notify action.

Compare action

A *Compare action* uses the Vantage Analysis Service to compare media files based on certain metrics (for example, PSNR). These metrics can generally be published as variables or as metadata labels.

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Compose action

A *Compose action*, along with Chronicle, Colocate, and Conform actions, are part of the optional, licensed Post Producer feature in Vantage. The Compose action uses the Vantage Edit Service to convert various media descriptor file formats (Anystream AN2, Final Cut Interchange XML, Simplified Avid AAF, QuickTime Reference, Adobe FC7XML, and Telestream TSEDL) into a Composition XML file so that it can be used by the Conform action to compose media) into a Composition XML file so that it can be used by the Conform action to compose media.

Composition (CML) file

A *Composition file* is an XML schema that provides the vocabulary to describe media elements and their temporal and spatial relationships on a video timeline. Composition files (or Composition XML objects in a computer program) are submitted to a Conform action in a workflow to render the media file from the description.

Compute action

A *Compute action*, which is implemented in every Vantage service, performs various arithmetic and string manipulation functions, permitting you to create and modify values in variables, for use in downstream actions. This action is Open Workflow capable.

Conform action

A *Conform action*, along with the other Edit actions, are part of the optional, licensed Post Producer feature in Vantage. The Conform action, which is Vantage Cloud capable, uses the Vantage Edit Service to assemble and optionally transcode multiple video and still image files into a single output file, applying filters as specified by you. The input files and related specifications for the output file are all defined in a Composition XML file. This action is Open Workflow capable except when executing in Vantage Cloud mode.

Construct action

A *Construct action*, which is implemented in every Vantage service, enables you to construct complex strings, paths, and math expressions from literals, variables, and tokens, for use in downstream actions. This action is Open Workflow capable.

Copy action

A *Copy action* is executed by the Vantage Transport Service and is used to replicate a file from a source target (file system/device and directory) to a destination target (file system/device and directory). It typically performs this task by copying the file to the destination.

Copy actions can be executed on any action state. This action is Open Workflow capable.

database

The term *database* is the common term used to refer to the Vantage domain database, where all specifications for the domain are stored, along with workflows and job history.

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Data Collection Utility

The *Data Collection Utility* is built into the Vantage Domain Console (Support Utilities > Data Collection). It enables you to collect relevant information about selected services for transmission to Telestream during a troubleshooting session. You can also log point-in-time details about a selected service into a log file for diagnostics purposes.

Delay action

The Delay action provides the ability to delay the workflow for a fixed number of seconds before continuing. The Delay action operates in Open Workflow mode; for example, if you set a 60 second delay, the action will turn green, delay 60 seconds, then propagate the Open signal to the next action.

Decide action

A *Decide action*, which is implemented in every Vantage service, is an action which allows you to explicitly set the action state based upon analysis of variable values at runtime. It is most commonly used to determine whether or not subsequent actions (or actions in a given branch) in a workflow should execute.

When the Decide action is used, the state set by the Decide action is passed to the next action. Typically, more than one Decide action is required to support decision branches. For example, if one branch is for HD media, it will start with a Decide action that will set the state to Success for HD content, or set it to Ignore otherwise; if another branch is for all other media, it will start with a Decide action that performs the opposite behavior.

See variable, action state.

Delete action

A *Delete action* is executed by the Vantage Transport Service, and is used to permanently remove a file from a source target (file system/device and directory). Delete actions can be executed on any action state.

Deploy action

A *Deploy action* is executed by the Vantage Transport Service, and is used to save the specified files to a destination outside the Vantage domain. Unlike Delete, Move, or Copy actions, Deploy actions allow multiple files to be operated on simultaneously, and do not maintain a reference to those files in the binder after completion.

distributed domain

Another term for Vantage array.

Diva Archive action

The Diva Archive action is part of the DIVA group in Workflow Designer. It is executed by the Vantage Diva Service, and enables a workflow to add a new object to a specified Content Manager | DIVA Core.

Diva Lookup action

The Diva Lookup action is part of the DIVA group in Workflow Designer. It is executed by the Vantage Diva Service, and enables a workflow to determine if a specific object has been archived in the specified Content Manager | DIVA Core.

Diva Restore action

The Diva Restore action is part of the DIVA group in Workflow Designer. It is executed by the Vantage Diva Service, and enables a workflow to write content to a storage system external to Content Manager and Vantage, that was previously archived in the specified Content Manager | DIVA Core.

domain

See Vantage domain.

DPP Validate Action

The *DPP Validate* action is executed by the Vantage Analysis Service. You can use the DPP Validate action to confirm compliance of a DPP metadata XML file. If the XML file passes validation, TRUE is generated; otherwise FALSE is generated. You can test the results of the action downstream to change the workflow's actions based on the validation results. Optionally, you can also generate a validation report. The DPP Validate action is supported in Vantage Cloud hosted workflows with the exception of the validation report option which is not supported. For details, consult the Vantage Cloud User Guide available on the Telestream web site.

DRM action

The DRM action is part of the Multiscreen group, and is executed by the Multiscreen Service. You use the DRM action to execute a script that utilizes input data and generates a JSON string. The string contains the information required to encrypt streaming media with DRM (digital rights management) in Multiscreen workflows.

Scripts are created externally in a supported language and added to a Vantage domain via the Vantage Management Console > Workflow Design Items > Scripts. The specified script is executed in the DRM action, generating the output into a text variable for use in a downstream Multiscreen action. Multiscreen Flip uses the output of the script when encoding the media.

Dublist action

A *Dublist action* is a specialized origin action for ingesting dublist files from a specified server and directory in TrafficManager applications. It uses the Vantage Monitor Service to regularly poll the server to discover new files.

