



VANTAGE CLOUD USER'S GUIDE

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Vantage Cloud Overview

This chapter presents an overview of Vantage Cloud, a service hosted on Telestream Cloud—its features, components, and typical applications—to help you get started, and understand how you can use Vantage Cloud services in your Vantage domain.

This document applies to the current or later version of Vantage identified in the title, unless superseded by a newer publication. You should use the latest publication for your version of Vantage. Visit telestream.net/telestream-support/vantage/support.htm to view or download current publications.

Note: This guide frequently refers to *Telestream Cloud* as well as *Vantage Cloud*. *Telestream Cloud* is a cloud-based platform providing media-focused services. It includes *Vantage Cloud*, a workflow-driven media processing service hosted on Telestream Cloud.

Topics

- [Getting Started](#)
- [Understanding Types of Vantage Workflows](#)
- [Extending a Vantage Domain to Telestream Cloud](#)
- [Prerequisites](#)
- [Vantage Cloud Workflow Pricing](#)
- [Monitoring Billing in Telestream Cloud](#)
- [Managing Telestream Cloud Accounts and Assets](#)
- [Canceling a Telestream Cloud Account](#)

Note: This guide is written for video professionals who are familiar with using Vantage, and focuses on creating and using Vantage workflows via Vantage Cloud. All other aspects of Vantage management and utilization are described in separate Vantage guides. If you aren't familiar with Vantage, we suggest that you read the [Vantage Workflow Designer User's Guide](#) and [Vantage Domain Management Guide](#).

Getting Started

Vantage Cloud expands the power of your Vantage domain to execute workflows that include Vantage Cloud services. Whether your domain is a single-node Vantage domain or a multi-node Vantage array, with Vantage Cloud, you have access to flexible, scalable media processing power in Telestream Cloud.

Before using Vantage Cloud, you should be familiar with:

- Designing and constructing workflows in Workflow Designer, including the role and use of variables and media nicknames in workflows
- Decision making and branching workflow execution
- Vantage Secured Version Control—read [Using Vantage Secured Version Control](#), published on the Telestream web site.

Topics

- [Overview](#)
- [Typical Vantage Cloud Applications](#)
- [Ideal Use Cases for Hosted Workflows](#)
- [Use Cases Not Well-suited for Vantage Cloud Workflows](#)

Overview

Vantage Cloud is a set of features that enables—and interfaces with—Vantage services that are hosted in Telestream Cloud—and executed by cloud-capable actions in cloud-capable workflows. These actions enable Vantage domains to leverage additional cloud processing on demand. Whenever workload peaks or other requirements demand it, using Vantage Cloud to extend your domain to cloud-based media processing only requires a few changes to a Vantage domain and your workflows.

Here are the key features and benefits of using Vantage Cloud:

- Works in new or upgraded Vantage domains for workflow creation and execution
- Deploys action execution to Vantage Cloud using containerized micro-services with functionality identical to the on-premise edition of the services
- Enables seamless execution of Vantage workflows wherever required. Cloud-capable actions can run on-premise or in Vantage Cloud, and workflows can be designed to shift processing to the cloud automatically when workload exceeds a threshold.
- Workflows can be deployed on-premise or in Vantage Cloud
- Enables easy modification of existing workflows to run in Vantage Cloud
- Enables easy startup and scaling of additional cloud-based Vantage resources
- Provides additional cloud processing power on demand economically.

Typical Vantage Cloud Applications

Vantage Cloud workflows (hybrid and hosted) are ideally suited for Vantage users who...

- Want to leverage new or existing on-premise Vantage domains and workflows
- Need to respond quickly to rapid changes in demand for Vantage processing
- Want to save money and time by accessing Vantage Software as a Service (SaaS) instead of investing in additional on-premise hardware to meet peak demands
- Want occasional access to specialized features without requiring a license
- Want the simplicity of cloud processing that “just works” whenever you need it.

Ideal Use Cases for Hosted Workflows

Hosted Workflows—workflows specifically designed for hosting and execution directly in Vantage Cloud, are ideally suited for Vantage users who...

- Have media located on cloud storage (Amazon S3, Google Cloud Storage, Azure BLOB storage). Maintaining files in the cloud typically is not a significant operational cost. Greater costs typically arise when you move files out of the cloud. Consider designing your workflows so as to minimize the number (or frequency) of files that are downloaded.
- Primarily want to submit cloud-resident media for cloud processing via a third party program or system via an API.
- Have materially variable workload—for example, on most days you typically transcode a few hundred files; but each Thursday, you typically transcode about 1500 files for weekend consumption.
- Require dynamic scalability: efficient, concurrent processing high volumes of jobs is critical to your operation.
- Value total throughput over total transcoding time per job. For example, you need to transcode about a thousand files as a batch (potentially concurrently), but it isn't important that it takes 15 minutes longer per file, for example.

Use Cases Not Well-suited for Vantage Cloud Workflows

It is equally important to understand the scenarios which may not be beneficial to migrating from a Vantage on-premises workflow to a Vantage Cloud hybrid or hosted workflow.

Vantage Cloud workflows are not recommended for users who...

- Are processing on-premises repositories of extremely large or highly-dense media files. The time and cost of uploading these to cloud storage may be prohibitive or offset the potential savings of cloud processing.
- Are downloading high volumes of transcoded media back on-premises—Vantage Cloud workflows may not be ideal due to the egress costs/fees incurred.
- Require high throughput of individual jobs—that is, highest possible entire workflow execution speed and fastest turn-around time. Vantage Cloud workflows typi-

cally will not match the speed that is enjoyed by GPU acceleration on a Vantage Lightspeed server. If you are required to process a particular asset in a fixed amount of time, these workflows may not be the best option when compared to processing the asset in an on-premises Vantage domain hosted on Lightspeed servers.

- Workflows which require interaction/inter-operation with fixed assets may not be candidates for Telestream Cloud hosted workflows (for example, if a workflow integrates or is tightly coupled with an on-premises Watermarking service).
- Submitting jobs the way you typically submit jobs on-premises: work orders, hot-folder ingests of local, on-premises media, drag, drop, and forget jobs, and jobs submitted via Vantage TrafficManager or other Workflow Portal applications.
- Transcoding extremely large or 4K and higher format files which reside on-premise—the cost of uploading the file to the cloud may be prohibitive.
- Delivering transcoded media back on-premise—egress costs may be prohibitive.
- Individual job throughput—transcoding each job as quickly as possible is critical
- Have applications that require operator intervention. For example, paired workflows with an operator using Workflow Portal to view/trim/update metadata before submitting the media for final processing.

Understanding Types of Vantage Workflows

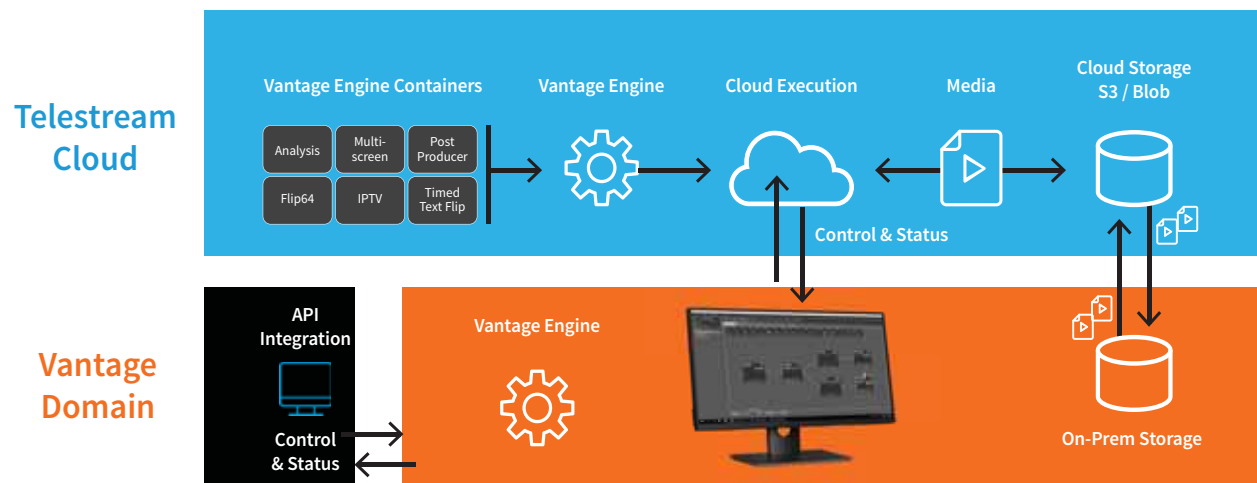
Vantage Cloud expands the scope of a Vantage domain to include Telestream Cloud, and—in addition to default, on-premises workflows—enables you to create two additional, different types workflows—*hybrid workflows* and *hosted workflows*. All workflows, regardless of type, are designed in Workflow Designer. Some actions that you may include in a workflow require a specific license.

Topics

- [Hybrid Workflows](#)
- [Hosted Workflows](#)

Hybrid Workflows

Hybrid workflows are workflows that execute directly in your on-premise Vantage domain and managed in Workflow Designer, but include one or more actions that can execute in Telestream Cloud at run time.



In addition to Vantage actions in hybrid workflows that only execute on-premise, these workflows include cloud-capable actions, which may execute in Telestream Cloud when in Cloud mode. They may also include [Location Action](#) | [Cloud Speech Action](#), which only execute projects implemented in Vantage Cloud.

For information on creating and using hybrid workflows, see [Creating Hybrid Workflows](#).

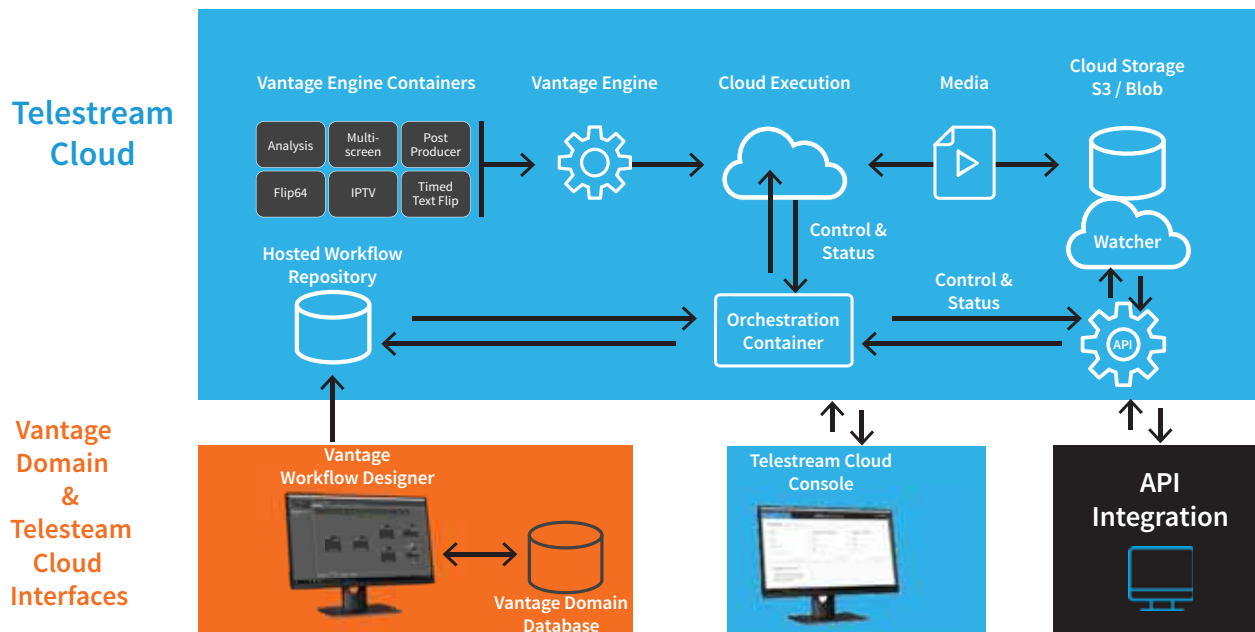
Hosted Workflows

Hosted workflows are intended for hosting and execution directly in Telestream Cloud, without any dependencies on Vantage after the creation and configuration phase. Only certain media processing actions (see [Using Vantage Cloud-capable Media Processing Actions](#)) can be utilized in hosted workflows, and the execution of these actions is governed by your Vantage Cloud service contract and billing system.

Note: Before you can execute hosted workflows in Telestream Cloud, a Telestream Cloud account is required with an active Telestream Cloud service, and a cloud storage account, registered for utilization in Telestream Cloud (See [Vantage Cloud Requirements](#)).

Hosted workflows enable you to expand your on-premises Vantage solutions into intelligent, cloud-native media transformation engines. You design these powerful, automated workflows using Vantage Workflow Designer, and then deploy them to Telestream Cloud (directly from Workflow Designer—see [Managing Hosted Workflows](#)) where you can access and execute them from anywhere in the world.

Decentralized access to your own cloud-based media processing applications with no single point of failure changes the game, expanding horizons for your media processing requirements.



Hosted workflows are a subset of hybrid workflows, where the supported set of utility actions supported is limited. See [Using Vantage Cloud-capable General-Purpose Actions](#).

Once you have delivered a workflow to Telestream Cloud; the on-premise Vantage domain is only required to modify or update the workflow or create new ones.

Unlike hybrid workflows, hosted workflows are managed using the Telestream Cloud console.

Jobs are typically submitted via a Vantage Cloud API-based client program or system. They may also be submitted via the Telestream Cloud console.

Action execution occurs exclusively in Telestream Cloud. These workflows can only be comprised of cloud-capable actions, which all execute in Telestream Cloud. Hosted workflows can not include these cloud actions: Cloud Speech | Location.

For details on creating and using hosted workflows, see [Creating Hosted Workflows](#).

Extending a Vantage Domain to Telestream Cloud

With the advent of Vantage Cloud, the concept of a Vantage domain expands to include all Telestream Cloud components that inter-operate with an on-premise Vantage domain.

- Hybrid and hosted workflows interact with Telestream Cloud to provide seamless media processing and data storage provided by supported cloud storage vendors.
- When Cloud-capable actions are in Cloud mode, they display pricing per content minute and per file. When these actions execute in Telestream Cloud, you are charged for execution by the content minute.
- Workflows can be enabled to determine automatically whether to execute locally or in Vantage Cloud—based on your media location and domain utilization (workload).
- Vantage displays processing status for both on-premise and Cloud-based actions.

Telestream Cloud Processes and Features

- Telestream Cloud hosts version-matched Vantage services to execute these actions:
 - Analysis
 - Conform
 - Flip64
 - IPTV Flip
 - Multiscreen Flip
 - Tempo
 - Timed Text Conform
 - Timed Text Flip
- Media can be stored on-premises or in supported third-party cloud storage: Amazon AWS, Microsoft Azure, and Google Cloud Storage.
- Media that is already in the cloud, stays in the cloud. Local (on-premise) media is transferred automatically to the cloud for Cloud-based processing.
- When activated by a workflow, Telestream Cloud rapidly spins up a Vantage Engine Container and processes the media in the Cloud.
- Many jobs process simultaneously, based on dynamic Telestream Cloud scaling.

Prerequisites

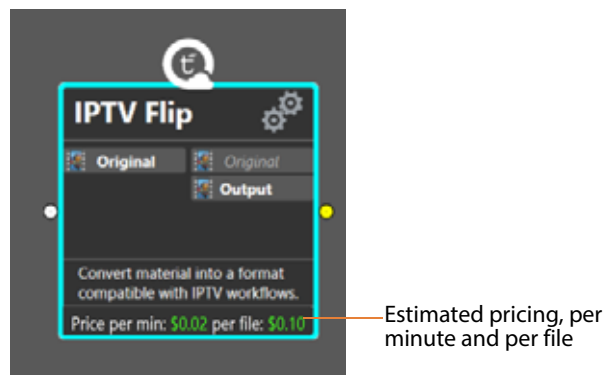
Before you start designing Vantage Cloud hosted workflows in Vantage and deploying them to Telestream Cloud, make sure that you have met these prerequisites:

- Vantage 8.3 or later. A Vantage domain where hosted workflows are created and configured requires all Vantage services to be installed and running.
- Your on-premises Vantage domain must be kept up to date with the latest ComponentPacs. Vantage Cloud utilizes the ComponentPac revision of each Vantage Cloud-capable action in a workflow to determine which version of the Telestream Cloud service to use when it executes the job in Telestream Cloud.
- A Telestream Cloud account is required to utilize Vantage Cloud. If you don't have one, in Chrome, go to cloud.telestream.net to create a free trial account.
- A cloud storage account is required to use any feature of Telestream Cloud. If you don't have an account with one of these cloud storage providers: Amazon S3 | Google Cloud | Microsoft Azure, create one and become familiar with using it.

Note: See [Getting Vantage Cloud Up and Running](#) for a comprehensive description of all Vantage domain and Telestream Cloud requirements and configuration. You'll also learn how to create cloud storage and a Telestream Cloud account and register them in Vantage and Telestream Cloud so that they can be accessed and utilized during workflow execution.

Vantage Cloud Workflow Pricing

Pricing is per-action for Cloud-capable actions—those that process media essences directly (see [Using Vantage Cloud-capable Media Processing Actions](#)). Prices are displayed on a per minute and per file basis on actions in Workflow Designer workflows and are based on pre-discount list prices:



These prices are only approximate and should not be used to calculate actual fees. Prices for data transfers are not included in these usage fees, which if applicable, will be charged by your cloud storage provider separately from Telestream Cloud usage fees.

Note: Telestream may change its prices at any time without prior notice. When multiple outputs are produced by a single action, actual charges for this action are based on the largest output produced by this action. When variables have been bound to fields such as width and height, the calculated prices displayed in Vantage are based on the default value of the variable.

A number of factors affect pricing. For example, these are some Flip64 pricing factors:

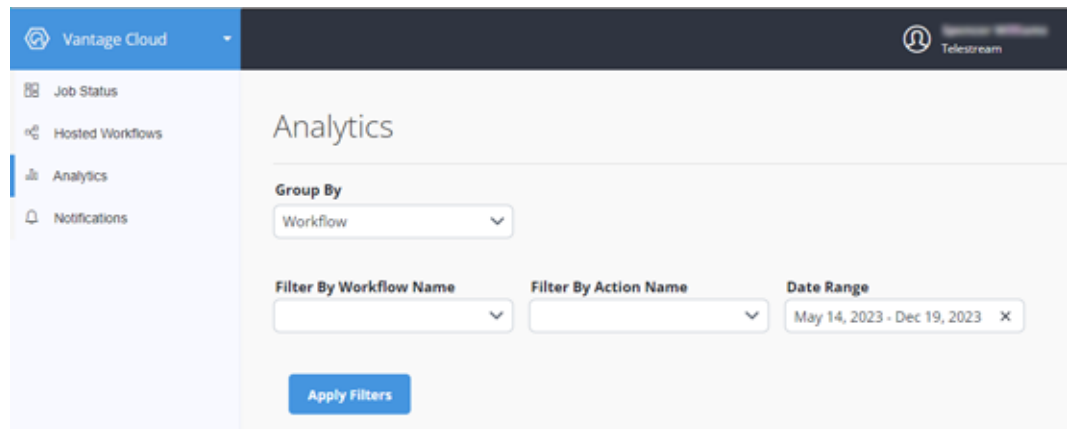
- Video Compressor or direct-conversion
 - Height, width, frame rate
 - Multi-pass encoding
 - Custom interlacing rules
- Certain output packagers incur an additional charge.
- Dolby encoding and decoding incurs an additional charge. (Dolby AC-3 decoding pricing does not display on the action; it is determined at runtime.)

See [Monitoring Billing in Telestream Cloud](#) for details on viewing Telestream Cloud billing.

Monitoring Billing in Telestream Cloud

Users who have Vantage Cloud access in Telestream Cloud can view usage and billing:

1. Log into Telestream Cloud with your credentials to display the dashboard.
2. In the dashboard, go to Vantage Cloud—click on Go to service.
3. In the menu, display the Analytics page. The Analytics page displays your usage for the specified time period and provides data filtering.



4. To view approximate charges, select one or more workflows or actions and a date range, and click Apply Filters.

5. Telestream Cloud displays the charges for the workflows/actions and date range selected:

Analytics

Group By
Workflow

Filter By Workflow Name
analysis test (Sync) X
analysis test (CloudMode) X

Filter By Action Name

Date Range
May 14, 2023 - Dec 19, 2023 X

Apply Filters

WORKFLOW NAME	TOTAL JOBS	BILLABLE UNITS	ESTIMATED COST
analysis test (CloudMode)	4	7.13	\$0.07
analysis test (Sync)	2	5.93	\$0.06

Note: This page is not a bill; it displays the approximate charges incurred to date. You will receive a separate monthly bill or a credit card charge from Telestream.

For additional information about how Vantage Cloud pricing is determined based on workflow execution, see [Vantage Cloud Workflow Pricing](#). If you have any questions or need additional details about billing, please see [Canceling a Telestream Cloud Account](#).

Managing Telestream Cloud Accounts and Assets

A Telestream Cloud account is required to utilize Vantage Cloud. When you are ready to establish your Telestream Cloud account, in Chrome, go to cloud.telestream.net and start your free trial account.

ednote obsolete



To learn how to establish a Telestream Cloud account, see [Creating Your Telestream Cloud Account](#).

Canceling a Telestream Cloud Account

To cancel your Telestream Cloud account and discontinue billing, please contact Vantage Technical Support—see [Contacting Telestream](#).

Getting Vantage Cloud Up and Running

This chapter focuses on meeting Vantage Cloud requirements, creating a cloud storage account and a Telestream Cloud account, and configuring Vantage and Telestream Cloud to utilize Vantage Cloud—all the tasks required to get Vantage Cloud up and running after you’ve installed and/or updated your Vantage domain.

Note: Vantage installation/updating is not described in this guide. For full details, see the [Vantage Domain Management Guide](#) on the Telestream web site. To make best use of Vantage Cloud, you should frequently check for new Update Pack and ComponentPac releases and update your Vantage domain to utilize the functionality that is provided, which may lift some restrictions (see [Configuration Limitations in Vantage Cloud Mode](#)).

Topics

- [Vantage Cloud Requirements](#)
- [Creating a Cloud Storage Account](#)
- [Creating Your Telestream Cloud Account](#)
- [Configuring Vantage for Vantage Cloud](#)

Vantage Cloud Requirements

These are the accounts, services, and products you’ll need in order to implement a Vantage Cloud-enabled Vantage domain and use it to process your media.

Note: Your Vantage domain should have high-speed Internet access (not dial-up or satellite) in order to utilize Vantage Cloud and Telestream Cloud.

Topics

- [Third Party Cloud Storage Account](#)
- [Telestream Cloud Account](#)
- [Vantage Domain](#)

Third Party Cloud Storage Account

Vantage Cloud uses your third-party cloud storage account for accessing your media and storing processed output files. You will need an account on Amazon AWS, Google Cloud Storage, or Microsoft Azure. (See [Creating a Cloud Storage Account](#).)

Telestream Cloud Account

Establish an account in [Telestream Cloud](https://cloud.telestream.net) (<https://cloud.telestream.net>)— (see [Creating Your Telestream Cloud Account](#)). To create this account you'll need your cloud storage account information, so create your cloud storage account (immediately preceding) first if you haven't already done so.

In your new Telestream Cloud account, you should enter your third party cloud storage account and credentials, so that Vantage Cloud can access your cloud storage.

Vantage Domain

You can execute Vantage Cloud-capable actions in Telestream Cloud from a single-node Vantage domain or array. For Vantage platform requirements, see the [Vantage Domain Management Guide](#).

EDNOTE Review - don't think this is true: Using Vantage Cloud on a single-node domain requires a Vantage Cloud Designer license (V-SW-VANTAGE-START) or any other license which allows workflow design and activation, such as Transcode (V-XCODE-SW) or higher. Actions in Cloud mode are licensed for per-minute | per file Cloud execution.

Note: The Utilization action, used to manage workload between the Cloud and on-premise actions, requires a Vantage Array Pro license.