When a new dublist file is discovered, it is parsed by the specified scheme and new entries are added to the master dublist maintained by Vantage. The Dublist action simultaneously polls the selected Vantage catalog for any media files which match entries in the master list; when found, it submits a job to a TrafficManager application workflow for processing. The Dublist action uses the binder name as the unique identifier for the commercial, so it should be set to the Ad ID.

Typically, the workflow is an on-air processing workflow which transcodes the media, optionally trims the clip and alters audio for compliance. Then, it delivers

the media to an on-air server and notifies an automation system. For more details, see the TrafficManager User Guide.

Dublist Portal

Dublist Portal is a client Windows program provided as part of a TrafficManager license. Dublist Portal enables customers who are performing advertisement processing to define, manage, and process dublists as part of their automated TrafficManager workflows.

Edit Decision List

A Vantage *edit decision list* (EDL) is a list of clips that will be merged together in a target clip. The list entries specify the start and stop of the clip, and Vantage supports list entries from multiple media files. Vantage operators use the Workflow Portal program to create EDLs.

Vantage Edit Service

The *Edit Service* executes the Playlist actions: Colocate action, Conform action, Chronicle action, and Compose action. In the case of Conform, the Edit Service may manage the rendering via an out-of-process resource.

emotion Action

The emotion action is an optional, licensed feature in Vantage. The emotion action enables Vantage to utilize and interact with Emotion Systems Emotion Engine audio software.

Error Log

The Error Log utility captures Vantage errors and records the following details: date and time of error, error source (Vantage service), host computer where the error occurred, type of error (Info or Error), and error message.

Examine action

An *Examine action* uses the Vantage Analysis Service to evaluate the video and audio of a media file to measure certain characteristics, such as audio loudness, or to detect characteristics, such as the presence and size of curtains. You can configure it to publish metadata or variables containing the results of analysis.

Exist action

An *Exist action* uses the Vantage Catalog Service, and allows you to determine if a binder of a given name (or name fragment) is present in a specified catalog.

Extract action

The Extract action, executed by the Vantage Metadata Service, is used to extract specific values from element attributes in XML or key-value pairs in JSON metadata. The Extract action identifies and extracts specific values from structured metadata and populates variables for use in downstream actions. The Extract action enables you to browse a sample file and identify the location in the structured data where the value is located.

The workflow can ingest an XML or JSON file during job execution or by making web service calls. The Extract action automatically generates XPATH or JSONPath

references from the structured metadata in these files to extract the data, and populates a variable with the value. During execution, each extraction path is evaluated against the input and the associated variables are populated for use in downstream actions.

This action is Open Workflow capable if the Open Workflows license is installed.

Faspex Delivery action

A *Faspex Delivery action*, which is executed by the Vantage Aspera Service, is used to deliver files to Aspera Faspex servers. Upon delivery, recipients are notified and can download the package.

Faspex 5 Delivery action

A *Faspex 5 Delivery action*, which is executed by the Vantage Aspera Service, is used to deliver files to Aspera Faspex 5 servers. Upon delivery, recipients are notified and can download the package.

FileCatalyst action

The *FileCatalyst action* is an optional, licensed feature, which enables Vantage workflows to access and deliver files to FileCatalyst servers via integrated FileCatalyst client software. It is executed by the Vantage FileCatalyst Service.

Vantage FileCatalyst Service

The *FileCatalyst Service* implements the FileCatalyst action for Vantage.

Flip action

A *Flip action* is executed by the Vantage Transcode Service, and implements the specified codec, which is used to transcode decoded digital baseband media into another media encoding format. The Telestream Media Transcode and Analysis Engine performs the transcode on behalf of Vantage. The Flip action has an Export command, which allows you to save the configured Flip action as an XML file, for use in SDK applications.

Flip64 action

The Flip64 action is a Vantage Cloud-capable, 64-bit multi-core-optimized encoder running under the Vantage Transcode Service (except in Vantage Cloud mode, when it is executed by the Cloud Service, operating as a proxy of Telestream Cloud). It transcodes media from one or more input files into another format as specified by the output configuration you specify. Available resolutions extend from SD to UltraHD and 4K in a broad range of file formats, from QuickTime to MPEG-4 and TIFO, and including encoding for x264, x265 (H.265 HEVC), MXF, and more. This action is Open Workflow capable except when executing in Vantage Cloud mode.

Forward action

A *Forward action,* which is implemented in every Vantage service, forwards a binder and all current variables to another workflow, starting a new job with the target workflow. A Forward action may be added to the end of a workflow, and requires that the target workflow have a Receive action as its first action.

Typically, workflows are created with a Receive action when they are intended for execution by another workflow that immediately precedes this one. This ability to

chain workflows enables you to create comprehensive, intelligent run-time switching workflows consisting of smaller workflows used as building blocks.

See Receive action.

Frame.io action

The *Frame.io action* is implemented by the Vantage Publish Service and, via the Frame.io connector, allows for the creation and delivery of assets, between Vantage and Frame.io, an online hub that facilitates the organization of and collaboration around media assets. Frame.io allows team members to upload material, annotate this material, and collaborate with other team members on material. A special license is required to use this feature.

Gather action

A *Gather action* is implemented by the Vantage Staging Service, and collects one or more files from a specified server and directory (and optionally, its subfolders), and brings them into the workflow as attachments. Use of a file matching pattern allows you to select only certain types of files.

hosted workflows

A *hosted workflow* is a workflow that has been exported to Telestream Cloud after being designed in Workflow Designer. They are managed in the Telestream Cloud console after deployment in Telestream Cloud.