For software and licenses, visit www.telestream.net and choose Vantage from the Buy menu.

Creating a Cloud Storage Account

A third-party cloud storage account is required to use Vantage Cloud. Vantage Cloud supports Amazon AWS, Google Cloud Storage, Microsoft Azure and other providers.

See the instructions for a summary of how to set up an account with the supported vendor of your choice. If you require further assistance, refer to the documentation on the vendor's web site. Instructions are also summarized on the [Telestream Cloud site](#) storage page.

Topics

- [Cloud Storage Considerations](#)
- [Creating an Amazon AWS Account](#)
- [Creating a Google Cloud Account](#)
- [Creating a Microsoft Azure Account](#)

Cloud Storage Considerations

- Performance may vary by the type of storage resource you choose. Network traffic during busy times may affect storage performance and transfer speeds.
- Virtual servers can become temporarily unavailable. If Vantage Cloud has trouble accessing your storage, visit your storage site to determine whether your storage is inaccessible for some reason. Be sure to verify your credentials.
- Default storage account settings specify limits on various resources. If you bump up against the limits and need greater speed or additional storage, contact your storage provider for assistance.
- Normally, Cloud-capable actions automatically transfer source media for processing up to a target cloud storage bucket. The files are placed into the *vcp-uploads* folder in your output storage bucket. However, when using Post Producer CML files or other reference sources such as IMF and using a storage bucket for input source material, you should identify the specific source input bucket used in Telestream Cloud, so that Vantage and Telestream Cloud know where to find the input media files being referenced.

Creating an Amazon AWS Account

Follow these steps to create an Amazon storage account:

1. Go to <https://aws.amazon.com> and follow the instructions in Sign Up.
2. Once your AWS account has been created, go to Amazon Simple Storage Service (S3) in the management console and sign up for the service.
3. Go to IAM Users settings (Services > IAM > Users) to create a Telestream Cloud user.
4. Copy the generated user credentials (Access Key ID and Secret Access Key). You'll need these later to configure Vantage Cloud in Telestream Cloud.
5. Read [Cloud Storage Considerations](#) below and continue on to [Creating Your Telestream Cloud Account](#) to enter your credentials to access your storage.

Creating a Google Cloud Account

Follow these steps to create a Google Cloud Storage account:

1. Go to the Google Console (<https://console.cloud.google.com/>) and follow the sign-up instructions to create a new account.
2. After signing into your new account, create a GCS project.
3. In the project, select APIs & AUTH in the left sidebar.
4. In the APIs list, click the button next to Google Cloud Storage to turn GCS on.
5. In the project Settings click Enable billing and follow the steps.

6. Obtain and copy your Access Key & Secret Access Key as follows:
 - a. Go to your project's Storage page.
 - b. Under Cloud Storage select Storage access from the left menu.
 - c. Click the Interoperability tab on top. You may need to click the Enable Interoperability access button to enable the tab.
 - d. On the Interoperability tab, find and copy your Access Key & Secret Access Key.
7. Read [Cloud Storage Considerations](#) and then continue on to [Creating Your Telestream Cloud Account](#), where you will enter your credentials to access your storage.

Creating a Microsoft Azure Account

Follow these steps to create a Microsoft Azure storage account:

1. Go to <https://azure.com> and click the green Start Free button and follow the prompts to create a new account.
2. After logging into the Azure Portal, click Storage Accounts.
3. Click Add to begin creating a new storage account.
4. Click Create Storage Account and make entries and selections in required fields.
5. Click Review + Create, and verify your selections are correct and validated.
6. Click Create. You will receive a deployment complete message.
7. Select your storage account > Overview > Access Keys.
8. Copy your access keys for use in setting up your Telestream Cloud account.
9. Read [Cloud Storage Considerations](#) below and then continue on to [Creating Your Telestream Cloud Account](#), where you'll enter the credentials to access your storage.

Creating Your Telestream Cloud Account

To use Vantage Cloud features in your Vantage domain, you create a Telestream Cloud account with Vantage Cloud access enabled. This is where your Cloud-based media processing executes. If you have an existing account, you can use it without creating a new one.

Note: Before you sign up for an account, you should have a third-party storage account that you want your Telestream Cloud account to access for storage. See the details in [Creating a Cloud Storage Account](#) to create a storage account.

Topics

- [Cloud Account Prerequisites](#)
- [Creating a Telestream Cloud Account](#)

Cloud Account Prerequisites

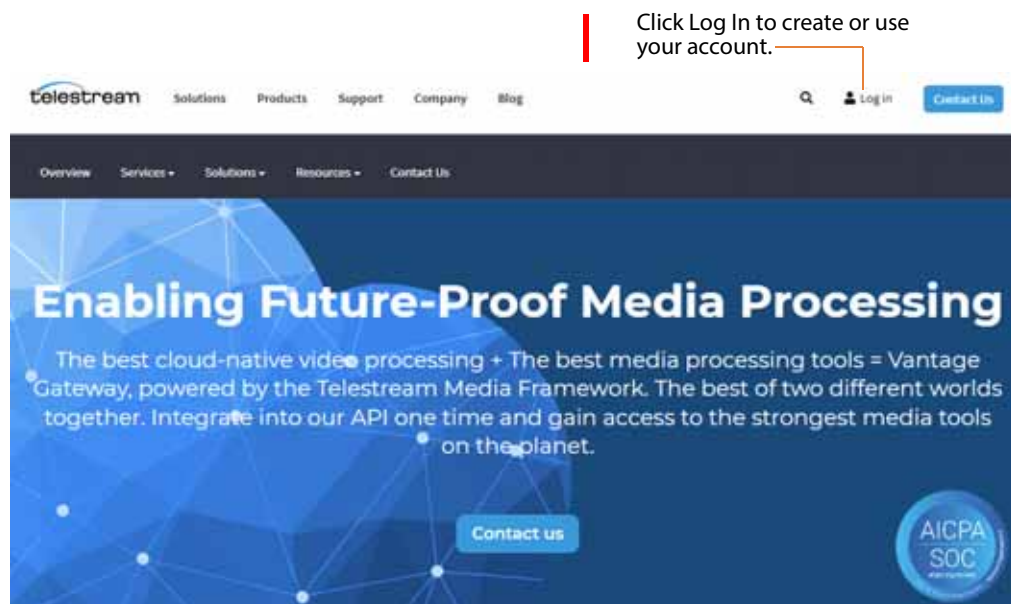
These prerequisites apply to setting up a Telestream Cloud account:

- A high speed, terrestrial Internet connection to your Vantage server and to the computer used to create your Telestream Cloud account.
- An Internet browser for signing up and using Telestream Cloud.
- A third-party Cloud storage account with Amazon AWS | Microsoft Azure | Google Cloud Storage.

Creating a Telestream Cloud Account

EDNOTE Every screen shot in this topic is obsolete - update when process is known

1. Point your browser to <https://cloud.telestream.net> to display this page:



2. In the upper right corner, click Log in and select Cloud Services to display the login page.

telestream | cloud

Sign in

Welcome back! Please provide your email to log in.

Email


Click Create Account to create a new Telestream Cloud account.

Don't have an account yet? [Create account](#)

3. On the Sign In page, click Create Account at the bottom, below the Next button.
4. On the Sign Up page, fill out the form and click Sign Up.
Telestream Cloud displays the Dashboard page.
5. Click Get Started in the upper right corner and Telestream will send you an email to verify your account. **ednote is this system driven or is there human intervention?**
Time to receive email? continue editing from here
6. When you receive the email, open it and click the link to verify your account.
7. Telestream Cloud displays the Dashboard—click the Get Started button.

Telestream Cloud displays the Free Trial page:

Dashboard

 **larry wood**
Telestream, LLC

Back to Dashboard

Free Trial

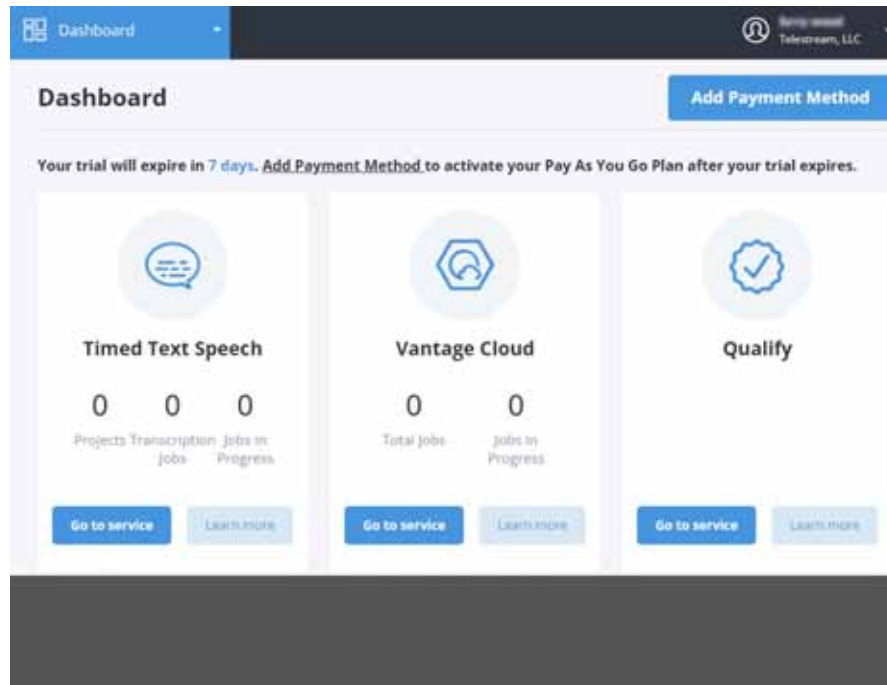
Activate now for a free 7-day trial of all available services. No credit card required, get started right away!

All services are activated and can be used free of charge for the next 7-days.

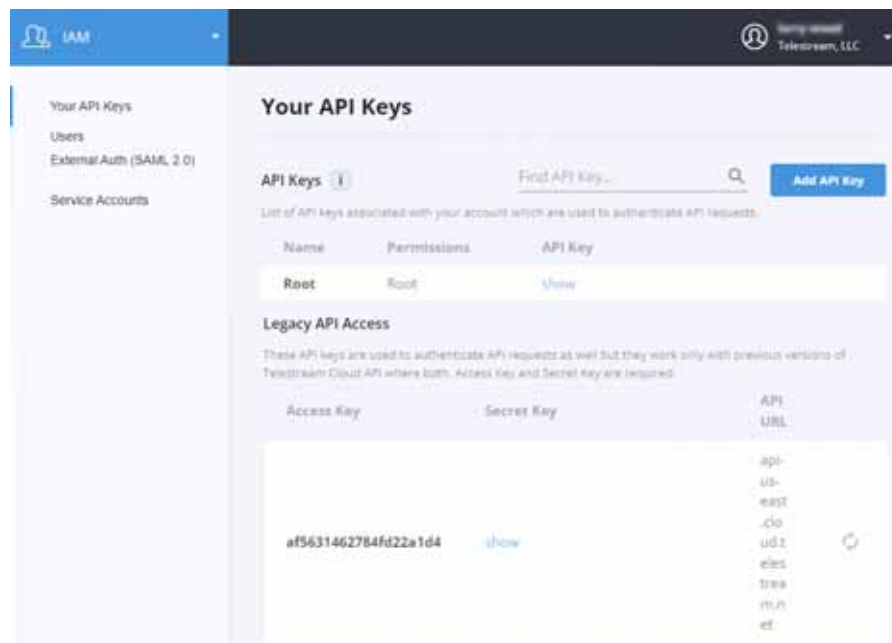
8. On this page, you can activate a free trial or select a billing method.