Jobs to hosted workflows are either submitted via the Telestream Cloud's Cloud console or a Telestream Cloud API-based client program, and all action execution occurs exclusively in Telestream Cloud. For details on using hosted workflows, consult the Vantage Cloud User Guide available on the Telestream web site.

hot folder

A *hot folder* is a directory on a server that has been identified as a directory for storing media to be processed by a workflow in Vantage. When the workflow monitor identifies new media in this folder, it is submitted for processing. Also referred to as a Watch folder.

See Watch action, Vantage Monitor Service.

Identify action

An *Identify action* uses the Vantage Analysis Service to determine certain properties of a media file, such as codec type, video bit rate, or file size. This information can then be published as a metadata labels or variables.

Inspector

An *inspector* is a series of one or more panels in Vantage Workflow Designer that facilitate the setup and configuration of a given action. Inspectors are unique to each action—for example, configuring a Watch action is very different than configuring a Flip action.

IPTV Flip action

The *IPTV Flip action* is included with the Cable / IPTV version of TrafficManager. IPTV Flip actions are Cloud capable, and are executed by the Vantage IPTV VOD

Transcode Service except when operating in Vantage Cloud mode, when the Cloud Service executes it as a proxy for Telestream Cloud. IPTV Flip can optionally run on a Lightspeed Server for GPU-enhanced x264/x265 encoding and video processing. The IPTV Flip action and IPTV VOD Service supports the features required to handle varying IPTV, set-top box and cable encoding requirements, and ancillary metadata specific to cable ad splicing and cable/IPTV set-top box environments. This action is Open Workflow capable except when executing in Vantage Cloud mode.

Vantage IPTV VOD Transcode Service

The *IPTV VOD Transcode Service* is the Vantage component that executes the IPTV Flip action. This service (which can optionally run on a Lightspeed Server for H264 and HEVC encoding and video processing), supports the features required to handle varying IPTV, set-top box and cable encoding requirements, and ancillary metadata specific to cable ad splicing and cable/IPTV set-top box environments. Transcoding is performed by the Telestream Media Framework on behalf of Vantage. Rendering may be performed by an out-of-process resource managed by the IPTV VOD Transcode Service.

job

A *job* is each execution of a Vantage workflow. Jobs have a state (separate from action states), and jobs are comprised of actions that are executing. Jobs, like actions, may be in-process or they may be complete.

As a job executes, each action may be performed by any service (on any computer) in the Vantage domain that is capable of performing it. The capability of a service to perform a specific job depends on its current operating state, its workload, and its suitability, defined by a qualification rule.

Jobs for a given workflow can be viewed in the Vantage Workflow Designer by selecting the workflow in the Workflow Designer panel and displaying the Job Status tab. Alternatively, all in-process and failed jobs within a Vantage Domain may be viewed in the Status details panel of the Management Console.

job routing

See qualification rule and run on rules.

job state

A *job state* is the current status of a job. Keyword values are In Process | Paused | Complete | Failed | Waiting | Stopped by User | Waiting to Retry.

Job Status Views Web Application

The *Vantage Job Status Views web application* is installed on a Vantage web server and enables you to view real-time information about jobs in the domain from anywhere on your network with a web browser.

label

A *label* or *metadata label* defines a set of metadata by use of name/value pairs associated with content. For example, a spot label may contain Agency, Author, or Ad-ID and other metadata values; this set of metadata is collectively called a Spot metadata label. Metadata labels can be stored in binders with the associated media and attachment files.

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Vantage supplies a set of default metadata labels for use in workflows. In addition, you can create and modify labels for your use using the Management Console (Workflow Design Items > Metadata Labels).

license

A Vantage *license* is stored in the Vantage domain database and enables one or more Vantage features within a Vantage domain. Licenses are delivered as XML files and imported into the database and activated via the Vantage Management Console.

Lightspeed Live Capture

Telestream's L*ightspeed Live Capture* is a scalable, multi-channel on-premise capture solution hosted on a Lightspeed Live Server for ingesting live, live linear or tape-based media directly into production, post-production and broadcast workflows. It is implemented in two web apps—Live Capture and Tape Capture.

Lightspeed Live Server

Telestream's L*ightspeed Live Server* is a 1RU, GPU-enabled, multi-core CPU server used to host Lightspeed Live Capture and Lightspeed Live Stream.

Lightspeed Live Stream

Telestream's L*ightspeed Live Capture* is an enterprise-class, live streaming system hosted on a Lightspeed Live Server that can ingest, encode, package and deploy multiple sources to multiple destinations. Lightspeed Live Stream is for broadcasters and media and entertainment companies that are producing high-production-value live streaming video that needs to be encoded and packaged for distribution.

Lightspeed Server

A Vantage *Lightspeed Server* is a 1RU, GPU-enabled, multi-core CPU server used to host Vantage services and accelerate video processing and x264 transcoding. Lightspeed Server accelerates compute-intensive image processing, including scaling, de-interlacing, frame rate conversion, motion vector calculation, and other tasks that require computation and analysis to modify or create new video frames.

Lightspeed Live Schedule

Live Schedule is a Windows service-based web application (Scheduling Live Capture Sessions); an optional, separately licensed feature offered as part of Lightspeed Live Capture. Live Schedule enables you to create events you want captured for each source, and automatically starts and stops capturing video on an event-by-event basis, with optional SDI router control.

Lightspeed Live Play

Live Play is an optional, separately licensed product offered as part of Lightspeed Live Capture. The Live Play web app is an enterprise-class software solution that provides flexible and scalable SDI video playback on Telestream's Lightspeed Live Server. Live Play enables you to perform confidence monitoring of file-based and streaming media by playing it back on-screen and via SDI.