9. Click Activate Free Trial.

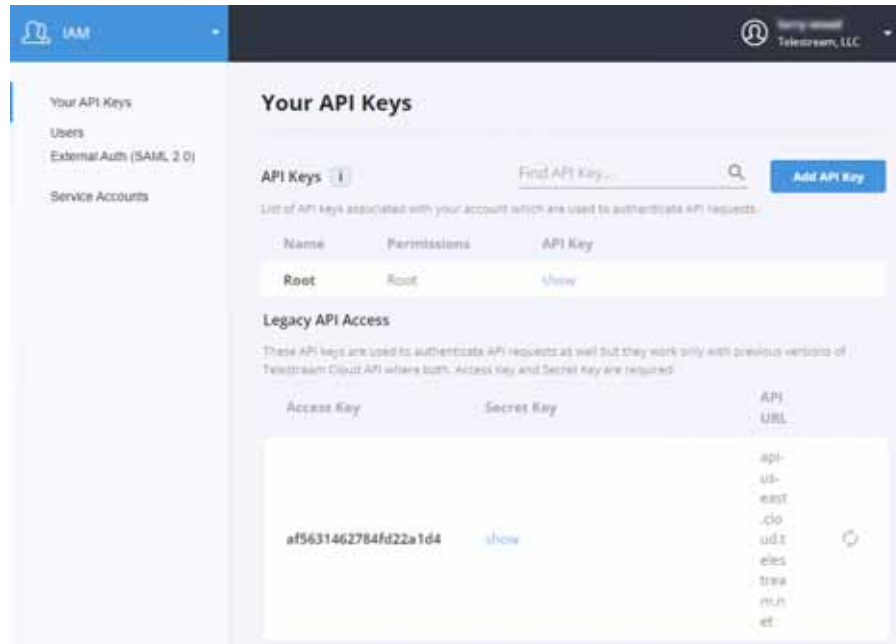
Telestream Cloud displays the Dashboard again, with a notice that you have a 7 day free trial: **EDNOTE UPDTE SCR SHOT**



10. In the main menu in the upper right corner, select IAM.

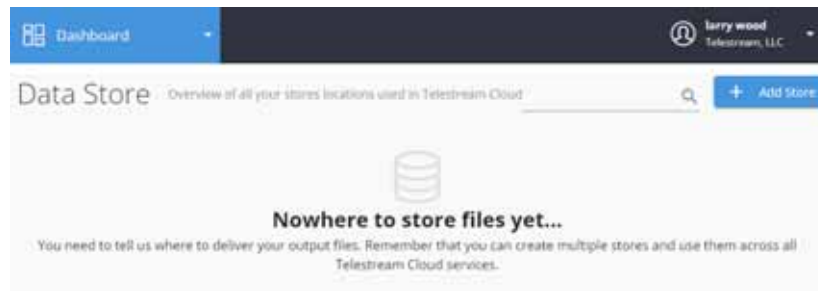


11. The IAM page displays your keys, including the API Key under Legacy API Access. If you have multiple users, you can create multiple keys, one for each user, using the Add API Key button.



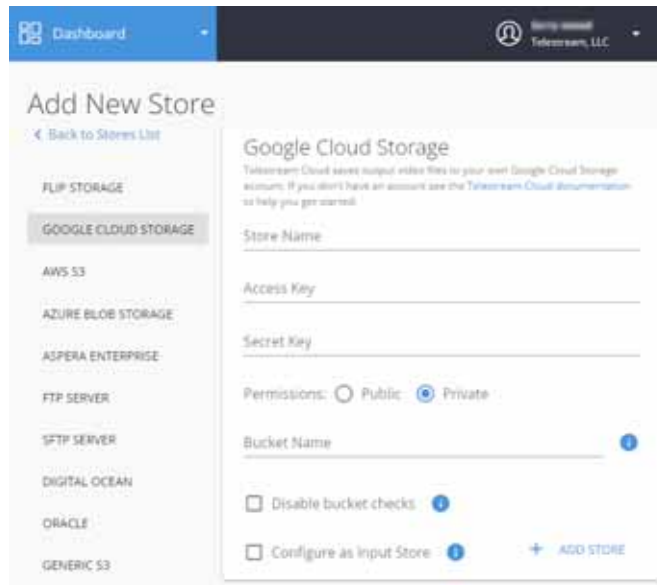
Note these keys for use in configuring Vantage.

12. In the main menu, select Manage Stores to open the Data Store page.




13. On the Data Store page, click +Add Store to display the Add New Store page.

14. On the left side of the page, select the type of store you plan to use with Vantage Cloud (Google, AWS, etc.).



Note: You must grant some form of Cloud storage access so that Telestream Cloud can read and write media and other files to and from your storage.

15. Fill in your store account information so that Vantage Cloud can access your account to read and write files. The information fields requested vary depending on the selected store. For information about a field, hover over the blue  icon.

16. Click Add Store to complete storage setup.

Vantage Cloud configuration in Telestream Cloud is complete. Go to the next topic to configure Vantage and create workflows.

Configuring Vantage for Vantage Cloud

Before you can create or use Cloud workflows, you must have an operational Vantage domain installed or updated to Vantage 8.3 or later. You must also add your Telestream Cloud account to Vantage, so it can integrate with Vantage Cloud, and add your Cloud storage account to Vantage, so that it can read and write in it.

Topics

- [Vantage Installation and Licensing](#)
- [Adding your Telestream Cloud Account to Vantage](#)
- [Adding your Cloud Storage Account to the Vantage Folder Address Book](#)

Vantage Installation and Licensing

To install/update Vantage and verify it meets Vantage Cloud requirements including licensing, follow these steps:

1. If you haven't yet installed Vantage and licensed it, install and license it now, so that you can configure it for Vantage Cloud operation. Install or upgrade to a licensed Vantage 8.3 or later installation as explained in the [Vantage Domain Management Guide](#). You may have an all-in-one domain, an array, or a Vantage Cloud Designer domain.

During installation | upgrade, ensure that the Vantage domain includes the Vantage Telestream Cloud Service, all services corresponding to the Vantage Cloud-capable actions, and the latest ComponentPacs.

These Vantage services are required for Vantage Cloud. Be sure each is selected (checked) for installation when you run the Vantage installer:

- Vantage Telestream Cloud Service
- Vantage Transcode Service
- Vantage Timed Text Service
- Vantage Analysis Service
- Vantage Multiscreen Service
- Vantage IPTV VOD Transcode Service
- Vantage Edit Service

Note: In a Vantage array, each node that has the Vantage Telestream Cloud Service and at least one other Vantage service which also installs a ComponentPac (such as the Vantage Transcode Service) can process Telestream Cloud jobs.

2. Verify that all the services are running (Online) in the Vantage Management Console > Services. If not, right-click and select Restart Service.

Note: While examining the Vantage Services in the Vantage Management Console, pay particular attention to the Vantage Telestream Cloud Service Setup.

Note: The Vantage Telestream Cloud Service includes an upload limit that throttles concurrent cloud file uploads to prevent overloading your Cloud storage. The default is four concurrent files. You can set the service to maintenance mode and then display the Cloud service Setup tab to change the Upload Limit value.

The Vantage Telestream Cloud Service also has unique session limit requirements. It should be set equal to the number of concurrent jobs allowed for Vantage Cloud. For example, if your account is set to a limit of 30 jobs (the default) and the Vantage domain consists of 2 nodes, the session limits of the Telestream Cloud service in each Vantage array node should be set to 15.

If the Telestream Cloud service is set to a session limit higher than the capacity of the Telestream Cloud account, the jobs will be shown as in process in Vantage and queued in Telestream Cloud. If you need a higher concurrent jobs limit, contact Telestream Customer Service and request an increase.

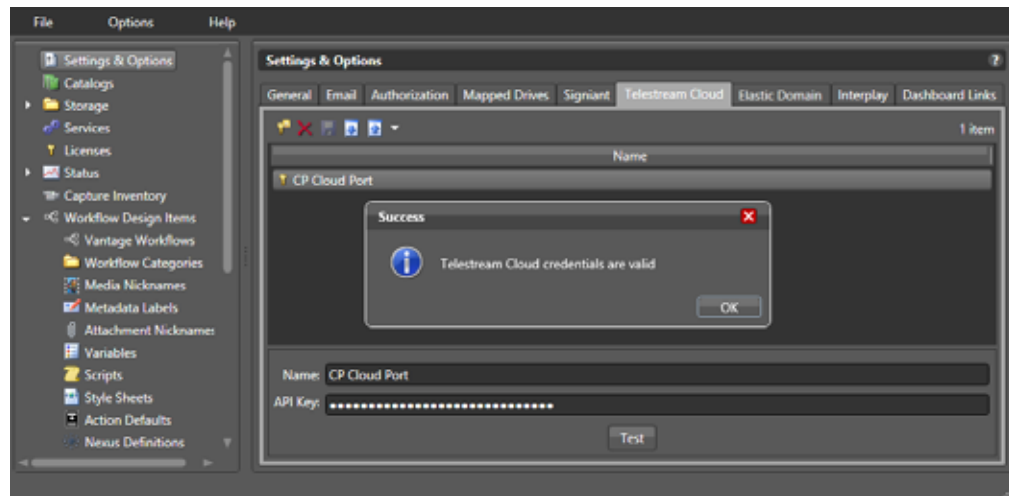
3. If you don't have license (not required for a Vantage Cloud Designer domain), contact [Telestream Sales](#) for licensing and install the license as explained in the Vantage Domain Management Guide.

Adding your Telestream Cloud Account to Vantage

Follow these steps to add your Telestream Cloud account to Vantage:

1. In the Vantage Management Console > Settings & Options > Cloud tab.
2. Click the yellow key icon to add a new Telestream Cloud account.
3. Enter a name (such as the authorized user name) for the Telestream Cloud account.
4. Enter the Telestream Cloud API Key you noted previously on the Telestream Cloud IAM page (see [Creating a Telestream Cloud Account](#)).

5. Click Test to make sure that your Cloud account is accessible by Vantage.



6. Dismiss the Success dialog.

Adding your Cloud Storage Account to the Vantage Folder Address Book

In order for Vantage and Telestream Cloud to inter-operate with your cloud storage, the storage location and credentials must be entered into Telestream Cloud > Cloud Store and in the Vantage Folder Address Book. If you use more than one Cloud storage site, make a separate entry for each in Telestream Cloud and in the address book.

Additional Notes on the Vantage Folder Address Book

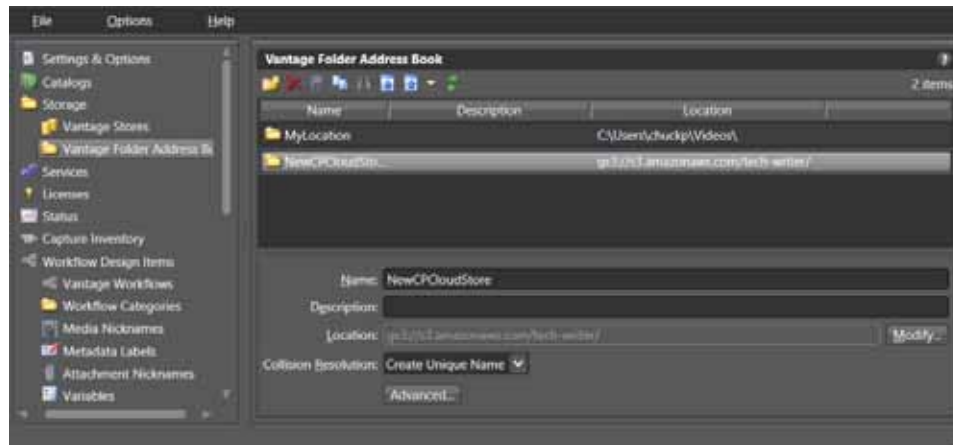
When you set an action to operate in Cloud mode, you specify which Cloud storage account to use. Vantage will automatically access the address book entry instead of using a local Vantage Store. The cloud storage location is used for copying the source file to the cloud prior to processing and for storing output files after processing.


The Vantage Folder Address Book is used by Vantage Cloud to ensure URL compatibility between Telestream Cloud and Vantage. When Vantage Cloud places material in cloud storage, it refers to the material using a signed URL, which is typically a secure HTTP link that expires within 24 hours. These references must be translated to a URL to allow downstream Vantage actions to perform all of the required file system operations on the media reference.

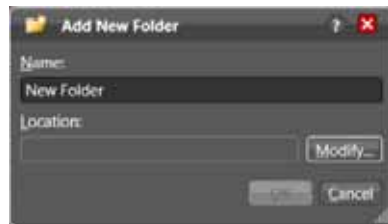
The Vantage Folder Address Book entry enables this translation for actions operating in Cloud mode. Without the Vantage Folder Address Book entry and associated translation, the interaction among Vantage, Vantage Cloud, and cloud storage may not work.

To add your cloud storage to the Vantage Folder Address book, follow these steps:

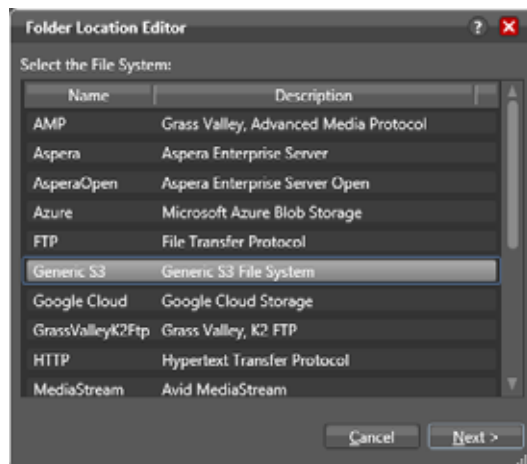
1. In the Vantage Management Console, select Storage > Vantage Folder Address Book.



2. Click the Add Folder icon .
3. Enter the folder exactly the same name as the name you used for your cloud storage in your Telestream Cloud account Data Store.

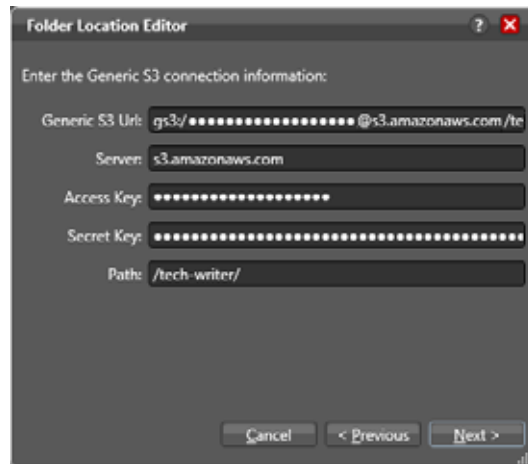


4. Click Modify... to specify the location.
5. Select the type of cloud storage (file system) from the Folder Location Editor window.

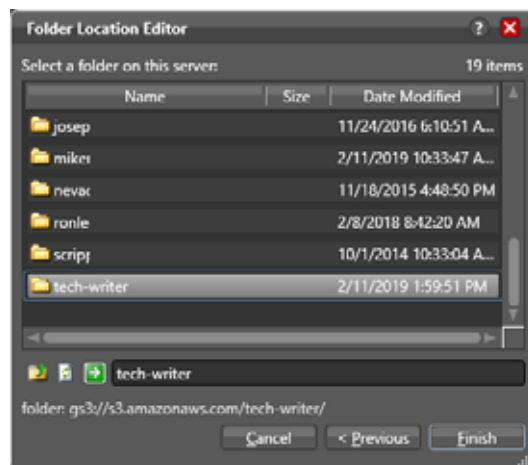


6. Enter your cloud storage account information, such as access keys | bucket name.

Note: The credentials used in the Vantage address book entry **MUST** exactly match the credentials used to access your third-party storage location and the credentials used in Telestream Cloud > Cloud Store for that storage location. For example, for S3, you must use the same Access Key ID, the same Secret Access Key, and the same bucket reference in all three locations. If there is a credential mismatch in any of these locations, Vantage Cloud will not work.



7. Enter the folder location on the Cloud server. Your default location is already noted, or you can browse or enter a UNC path to another folder.



8. Click Finish to complete the address book entry.

Designing Vantage Cloud Workflows

This chapter explains how to design Vantage Cloud workflows. In Vantage Cloud workflows, you can use Vantage Cloud-capable actions. You can create both hybrid workflows—which includes on-prem and cloud actions—and cloud-exclusive, hosted workflows.

Topics

- [Designing Hosted Workflows](#)
- [Using Cloud-capable Media Processing Actions](#)
- [Using Cloud-capable General-Purpose Actions](#)
- [Using Variables and Parameters in Vantage Cloud Workflows](#)
- [Creating Hybrid Workflows](#)
- [Creating Hosted Workflows](#)
- [Troubleshooting](#)

Designing Hosted Workflows

Cloud-hosted workflows—like all workflows—are created directly in Vantage Workflow Designer, in your Vantage domain. However, unlike on-prem workflows or hybrid workflows, you may also install a Vantage Cloud Designer domain, where the sole purpose is to utilize Vantage Workflow Designer to design and manage your Cloud hosted workflows—no additional license is required. For details, see the [Vantage Cloud User Guide](#), published on the Telestream web site.

Using Cloud-capable Media Processing Actions

Vantage Cloud-capable actions are transcoding or other media processing actions that are implemented to execute in Telestream Cloud in the same manner as they do in a Vantage domain. Due to cloud platform constraints, there are some limits when configured to execute in Cloud mode.

Note: If you modify workflows that were created in a version of Vantage that is not capable of—or licensed for—Vantage Cloud and Telestream Cloud, you will be reminded to upgrade the action first, when you try to enable Cloud mode. To upgrade all of your workflows and actions at once, in Workflow Designer select File > Batch Workflow Operations > Check for Upgrades, and then select Upgrade.

Vantage services that implement Cloud-capable actions are configured in the Vantage Management Console > Services panel > Setup tab. In particular, the Vantage Telestream Cloud Service upload limit controls the number of concurrent cloud file uploads and the total of this number for all nodes should be set to match the concurrent job limit set by Vantage Cloud (30 is the default).

Vantage Cloud tracks source files that have been uploaded for Cloud-capable actions to prevent the same file from being uploaded multiple times.

For example...

- If you have a file at a given location, such as `D:\Folder1\foo.mpg`, and you submit this file to a workflow twice, the file will only be uploaded once.
- If the file is deleted from cloud storage and it is submitted again, it will be uploaded a second time.
- If the file is submitted to a workflow that targets a different cloud store, the file will be uploaded to the second store.
- If you submit a file from a different location (for example, `D:\Folder2\foo.mpg`), the file is uploaded again.

To upload the same file for each job, use a Copy action in the workflow preceding the Cloud-capable action, for example: Receive > Copy (to a specific bucket) > Flip64 (same bucket).

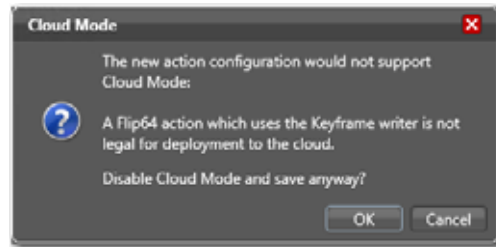
- [Configuration Limitations in Cloud Mode](#)
- [Media Transcoding and Processing Actions](#)

Configuration Limitations in Cloud Mode

During the design phase, once you enable at least one Cloud-capable action to operate in cloud mode, each time you save an action or upload the workflow to Telestream Cloud ([Managing Hosted Workflows](#)), Workflow Designer automatically verifies the workflow to operate in Vantage Cloud.

Note: To make best use of Vantage Cloud, you should frequently check for new ComponentPac releases and update your Vantage domain to utilize the functionality that is provided, which may lift some restrictions.

If unsupported actions are added to the workflow or an action is configured in a way that violates the limits imposed by being a Cloud-capable workflow, Workflow Designer displays an error. For example:



These features and configurations are not compatible with Cloud-capable media processing actions:

- H264 or H265 presets slower than Medium
- Encoded frame sizes greater than DCI 4K
- Multi-pass encoding
- Camera decoder
- Microsoft Smooth Streaming Packager
- Adobe HTTP Dynamic Streaming Packager
- Analysis action outputs for WebVTT, SCC, and SMPTE 2051 TTML.
- Analysis of Omneon user data
- VP9 Video encoding
- Advanced Title Processor (Conform action)
- Watermarking: Nielsen, Kantar, Teletrax
- Actions which make use of static resources or reference on-premises resources.

You should ensure that all references to resources are either removed, modified to use cloud-hosted resources, or replaced by variables. You should make sure that actions are configured in a valid configuration which allows Cloud mode.

For example, a workflow with a Flip64 action which references a static overlay file (D:\MyImages\myfile.png for example), will obviously not execute beyond the specific, on-premises environment in which it was built.

Actions which reference specific on-premises locations (for example, a Flip64 action configured to write output to a network folder) are also invalid.

- Some containers and formats supported in actions executed on-premise may not be available in Cloud mode. If you select a container or format not supported in Cloud mode, an error message informs you that it is unavailable.
- Actions in Cloud mode should be configured to use the Multi-core Video Processor.

Media Transcoding and Processing Actions

The following media processing actions may be executed in an on-premise Vantage domain or in Vantage Cloud. You can use these Cloud-capable actions in both hybrid and hosted workflows:

- [Analyze Action](#)
- [Cloud Qualify Action](#)
- [Cloud Speech Action](#)
- [Conform Action](#)
- [DPP Validate Action](#)
- [Flip64 Action](#)
- [IPTV Flip Action](#)
- [Location Action](#)
- [Multiscreen Flip Action](#)
- [Tempo Action](#)
- [Timed Text Conform Action](#)
- [Timed Text Flip Action](#)

Cloud-capable media processing actions are charged by the media minute. See [Vantage Cloud Workflow Pricing](#) for details.

Note: These descriptions are high level. Some action features executable on-premise may not be executable in Vantage Cloud. Workflow Designer displays a message if you try to use an action feature that is not implemented in Vantage Cloud. For operational and configuration details, see the action's man page.

Analyze Action

The Analyze action (in the Analysis category) is executed by the Analysis service on-premises or the Telestream Cloud Service in hosted workflows. It can perform many kinds of analysis on media using a variety of analysis tools, and populate variables for use downstream. For example, the action can detect black, color levels, interlacing, letterbox, slate, scene changes, audio levels, and much more.

Cloud Qualify Action

The Cloud Qualify action is part of the Cloud group, which is executed by the Telestream Cloud service. 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 in a string variable.

Cloud Speech Action

The Cloud Speech action is Cloud-capable. It is executed by Telestream Cloud service on-premises or the Vantage Telestream Cloud Service in hosted workflows. The Cloud Speech action submits media from workflows via the Telestream Cloud Service and the Telestream Cloud API 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 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.

Conform Action

The Post Producer Conform action (in the Edit category) is executed by the Vantage Edit service. This action assembles and optionally transcodes multiple video and still image files into a single output file, applying filters you specify. The input files and related instructions for the output file are all defined in a composition XML file.

Note: Because of font rendering differences between Windows and Linux, if a Cloud mode Conform action's ingested CML file specifies a text shadow or over-line effect, these effects are ignored and are not rendered in the output. Font information included in the Timed Text Flip description also applies to fonts specified in CML.

When the Conform action is in Cloud mode, the source CML file may reference media in cloud storage only if the following conditions are true:

- The Vantage Folder Address Book must have an entry for the bucket/blob container containing the media.
- The Telestream Cloud account must have a store for the bucket/blob container containing the media.
- The CML file must be submitted to the Conform action from a UNC or local Windows path (for example, `D:\source.cml` or `\\server\source.cml`).

The CML may refer to a file in storage by the nickname, short URL, or long URL.