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Listen action

The Listen action uses the Vantage Monitor Service to listen to a cloud-based message queue and generate jobs from received messages. The Listen action uses a plugin model for various cloud endpoints such as Amazon Simple Queue Service (SQS). The content of these messages could be very simple and contain a single value such as a file path or some sort of identifier to be used, or they could be more complex such as a blob of json/xml to be processed by a downstream action such as Extract. The Listen action automatically deletes messages from the queue as it processes them. Any messages that are present in the queue when the Listen action starts up will be processed.

Location action

The *Location action* uses the Cloud Service to determine if a specified file is located in Cloud-native storage or in local storage with an optional, 24-hour signed URL for HTTPS access. This information is usually utilized in branching workflows which execute a given workflow branch based on the location of the file.

Lookup action

The Lookup action is part of the Metadata group and is executed by the Metadata Service. The Lookup action performs a search operation on a set of key-value pairs in a master CSV file, based on values extracted from the metadata file associated with a job submission. If the key is found, the value is returned in the output variable, for use downstream. Lookup is typically used with a Catch action workflow, in TrafficManager applications.

Management Console

The *Management Console* enables Vantage system administrators to effectively configure Vantage domains, and scale domains across multiple servers to meet their operating requirements and perform effectively in their environment.

MediaInfo action

The *MediaInfo action*, which is executed by the Vantage Analysis Service, performs 2 tasks, based on its analysis of the media file and its streams:

- Creates variables from properties, using the MediaInfo API

- Creates a report of the properties and their values.

In each category, you can produce variables of selected metrics with the results the analysis.

Media Creation action

The Media Creation action uses the Vantage Avid Service to deliver new media to the specified Interplay server and issue the Interplay commands necessary to check the file into the Interplay server. This action is Open Workflow capable.

media nickname

A *media nickname* is an alias or alternate name that is assigned to a media file during Vantage workflow execution. When a media file is submitted to a workflow, the actual file name and location is stored in a Vantage binder along with a media nickname as defined in the workflow. Within the workflow, all references to a file

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are by media nickname. However, when Vantage needs to access a file, Vantage uses the actual file name and location stored in the binder.

See attachment nickname and nickname.

MediaMate action

A *MediaMate action* uses the Vantage MediaMate Service to enable Vantage workflows to utilize and interact with the Subtitling capabilities of Screen MediaMate. Each subtitling option provides different capabilities that relate to the subtitle process.

Vantage MediaMate Service

The *MediaMate Service* implements the MediaMate Screen software for Vantage, and provides two-way communication between workflows (and the MediaMate action) utilizing the MediaMate Screen software itself.

Message action

A *Message action* is implemented in the Vantage Communicate Service and enables you to generate and transmit an electronic Message—an email, for example. A Vantage administrator must configure Vantage to use an SMTP server (Vantage Management Console: Settings & Options > Email) before email can be utilized.

Vantage Metadata Service

The *Metadata Service* executes the actions the extract metadata values, and perform conversions between attachment files, metadata labels, and variables. Metadata Service actions include the Extract action, the Populate action, and the Transform action.

Vantage Metric Service

The *Metric Service* gathers and supplies machine-level information about a specific Vantage node. It monitors CPU, network, and RAM utilization and reports these to Vantage. On a Lightspeed server, it also monitors the GPU activity. The bulk of the information that the Metric Service presents is visualized in the Machine Metrics section of the Vantage Console. By convention, a Metric Service should be installed and running on every node in a Vantage domain. If you do not have a Metric Service running on a specific machine, then that machine will not appear (will not have an entry) in the Machine Metrics section of the Vantage Console.

Vantage Monitor Service

The *Monitor Service* is the Vantage component that executes Watch actions and Associate actions, Camera Ingest action, Workorder action, and Listen action all relating to the discovery of files and starting jobs.

Move action

A *Move action* is executed by the Vantage Transport Service, and is used to move a file from a source target (file system/device and directory) to a destination target (file system/device and directory). It performs this task by copying the file to the destination, then deleting the source. The copy first, delete last process insures that the move completes normally before deleting the source file.

Move actions can be executed on any action state.

Multi-Decide action

The Multi-Decide action simplifies a Vantage workflow by allowing multiple phases of Boolean logic called Decision Groups to be implemented within a single action. One Multi-Decide action can evaluate many different groups of variables and set a Result variable to represent the evaluation result for each group.

A key feature is that the Decide groups defined in the action can be chained together, similar to Compute and Construct actions, so that the Result variable of one group within the action can feed the input conditions of a subsequent group within the same action. This provides powerful internal logical processing within a single Multi-Decide action. The variable values resulting from a Multi-Decide action can trigger any of several branches in a workflow.

As an example, a Multi-Decide action can implement internal logic to trigger downstream workflow branches. For example, IF the video format is MXF AND the video frame rate is 60, THEN IF the bit rate is 35 MB/sec, execute branch 1; IF the bit rate is 50 MB/sec, execute Branch 2; otherwise, execute Branch 3. IF the video format is not MXF or the frame rate is not 60, execute Branch 4. The Multi-Decide greatly reduces the number of Decide actions required per workflow because many expressions can be grouped into a single action.