Example 1 refers to a media file nicknamed *Original*:

```
<File location="{${#Original}}"/>
```

Example 2 refers to a media file nicknamed *Image*:

```
<Image layer="1" align="both" adjust="body" location="{${#Image}}"  
fill="loop" duration="00:00:02.000">
```

Example 3 refers to the short URL of a media file in S3 cloud storage. In the third example, `s3://ts-us-east-2-ohio` is an S3 bucket, `oes-sources` is a folder within the bucket, and `1min.mov` is the media file name:

```
<File location="s3://ts-us-east-2-ohio/oes-sources/1min.mov"/>
```

Example 4 refers to *vantageblobstore* as the Azure storage account name, *ts-cloud-test* as the blob container name, and *2min.mov* as the file name.

```
<File location="azure://vantageblobstore.blob.core.windows.net/2min.mov?containerName=ts-cloud-test" />
```

Example 5 refers to *ts-vantage* as the Google bucket name, and *2min.mov* is the file name.

```
<File location="gcs://ts-vantage/2min.mov" />
```

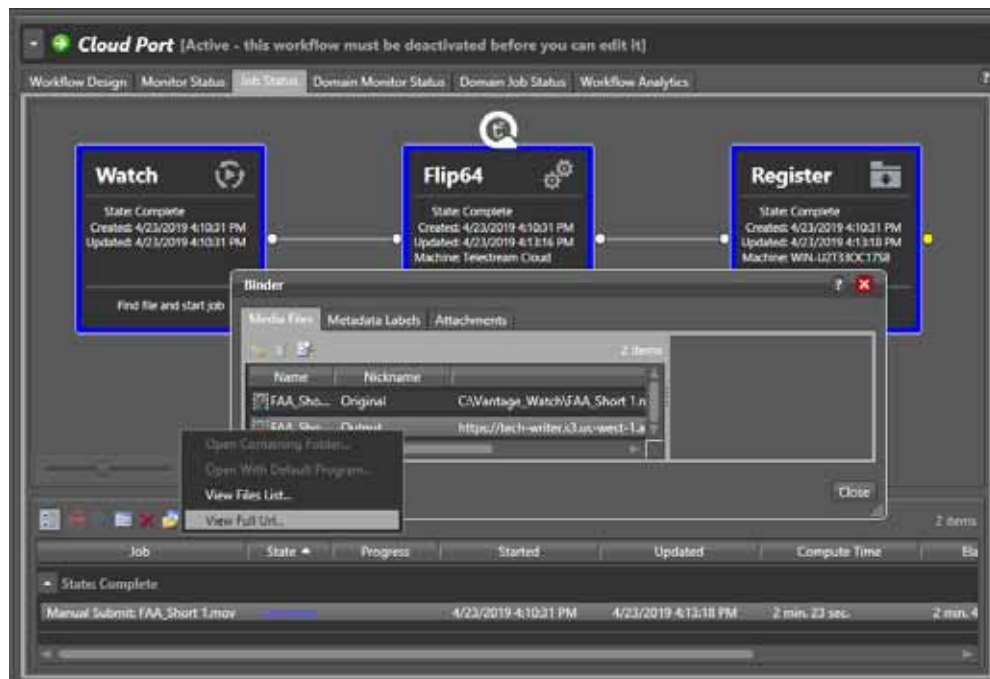
Example 6 shows the case where you may need to use the full URL to the file.

```
https://accountname.s3.us-west-1.amazonaws.com/FAA_Short_1.mp4?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Content-Sah256=UNSIGNED-PAYLOAD&X-Amz-Credential=AKIAIYVKOY43MTXXXXXX%2F20190423%2Fus-west-1%2Fs3%2Faws4_request&X-Amz-Date=20190423T231319Z&X-Amz-Expires=7200&X-Amz-SignedHeaders=host&X-Amz-Signature=9bac488f32ab94ffe88c096962f6cdcf2c04845d8a18df0bd4abfe
```

To view and copy the full URL in Workflow Designer:

1. View the job output that produced the file in Job Status Views.
2. Double-click the job to open the binder.
3. Right-click the Output.
4. Select View Full URL.
5. Click in the URL and use Ctrl-A or scroll and highlight to select all.
6. Right-click Copy to put the URL into the clipboard for pasting to another location.

Note: If a reference file or CML file that references more than 32 files is submitted to a Cloud-capable action, the job will fail at run time, indicating that this is not supported.



DPP Validate Action

The DPP Validate action is Cloud capable. It is executed by the on-premises or the Vantage Telestream Cloud Service in hosted workflows. 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 report when executing on-premises.

Flip64 Action

The Flip64 action (in the Transcode category) is executed by the Vantage Transcode service and 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.

IPTV Flip Action

The IPTV Flip action (in the IPTV/VOD category), is executed by the Vantage IPTV VOD service. This action is designed to generate MPEG2 Transport Stream files and meet multiplexing requirements. The IPTV Flip action and IPTV VOD Service support 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.

Location Action

The Location action is part of the Cloud group and is executed by the Telestream Cloud Service. The Location action enables you to generate Boolean variables that specify whether then associated media file (identified by its nickname) is stored in the cloud or stored on-premise (any location other than the cloud).

The purpose of the Location action is to provide a value on which a decision can be made with regards to the locality of a given file (represented by a nickname). Specifically, whether the file exists in an on-premises storage location or whether the file exists on a cloud-native storage location. This enable you to create a workflow routing pattern that is controlled by the location of the media being processed.

For example, if the material resides in a cloud-native location (for example, Amazon S3), then a Decide action can route the media to a Cloud-enabled Flip64 action for transcoding. If the material resides locally, a Decide action can route the media to another branch in the workflow and execute a Flip64 action for on-premises transcoding.

You can also use the Location action to generate pre-signed URLs for files in cloud or object storage. You can use pe-signed URLs to grant Vantage temporary access to files on external systems.

Multiscreen Flip Action

The Multiscreen Flip action (in the Multiscreen category) is executed by the Vantage Multiscreen Service and is designed for encoding and packaging decoded digital

baseband media into industry-standard adaptive rate streaming formats, including Adobe HDS, Apple HLS, Microsoft HSS, and others.

Tempo Action

The Tempo action is part of the Edit group and executed by the Vantage 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.

Timed Text Conform Action

The Timed Text Conform action (in the Timed Text category) is executed by the Vantage Vantage Timed Text service to extract subtitle/caption data from assets referenced in CML files and create one or more subtitle/caption files of the specified format, for use downstream, in other workflows or other systems.

The Timed Text Conform action automates stitching of caption/subtitle segments referenced in a CML file where clips have been cut that cause truncation or overruns. The Post Producer Conform action (using the Closed Caption filter) can correctly stitch audio and video as specified in the CML file, but caption/subtitles may be truncated or run over into subsequent segments, depending on the exact location of start and end times. Timed Text Conform is used in these situations to isolate the caption/subtitles around a stitch point specified in the CML file, ensuring that no truncation or run over into subsequent segments occur.

You can utilize the common CML file in Vantage workflows with actions that support CML as an input format—Post Producer Conform, for example—for stitching the video and audio. Outputs from Post Producer Conform and Timed Text Conform are then combined into a production media file downstream or in other Vantage workflows, using for example, Flip64 or Timed Text Flip configured with Same As Source output.

Timed Text Flip Action

The Timed Text Flip action (in the Timed Text category) is executed by the Vantage Timed Text service to ingest and perform caption file-type conversions, embed captions, extract captions from media containing embedded captions, create subtitle overlay graphics, and manipulate the timecode of caption data to match media.

Supported Fonts

These fonts may be used with the Timed Text Flip action in Vantage Cloud mode. If you select a font that is unavailable in Vantage Cloud mode, you will not be able to enable Cloud mode and an error message explains that the selected font is not available.

- Andale_Mono.ttf—Regular, Mono
- Arial.ttf—Regular, Black, Bold, Italic, Bold Italic
- Comic_Sans_MS.ttf—Regular, Bold
- Courier_New.ttf—Regular, Bold, Italic, Bold Italic

- Georgia.ttf—Regular, Bold, Italic, Bold Italic
- Impact.ttf
- Times_New_Roman.ttf—Regular, Bold, Italic, Bold Italic
- Trebuchet_MS.ttf—Regular, Bold, Italic, Bold Italic
- Verdana.ttf— Regular, Bold, Italic, Bold Italic
- Webdings.ttf

Fonts render differently in Windows vs Linux operating systems. Subtitles or other on-screen print renderings that use the fonts built into the OS may result in print output from the cloud (Linux) that differs from the same output on Windows. In particular, font size, font spacing, font effects and anti-aliasing may have subtle differences on the two platforms. If you require a specific font style with Vantage Cloud, Telestream recommends waiting until NewBlue support is added to Linux.

Using Cloud-capable General-Purpose Actions

A subset of general-purpose/utilitarian Vantage actions are also implemented in Vantage Cloud. These actions are supported for hosted workflows—they can execute in Vantage Cloud in the same way as they do in an on-premises Vantage domain. There is no per-action charge for executing these actions. These actions are not explicitly configured to run in Cloud mode; they do not display the Cloud mode badge.

These actions are supported in hosted workflows:

- Compute
- Construct
- Decide
- Extract
- Multi-Decide
- Notify with HTTP Notifier
- Receive
- Synchronize

Note: When you utilize these actions in a hybrid workflow, they automatically execute on-premise; in hosted workflows they of course execute in Vantage Cloud.

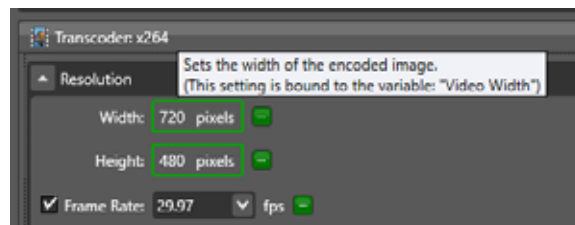
Using Variables and Parameters in Vantage Cloud Workflows

Vantage Cloud workflows utilize variables in the same manner as on-premises workflows. Workflows that use *expected* variables—variables that are not created or updated internally upstream—can only be used by a job submission method that is capable of supplying values for these variables (parameters in the case of API submission) at run time.

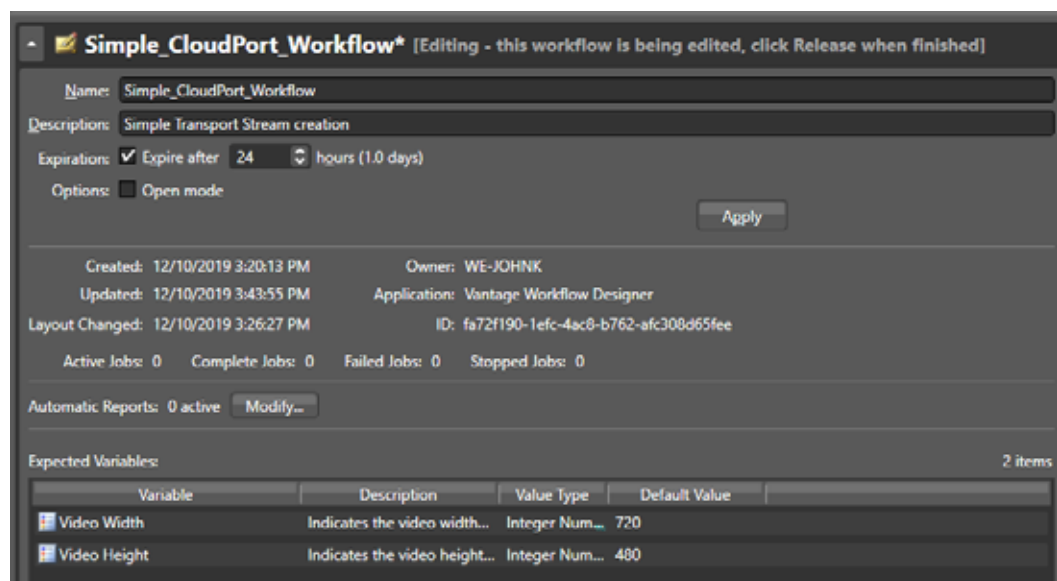
For hybrid workflows, you can submit jobs from another workflow, a work order, from Workflow Portal, or from a third party program using the Vantage API. For hosted workflows, you can only submit jobs via an API-based program or system.

Note: Detailed information about parameter binding and variable manipulation is provided in the [Vantage User Guide](#) and Vantage Rest API Guide.

For example, here is an IPTV/VOD action where the x264 codec's resolution is being set by variables instead of constants:



To view *expected variables*—variables that are utilized in a workflow but are not set by default or set within the workflow, expand the Properties of the workflow panel (using the open/close arrow just to the left of the workflow title).



In this case, two variables are expected (these correspond to the two variables which were bound to the Width/Height parameters of the IPTV action).

To submit a job to this workflow, the job-submission program must be designed to obtain these two values, update variables and submit them with the job request.

Creating Hybrid Workflows

This topic explains how to create and design hybrid workflows in Workflow Designer to use Vantage Cloud features as well as on-prem features.

Note: Before you can process media in Telestream Cloud, you must have set up your Telestream Cloud account, a third-party cloud storage account, and your Vantage domain settings for Vantage Cloud operation as explained previously.

- [Hybrid Workflow Restrictions](#)
- [Bandwidth and Egress Fee Considerations](#)
- [Monitoring Utilization for Effective Hybrid Workflows](#)
- [Creating a Prototype Hybrid Workflow](#)
- [Verifying and Using Hybrid Workflows](#)

Hybrid Workflow Restrictions

A hybrid workflow is one that contains Cloud-capable media processing actions, but remains hosted directly in an on-premises Vantage domain and is managed in Workflow Designer. Hybrid workflows have the following characteristics and limits:

- Hybrid workflows—unlike hosted workflows—can start with any origin action.
- In addition to containing Vantage actions that only execute on-premise, a hybrid workflow must include at least one Cloud-capable action.
- Cloud-based output files generated from Cloud-capable actions can be operated on using Vantage Transport Service actions: Copy | Move | Delete | Deploy.
- Cloud-capable or Telestream Cloud action, and Vantage Cloud mode must be enabled.
- Certain configuration limitations apply to Cloud-capable actions. See [Configuration Limitations in Cloud Mode](#).
- Hybrid workflows may include Telestream Cloud actions—[Location Action](#) | [Cloud Speech Action](#)—which always execute projects hosted in Telestream Cloud.
- Files uploaded to cloud storage for transcoding are stored in the `vcp-uploads` folder in your cloud account. This enables you to track uploaded files and delete them after you no longer need them. Files in this folder must be managed manually.

Bandwidth and Egress Fee Considerations

Bandwidth requirements for hybrid workflows should play a role in your workflow design considerations. This is due to the fact that the bandwidth required is largely dependent on what tasks your hybrid workflows are designed to perform.

Here are some examples:

Processing Cloud-based Media

Workflow jobs for media that resides in the cloud and stores the output in the Cloud consumes minimal bandwidth, since no files are uploaded or downloaded—URLs are utilized to refer to the Cloud-based media and no files are uploaded or downloaded. In this example, a typical high-speed Internet connection (as low as a few Mbps) suffices, since the workflow is executing via the API in Telestream Cloud.

Processing On-Premises Media

When a workflow job uploads media to the cloud from an on-prem server—or downloads the output to an on-prem server at the end of the job—sufficient bandwidth is required to adequately support the file transfer.

The bandwidth requirement is based on the bitrate of the media being transferred and the required turnaround time for each job. Typically, many orders of magnitude greater bandwidth are required to support these jobs than processing cloud-based jobs.

Effects of Bandwidth on Uploads/Downloads

The bandwidth requirements of your connection are necessarily dictated by the metrics of the media you are transferring, commonly measured as bitrate—which is influenced by your frame size, frame rate, and codec profile. Generally, a 50Mbps up/down connection per concurrent job is the minimum recommended bandwidth, although actual throughput depends on the file bit rate.

For example, achieving real-time upload/download transfer requires bandwidth equal to or greater than the bit rate of the media. Lower bandwidth than the media bit rate results in transfer speeds slower than real-time and likewise, higher bandwidth results in faster than real-time transfer.

Typical Ingress/Egress Fees

In addition to bandwidth requirements, monthly egress fees are common, based on your cloud storage subscription—and these costs may be material. Fees often range from free for very low volume, to \$0.05 to \$0.10 per GB based on volume. Example AWS prices are available at <https://aws.amazon.com/s3/pricing/>.

Monitoring Utilization for Effective Hybrid Workflows

The Vantage Utilization action (in the Common group in Workflow Designer) is an optional feature which requires a Vantage Array Pro license. It enables you to determine the current utilization of the Vantage domain or transcoding actions and report the results in a variable, one for each metric being tested.

The variable emitted by the Utilization action represents the percentage of utilization for each checked metric. The variable can be used in downstream Decide actions to control the flow of work through the workflow. The variable can also be passed out of the job as well, for external recording or reporting, for example.

These metrics can be used to determine how to efficiently handle the workload by directing the workflow to execute one branch or another, including routing to a branch with actions are configured to execute in Vantage Cloud, when on-premise services approach saturation

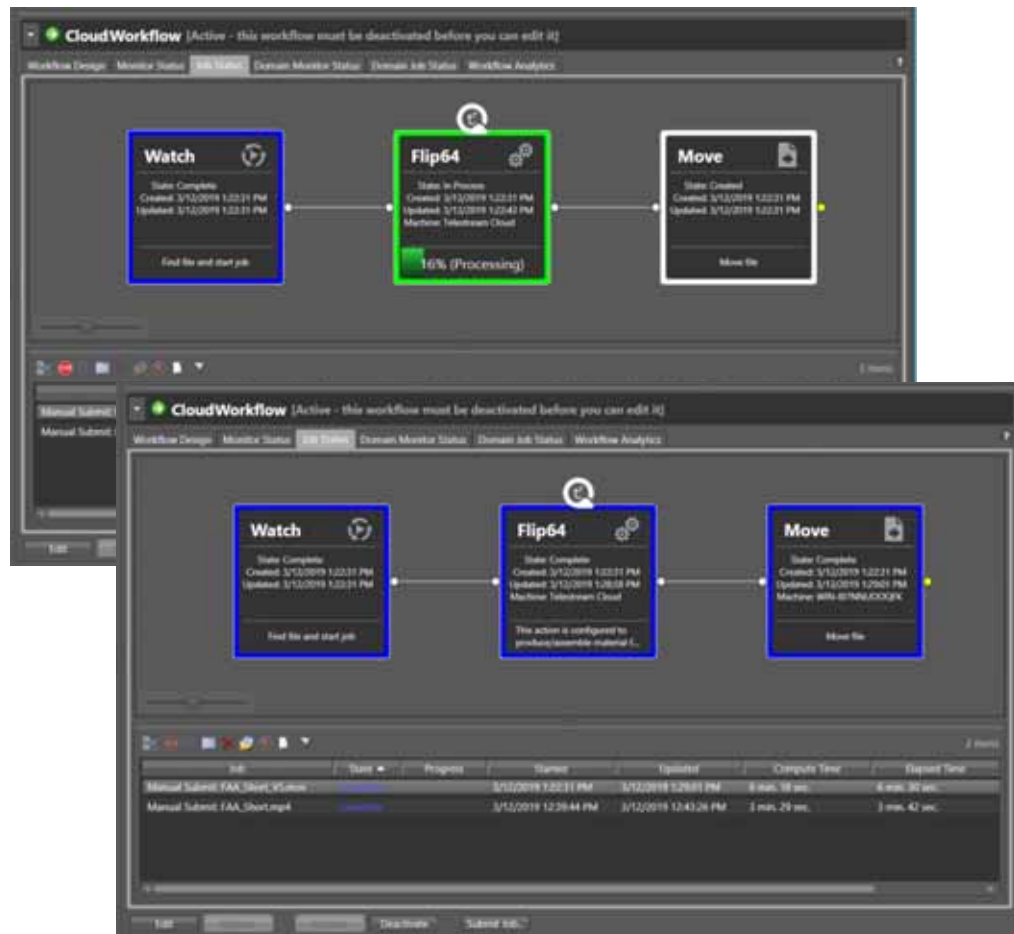
The following figures show Utilization action configuration and an example workflow.



For example, if you want to route IPTV VOD actions based on current resource utilization to an on-premise domain server running the IPTV VOD service or to a cloud-based IPTV VOD resource, you can submit a job to a workflow that executes a Utilization action to test the IPTV VOD load.

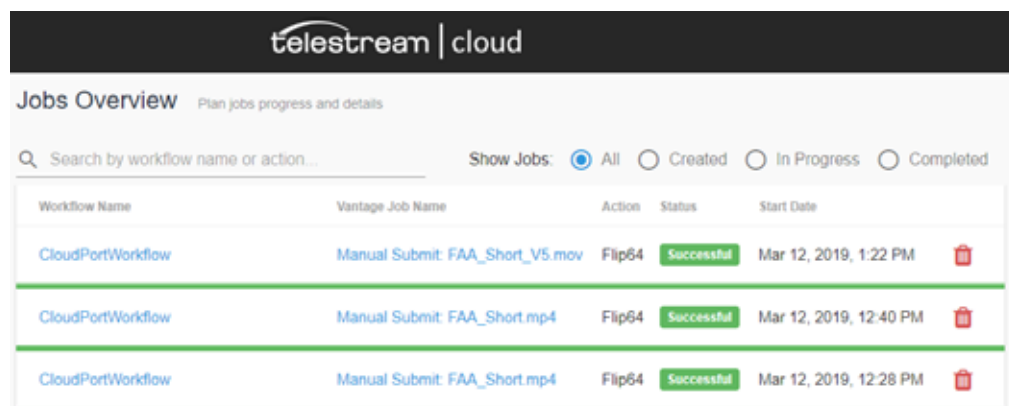
If the result is lower than the maximum workload threshold, the workflow can trigger the on-premise IPTV VOD action. However, if the load is higher than the threshold, the workflow can trigger a cloud-mode-enabled IPTV VOD action that transcodes the media in Telestream Cloud.

1. When the workflow completes, check Vantage Job Status for success or failure. If there is a failure, Vantage Job Status and your Telestream Cloud account provide details about what happened.

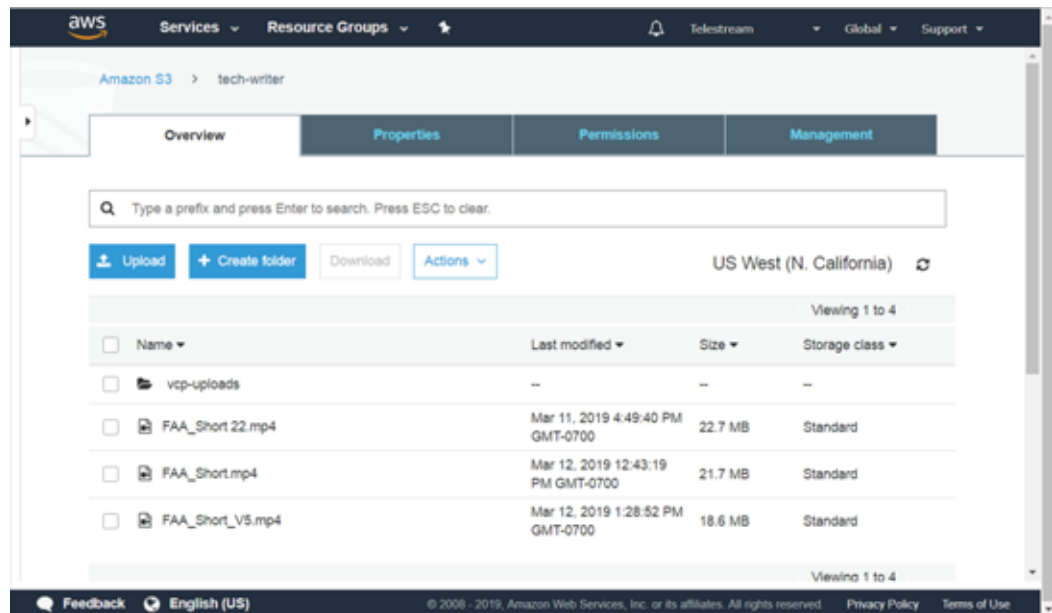
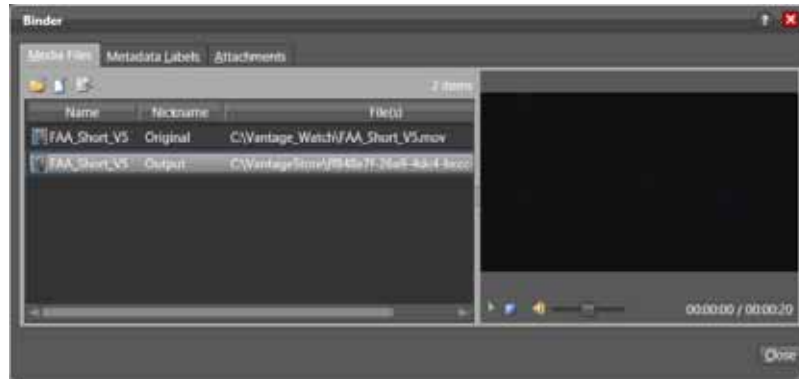


2. If you have access to the Vantage Cloud account in Telestream Cloud, click Dashboard > Vantage Cloud.

The Jobs Overview displays each job and its status details:



3. Click the Workflow Name or Vantage Job Name to see details about the job.
4. Finally, check the binder (right-click the job and select View Binder) and the cloud storage for expected output files (AWS S3 example shown).