Multiscreen Flip action

The *Multiscreen Flip action* is an optional, licensed feature. Multiscreen Flip actions are Cloud actions; executed by the Vantage Multiscreen Service in Vantage or by the Cloud Service operating as a proxy, when executed in Telestream Cloud. The Multiscreen Service performs adaptive bit-rate encoding and simultaneous packaging of decoded digital baseband media into multiple bit-rate variants of H.264/HEVC video and containers in adaptive rate streaming formats, including Adobe HDS, Apple HLS, Microsoft HSS, and players the support MPEG DASH. You can configure the Multiscreen action to perform transcoding on a standard Vantage server or on a Lightspeed Server. This action is Open Workflow capable except when executing in Vantage Cloud mode.

Vantage Multiscreen Service

The *Multiscreen Service* is the Vantage component that executes the Multiscreen Flip action and the DRM action. This service (which can optionally run on a Lightspeed Server for H264 and HEVC encoding and video processing), supports the features required to handle varying adaptive bit-rate encoding and packaging requirements. Transcoding is performed by the Telestream Media Framework on behalf of Vantage. Rendering may be performed by an out-of-process resource managed by the Multiscreen Transcode Service.

Nexidia Action

The *Nexidia action* is an optional, licensed feature in Vantage. It uses the Vantage Nexidia Service to interact with Nexidia QC servers running Nexidia QC software. The specified input files are passed to the Nexidia QC software where they are analyzed using the test profile selected.

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Vantage Nexidia Service

The *Nexidia Service* is an optional, licensed feature in Vantage. It executes Nexidia actions.

nickname

A *nickname* is an alias or alternate name that is assigned to a media or attachment file during Vantage workflow execution. When a media or attachment file is submitted to a workflow, the actual file name and location is stored in a Vantage binder along with a nickname as defined in the workflow. Within the workflow, all references to a file are by nickname. However, when Vantage needs to access a file, Vantage uses the actual file name and location stored in the binder.

Nicknames may refer to either media files or attachment files. Certain actions only allow the use of certain nickname types. For example, a Flip action only allows media file nicknames to be used as the inputs and outputs. However, other actions (such as the Move and Copy actions) operate on any type of file and allow the use of any nickname.

See attachment nickname and media nickname.

Notify action

A *Notify action* is implemented in the Vantage Communicate Service, and is an action which saves job information to a file to interface with an external system. You can configure a Notify action to produce an XML file, and you can also use it to invoke a Web Service.

TrafficManager-centric extensions are presented here for backward compatibility.

Open Workflows

An option to Vantage workflow functionality (enabled by the Open Workflows license), *Open Workflows* enhance the processing speed of workflows by enabling most actions to begin processing media before the previous action has completed its work. Open workflows only operate in Open mode when operating on Vantage domain nodes that are running on Windows in your local environment. They can not operate in Open mode when executing in Vantage Cloud mode.

origin action

An *origin action* is a specific type of action, which must be used to start a workflow. A workflow without an origin action as its first action is not properly designed, and cannot be activated. The origin actions include the Capture action, Watch action, Workorder action, and Receive action, as well as the Catch action and Dublist action s (optional TrafficManager actions).

Original nickname

The media nickname *Original* is a reserved nickname that is typically assigned to media files in a workflow by the origin action.

See media nickname.

Populate action

A *Populate action* uses the Vantage Metadata Service to read and write metadata labels. During ingest, metadata labels can be added to ingested media and generally include trim information, audio levels, file properties, and commercial metadata. The metadata labels can then be reviewed and modified by operators using Workflow Portal. At any stage of a workflow, Vantage can extract information from labels using the Populate action, allowing Vantage for example to use trim points during a transcode, or audio level information when creating the final broadcast asset. This action is Open Workflow capable.

Post Producer

Post Producer is a specially-licensed set of actions and functionality in Vantage that enables iterative, template-driven assembly and encoding of assets for publication. Post Producer workflows automate assembly and reduce production costs by producing multi-layer video deliverables with transition and image effects, graphic overlays, and conformed for IPTV and cable VOD production, news or weather updates, international localization, promo assembly and insertion and advertisement insertion.

Vantage Publish Service

The Publish service implements the Frame.io action and *Stanza action* in Vantage.

Pulsar Action

The *Pulsar action* is an optional, licensed feature which enables broadcasters to integrate the Pulsar suite of content verification components directly in Vantage workflows. It is executed by the Vantage Pulsar Service.

Vantage Pulsar Service

The Pulsar service implements the Pulsar action in Vantage.

qualification rule

A *qualification rule* influences or controls the routing and execution of actions among Vantage services of the same type in a distributed Vantage domain. Qualification rules can be used to ensure that jobs are routed to services that are best suited for the task. Vantage uses values contained in variables to determine the suitability of a given service to execute the action.

Qualification rules are exclusively based on variables; they are not based on any actual machine analysis. As a result, it is up to the system administrator to correctly set up variables and qualification rules, and apply variables to the appropriate actions to ensure that jobs are routed correctly.

Qualification rules are created and managed in the Vantage Management Console> Services.

See also run on rules.

Qualify Action

The Qualify action allows Vantage to execute Quality Control functionality using the Encoding.com cloud platform and content present in cloud storage. Contact Telestream support for configuration or account details.

Receive action

A *Receive action* is an origin action which is implemented in every Vantage service. Receive actions are designed to receive files from other systems: workflows, SDK-based applications, and Workflow Portal, for example. Files can also be automatically submitted to a workflow starting with a Receive action from another workflow using the Forward action.

See Forward action.

Register action

A *Register action* uses the Vantage Catalog Service to add the binder created by each job to a Vantage catalog. Register actions can be executed on any action state.

See also Vantage catalog.

Remove action

A *Remove action* is executed by the Vantage Catalog Service, and is used to permanently remove a binder from the catalog and set the associated file resources to expired. If the action succeeds, it emits an action state of Success; otherwise, Failure.

Report action

A *Report action*, which is executed by the Vantage Analysis Service, generates a list of variables and their values and saves them in a file format specified by you.

resource cost

A *resource cost* is an integer value, implemented in the Vantage Management Console on each action type to specify a relative computer resource consumption value in relation to all other action types. This value enables Vantage to maximize resources and optimize transactions, so that you can tune your Vantage system for the highest possible throughput on your particular hardware.

retry rules

Retry rules are rules that you can specify on certain actions, to re-execute actions that fail primarily due to platform access and network latency problems. The retry rules you set on a given action override the default retry rules established in the Management Console.

run on rules

Run on rules are rules that you specify on a given action, to qualify which services have the characteristics that enable them to execute this action. Rules are set up by specifying variables which have been bound to a given Vantage service and values set. After configuration, the action can test each rule by comparing its run time value to the value in the service's copy and determine if there is a match before attempting to execute it.

See also qualification rule.

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Vantage SDK Service

The *SDK Service* is the Vantage component which enables integration with third-party or custom-developed client programs, for submitting jobs, tracking status, etc.

Session Log

The *session log* is a function of the Job Status and Domain Job Status panels in the Workflow Designer. This log displays session activity entries, if any, including which variables have been provided to each action and which ComponentPac was used to run an action. This information can be helpful when debugging the use of variable, or when working on an issue with Telestream Customer Service.

Signiant Delivery action

A *Signiant Delivery action*, which is executed by the Vantage Signiant Service, is used to deliver files to servers controlled by Signiant file transfer products.

Signiant Media Shuttle action

A *Signiant media Shuttle action*, which is executed by the Vantage Signiant Service, used for automated Media Shuttle accelerated file transfers among a specified list of users using Vantage workflows.

Vantage Signiant Service

The *Signiant Service* is the Vantage component which enables integration with third-party or custom-developed client programs, for submitting jobs, tracking status, etc.

The *Signiant Service* implements the Signiant file transfer product for Vantage, and provides two-way communication between workflows (along with the Signiant Delivery action and Signiant Media Shuttle action) utilizing the Signiant software itself.

Vantage Staging Service

The *Staging Service* is the Vantage component which executes Archive actions and Gather actions.

Stanza action

The Stanza action is part of the Publish group and is executed by the *Vantage Publish Service*. The Stanza action allows Vantage to create new projects within an installed server instance of Stanza. For more information on Stanza server installations and configurations, see the Stanza page on the Telestream web site for details.

service

See Vantage services.

Secured Version Control

The *Secured Version Control* feature provides the ability to install the latest software and begin building workflows that utilize new ComponentPac libraries (software libraries), while keeping the existing workflows untouched and operating off a previous ComponentPac version. When the user desires to upgrade a workflow or

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action within a workflow, it can be done at a convenient time. For a detailed description of Secured Version Control, search the *Vantage Domain Management Guide*.

Synchronize action

A *Synchronize action* is a connector action, for the sole purpose of uncluttering workflow connectors. In workflows where there is a many-to-many relationship (for example, 6 Flip actions connecting to 6 Deploy actions, which connect to 6 Deletes), instead of drawing connection between them all, you simply connect them to a common Synchronize action. There is no Inspector for the Synchronize action, because no configuration is required.

Syndicate action

The *Syndicate* action processes and can apply a template to metadata accompanying syndicated content from providers such as Pitchblue and generic providers. The Syndicate action is part of TrafficManager, an optional, licensed feature of Vantage, enabled with the TrafficManager license. It is executed by the Vantage Traffic Service. The purpose of this action is to automatically rearrange segments according to the template, or to mark specific segments as "not included" in the final program. Use the Syndicate action in syndicated media ingest workflows to convert sidecar metadata XML files to a mezzanine format for use in downstream actions in the workflow, or for use in Syndication Workflow Portal applications.

Syndication Forward action

The *Syndication Forward* action is part of TrafficManager, an optional, licensed feature of Vantage, enabled with the TrafficManager license. It is executed by the Vantage Traffic Service.

The Syndication Forward action processes incoming jobs from a traditional syndication source, such as a catch server, and allows for automatic forwarding of a CML file to a publishing workflow which performs segment extraction and processing. This removes the step of manual Workflow Portal interactions involving a typical Syndication action workflow in cases where an automated process is required or desired.

Tape action

The *Tape* action is an origin action (and may be the only action in a workflow) used to start SDI-based tape capture workflows created in any Vantage domain installed on the Lightspeed Live server. The Tape action inspector allows you to select and configure VTR sources for processing, filtering, transcoding, and output. You can also use the action to add metadata labels.

Vantage Diva Service

The *Diva Service* is the Vantage component that executes the DIVA Lookup | Diva Restore | DIVA Archive actions, communicating with a target Content Manager | DIVA Core as defined in the Vantage Domain Management Console, via the DIVA Rest API.

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Telestream Live Persistence Service

The *Telestream Live Persistence Service* handles the persistence of source material.

Telestream Live Service

The Telestream Live Service corresponds to the Live Manager capability and arbitrates resource allocation for Lightspeed Live Capture.

Telestream Live Source Service

The Telestream Live Source service manages the acquisition of material from a specific source (spawned by the Telestream Live Service).

Telestream Media Framework

The *Telestream Media Framework* is a software framework developed by Telestream for reading, writing transcoding, and analyzing many different kinds of media files. Telestream Media Framework is integrated in many Telestream products, including Vantage.

Telestream Playlist Service

The *Telestream Playlist Service* implements Telestream Live Play, which is used to play out files created by Live Capture.

Telestream Playlist Service is an optional, separately licensed feature. The Live Play web app provides on-screen and SDI-based real-time playback features based on custom playlists you create.

Telestream Schedule Service

The *Telestream Schedule Service* is an optional, separately licensed feature. It implements Live Schedule, including Live Schedule, a service-based web application. Live Schedule works in conjunction with Live Capture, enabling you to create events you want captured for each source, and automatically starts and stops capturing video on an event-by-event basis.

Tempo action

The *Tempo action* is part of the Edit group executed by the Vantage Edit Service and is Cloud capable. When in Vantage Cloud mode, it is executed by the Cloud Service in Telestream Cloud. The Tempo action is included in Tempo, a time-adjusting encoding solution built on the Vantage platform. The Tempo action re-times file-based content and intelligently decreases or increases the running time of shows and segments. This action is Open Workflow capable.

Timed Text Conform action

The Timed Text Conform action is part of the Timed Text group and is Cloud capable. The Timed Text Conform action is executed by the Vantage Timed Text Service or via the Cloud Service when executed in Telestream Cloud. The Timed Text Conform action ingests a Timed Text CML file with references to caption/subtitle files in order to create SCC, MCC, or IMSC outputs.

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Timed Text Flip action

The *Timed Text Flip action* is part of the Timed Text group and is Cloud capable. The Timed Text action is executed by the Vantage Timed Text Service, or by the Cloud Service operating as a proxy, when executed in Telestream Cloud. The Timed Text Flip action automates caption file-type conversions, extracts caption data from media with embedded captions, creates subtitle overlay graphics, and manipulates the timecode of caption data to match media.

Vantage Timed Text Service

The *Timed Text Service* is the Vantage component which executes the Timed Text Conform action or Timed Text Flip action.

Vantage Traffic Service

The *Traffic Service* is the Vantage component which executes the Catch action | Dublist action | Syndicate action.

TrafficManager

TrafficManager is an optional, licensed feature which enables automated advertisement and syndicated media processing from catch server to automation systems and on-air servers, serving both the broadcast and cable industry. It includes the Catch action for catch servers and the Dublist action for dublist management. It also includes the Syndicate action for processing syndicated media.

transcode

Transcode means the process of decoding media in one format (MPEG2, for example) down to digital baseband and then encoding it in another media format (MPEG4, for example).

Vantage Transcode Service

The *Transcode Service* is the Vantage component that executes the Flip action | Flip64 action —transforming media from one format to another. Transcoding for the Flip action is performed by the Telestream Media Transcode and Analysis Engine on behalf of Vantage. The remaining actions are performed within the Telestream Media Framework.

Transform action

A *Transform action* uses the Vantage Metadata Service to transform metadata between XML files (attachments) and labels. XSL style sheets are used to perform these transformations; style sheets can be managed in the Vantage Management Console: Workflow Design Items > Style Sheets. This action is Open Workflow capable.

Vantage Transport Service

The *Transport Service* is the Vantage component that executes (or manages the execution via an out-of-process resource) the actions relating to file operations: Move action, Delete action, Copy action, and Deploy action. File transfers may be performed by an out-of-process resource managed by the Transport Service.

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Utilization action

A *Utilization action* enables users to determine the relative load on the domain as well as transcoding services within the domain. Other downstream actions can then make intelligent branching decisions based on that information: Telestream Cloud versus on-premises transcoding of media, for example.

Vantage array

A *Vantage array* is a Vantage domain whose software components are distributed among multiple computers for durability and scalability, instead of installed and operating on a single computer (often referred to as a distributed domain). A typical array has the Vantage domain database installed on a dedicated server, and all Vantage services installed on another computer, and additional Transcode Services each installed on other computers for high-performance, parallel transcoding.

Vantage catalog

Formal name for catalog. Similar in concept to the folders in a file system, a Vantage *catalog* is a container that stores binders. *Catalog folders* are sub-containers that organize binders. To access a binder, Workflow Portal operators search through the visible catalogs and folders, just as they might sort through folders in a file system.

Vantage domain database

A *Vantage domain database* is a Microsoft SQL Server database which contains all workflows, actions, jobs, binders, licenses, and configuration information for a Vantage domain.

Vantage domain

A *Vantage domain* is a collection of computers, Vantage workflows, actions, Vantage services, jobs, binders, and configuration settings, all known to and interacting with each other, stored in a database. This collection constitutes a Vantage domain. Vantage domains may exist on a single computer or they may be distributed across many computers for durability and scalability.

The name of a Vantage domain is the same as the name of the server that hosts the Vantage domain database.

Multiple Vantage domains may exist on a network, but they are independent entities that do not communicate with each other. They are not bound together and do not share resources or work. The purpose of storing an entire domain in a database is to provide an easy way to create and manage the domain and to provide access to all the details about each resource in the domain to any other resource that needs it.

Vantage EDL nickname

The nickname *Vantage EDL* is a reserved nickname that is typically assigned to media files that are created in catalog ingest workflows, to identify the ingest files of an Edit Decision List in Workflow Portal, during Stitch and Trim operations. See media nickname.

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Vantage folder address

A *Vantage folder address* is an alias to a local or remote file folder. You can create and manage Vantage folder addresses in the Vantage Folder Address Book dialog, in Copy and Move actions in Vantage Workflow Designer, and in the Vantage Management Console.

After you create a Vantage folder address, you can specify the destination directory in any workflow simply by selecting the Vantage folder address. Changes to a Vantage folder address—such as updating an IP address or a password—immediately affect all workflows that use that Vantage folder.

Unlike Vantage stores, temporary files that are created during workflow execution are not automatically deleted from Vantage folders according to job expiration settings.

Vantage Live Service

Part of the Vantage Media Processing Platform on a Lightspeed Live Server, the Vantage Live Service is listed in the Management Console Services list and executes the Capture action processes.

Vantage Proxy nickname

The media nickname *Vantage Proxy* is a reserved nickname that may be assigned to media files encoded using the QuickTime encoder in H.264/AAC as QuickTime movies or MP4 files with x264/AAC, which enables previewing with the media viewers provided in Vantage programs such as Workflow Designer, Workflow Portal, and the Vantage Management Console.

Alternatively, the Workflow Portal Windows Client QuickTime Media Player supports MP4 with x264-encoded H.264/AAC, provided that QuickTime 7.7.6 or later is installed.

See media nickname.

Vantage services

The term *Vantage services* refers to the collection of Windows services in a Vantage domain, which are responsible for executing all of the actions in a workflow as it executes.

Vantage store

A *Vantage store* is a directory on a Windows file system that stores temporary files. Stores are managed by the Vantage domain for the purpose of centralizing large directories for reading and writing files. Unlike a Vantage folder, temporary files placed in a Vantage store are deleted when the binder is deleted. Vantage stores are generally used to hold temporary files for the duration that a job is executing.

Vantage stores are managed in the Vantage Management Console: Storage. Services that create temporary files, such as the Transcode Service, can be configured to use specific stores.

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Vantage Thumbnail nickname

The media nickname *Vantage Thumbnail* is a reserved nickname that is typically assigned to output media files that are created to display thumbnail images instead of binder names in Vantage programs such as Workflow Portal.

See media nickname.

variable

In Vantage, a *variable* is a container for temporary job information—a symbolic name (or identifier) which contains some known or unknown quantity or element of information; a value. You use the variable name to reference the current value; this separation of name and content allows the name to be used independently of the exact information it represents. The variable can be bound to a value (that is, you can set a variable to a given value) during run time, and the value of the variable may change during the course of workflow execution.

A variable identifies temporary job metadata. Variables have a name (such as *Number of Audio Channels*), a type (such as *Integer Number*) and a default value (such as *50*). Variables values can be set inside a job in a variety of ways: through analysis, through metadata population, in the Watch and Associate actions, as a property of an action, or by a service as it executes an action.

Variables are used by Vantage services and actions to control workflow execution. Many settings in actions can be bound (or attached) to variables, allowing the workflow to dynamically update values on a job-by-job basis.

For example, a variable may be assigned a value by an Analysis action to determine how many lines of black are at the top of a video frame; a crop filter later in the workflow can bind to that variable, ensuring that every crop in every job is appropriate to the workflow requirements.

Variables in services may be also be used for job routing. For example, an action with a boolean variable named *hostnameRequired* set to TRUE must pass this condition to a service which evaluates the condition to determine if it can successfully perform the action.

Variables can be created in Vantage Management Console (Workflow Design Items > Variables) or in Vantage Workflow Designer, and assigned for use in workflows and services.

VidChecker action

A *VidChecker action* is an optional, licensed feature in Vantage. It uses the VidChecker Service to enable Vantage workflows to utilize and interact with various QC tests provided by the VidChecker software.

VidChecker Service

The *VidChecker Service* implements the VidChecker QC software for Vantage, and provides two-way communication between workflows (and the VidChecker action) utilizing the VidChecker software to perform media quality tests.

Watch action

A *Watch action* is an origin action; it uses the Vantage Monitor Service to regularly poll a target location (a directory, for example) on a device or file system (FTP,

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Windows network folder, etc.) to discover new files. This action is Open Workflow capable.

When a new file is discovered, the Watch action submits a job for the workflow which it is part of, for processing the file—typically, a media file.

Web Dashboard

The *Web Dashboard* is an optional, licensed web app which displays important domain information from anywhere on your network in a web browser. The Web Dashboard is installed on the IIS server on your Vantage domain database server.

workflow

A *workflow* in Vantage is a set of actions designed to perform an automated process. Vantage workflows are created using the Vantage Workflow Designer by adding and configuring actions and connecting them together. Workflows are stored in the Vantage domain database, and executed by Vantage services.

Workflow Designer

Vantage Workflow Designer is a client program that enables you to create and edit workflows, activate and deactivate workflows, monitor job status, and review and delete jobs that have completed.

Workflow Portal

Workflow Portal is a client program that features a customizable set of functionality to support various operator-related tasks: selecting media and submitting jobs, updating variables and metadata, forwarding jobs, creating EDL-based jobs, etc.

Customization is implemented in the Vantage Management Console, when Vantage administrators construct the user interface and functionality they want for a given task, then save it. When operators launch Workflow Portal, they select the configuration appropriate to the task at hand, and Workflow Portal dynamically display the user interface components specified in the configuration file.

Workflow Portal Web Application

The *Workflow Portal web app* is a limited implementation of Workflow Portal, for use in a web browser over a network or Internet connection.

Workorder action

A *Workorder action* is an origin action; it uses the Vantage Monitor Service to regularly poll a target Windows directory for new workorder files to process. The Workorder action provides a simple and highly effective method of submitting multiple similar jobs without using the SDK.

When a new file is discovered, the Workorder action submits one job for each row in the file.

workorder file

A *workorder file* is a comma-separated value (CSV) text file containing one or more work orders, or job descriptions. Each row in the CSV file specifies a job, and each column specifies either an input file for the job, or value for run-time use; typically assigned to a variable in the workflow. Workorder file configurations are specified

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in the Domain Management Console. At least one workorder scheme must be created in order to use a Workorder action.