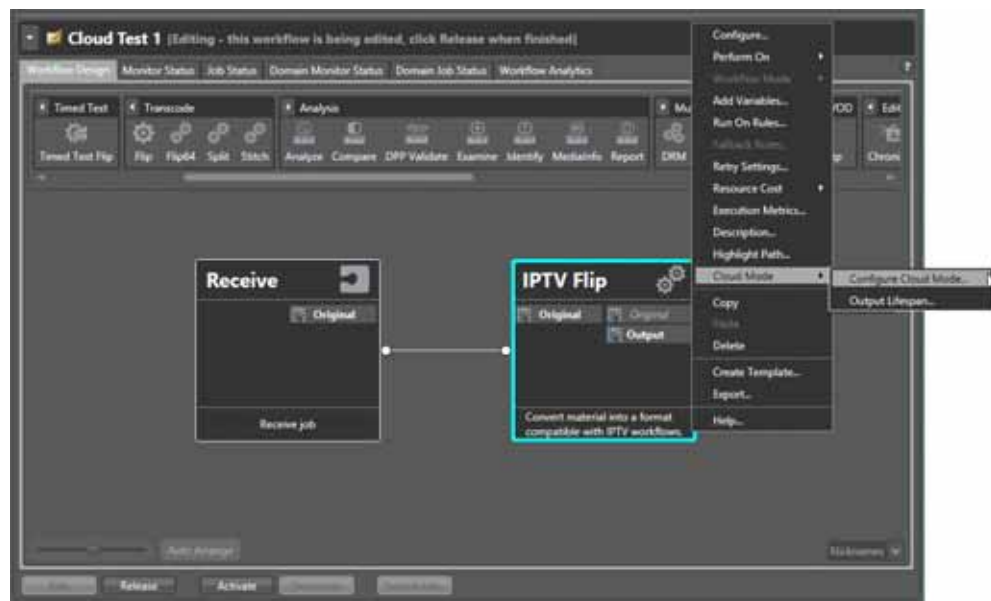
Creating a Prototype Hybrid Workflow

To create a hybrid workflow, in Workflow Designer, follow these steps:

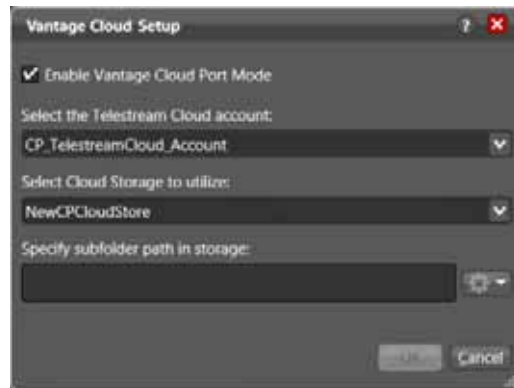
1. Create a new workflow.
2. Include one or more Cloud-capable | Telestream Cloud actions.

Note: The Output Location for a cloud-based media processing action is not used and is disabled. The output always is written to a cloud location (specified in Cloud mode).

3. Enable cloud processing for a Cloud-capable action: right-click the action and select Cloud Mode > Configure Cloud Mode.



4. In the Vantage Cloud Setup dialog, check Enable Vantage Cloud Mode to activate cloud execution for this action. Configure the fields:



After media is processed, the output file is pushed to the target cloud storage location. To prevent output file names from colliding in the target cloud store, use Specify subfolder path in storage to specify a unique location.

5. Select your Telestream Cloud account, select your cloud storage, and specify a subfolder path, if any, where you want the output file to be stored. Click the menu and select any variables to include for automatic subfolder naming.
6. Click OK to save your entries and close the window.

Note: For a Cloud-capable action to execute, the required accounts and credentials must be correct in all of these locations:

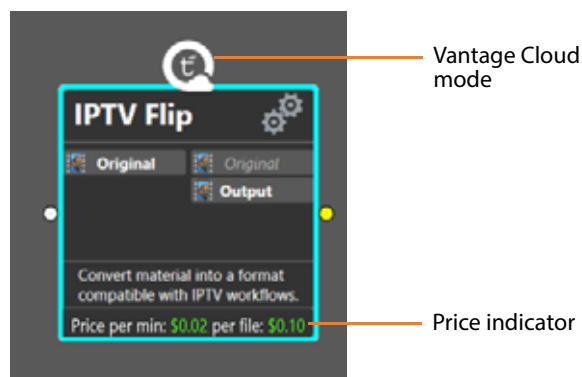
- Telestream Cloud—You must have a valid Vantage Cloud account, and you must include correct third-party storage credentials on the Data Store page.
- Third party cloud storage—You must have at least one valid cloud storage account.
- Vantage Management Console > Settings & Options > Cloud—You must enter the name of your Telestream Cloud account and its API key.
- Vantage Management Console > Vantage Folder Address Book—You must enter the exact name and keys for your third-party cloud storage accounts.
- Action Vantage Cloud mode—You must select your Telestream Cloud account and your cloud storage account from the menus in the Vantage Cloud Setup dialog.

Verify your credentials carefully in all places. If credentials are entered incorrectly in any of these locations, Vantage Cloud may not function properly.

To review your cloud storage and Telestream Cloud configurations, see [Creating a Cloud Storage Account](#) and [Creating a Telestream Cloud Account](#).

To review your Vantage settings, see [Adding your Telestream Cloud Account to Vantage](#) and [Adding your Cloud Storage Account to the Vantage Folder Address Book](#) for details.

When Cloud mode is enabled, the Cloud-enabled action shows a Cloud mode badge and the price per minute and per file. (Actions in Cloud mode are billed on output media duration, except for Analyze, which is billed on source media duration.)



This example is simplified to present just the basics of Vantage Cloud workflows. However, these workflows can be as complex as you need, including analysis, decision-making, and branching. You can include any action or number of actions downstream of the Cloud-capable action. For example, you can use a Copy action to localize a transcoded file out of the Cloud, or use a Deploy action to send the file to another server or storage location. Because Vantage tracks file locations based on nicknames, subsequent actions only require the nicknames to find and process cloud files.

Verifying and Using Hybrid Workflows

When workflow design is complete, follow these steps to verify operation:

1. Activate the workflow, submit a job, and monitor the job in the Job Status tab.
2. Vantage receives the source file, and the Cloud-capable action copies it to the cloud storage location you specified when you configured Cloud mode, placing the source file into a *vcp-uploads* folder.
3. From the vcp-uploads folder, the Cloud-capable action processes the source file and places the output file in the cloud storage location.
4. Any actions downstream of the Cloud-capable action operate as they normally would do. These actions use the nickname to find the processed file in the Cloud and continue processing.
5. Use the Job Status tab to monitor processing status: Uploading (input to cloud storage), Queued, Processing, and Pushing (output to cloud storage). Note that actions cannot be paused, even though Vantage may indicate that you can do so.

Creating Hosted Workflows

This topic explains how to create and design hosted workflows in Workflow Designer. You deploy them to Telestream Cloud for execution independent of Vantage, using Telestream Cloud's Vantage Cloud service.

For details on uploading workflows to Telestream Cloud and managing their versions, see [Managing Hosted Workflows](#).

Note: You can also deploy hosted workflows to your account in Telestream cloud manually, as well. First, validate and export it from Vantage via Workflow Designer as a CWD file; next, you import it into Telestream Cloud.

Note: Before you can process media in Telestream Cloud, you must have set up your Telestream Cloud account, a third-party cloud storage account, and your Vantage domain settings for Vantage Cloud operation as explained previously.

- [Hosted Workflow Restrictions](#)
- [Creating a Prototype Hosted Workflow](#)

Hosted Workflow Restrictions

A hosted workflow is one that is designed in Workflow Designer, validated and uploaded to Telestream Cloud for execution with no dependency on your Vantage domain. It is managed in the Telestream Cloud console. Often, jobs are submitted and also managed via a Vantage Cloud API-based program.

Hosted workflows differ from hybrid workflows in that they have a more restricted set of actions that are supported, and also have the following characteristics and limits:

- Hosted workflows can only start with a Receive origin action.
- They must be able to execute successfully on-premises (in your Vantage domain). Testing on-premise requires that you change the location of output files, of course.
- Use only Cloud-capable actions:
 - Cloud-capable transcoding actions must be configured to meet Vantage Telestream Cloud Service capabilities. See [Using Vantage Cloud-capable Media Processing Actions](#).
 - A limited set of utility actions that have been implemented in Telestream Cloud. See [Using Vantage Cloud-capable General-Purpose Actions](#).
- You do not (should not, for consistency sake) enable Cloud mode on the transcoding/media processing actions; the entire workflow (when imported) executes in Telestream Cloud and the Cloud mode settings must be configured directly in Telestream Cloud.
- All the same configuration limitations apply to Vantage Cloud-capable actions used in hybrid workflows. See [Configuration Limitations in Cloud Mode](#).
- Hosted workflows can not include Cloud Speech | Location Telestream Cloud actions. Unsupported (and incorrectly-configured) actions are flagged when you upload your workflow.
- Actions (transcoders, for example) that generate files require you to configure the lifespan of the output file, because the workflow is executing outside the context of Vantage, which has automatic file lifespan management, whereas Telestream Cloud does not.

When Telestream Cloud (not Vantage) is executing the workflow, a Delete action can't be used to delete files created by action in the workflow. When Telestream Cloud executes workflow jobs, it uses the output lifespan setting to delete all transient files at the end of the workflow execution. (Lifespan settings are ignored when workflows execute locally, whether the Cloud-capable actions execute locally or in Telestream Cloud.)

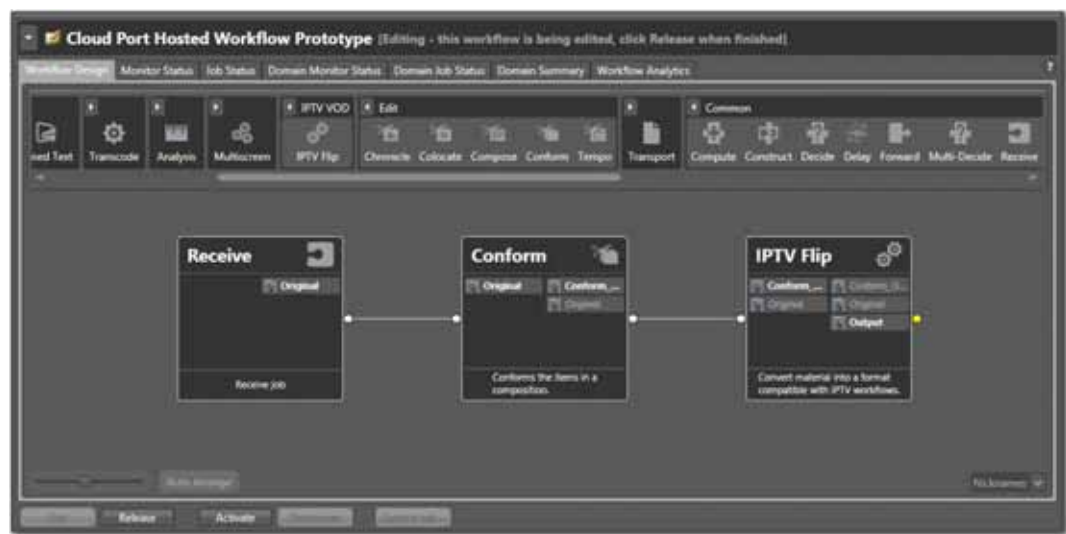
 - *Transient*—choose when the media created by this action is temporal—it is only used by other actions in this workflow, and should be automatically deleted immediately after the workflow (the job) has completed.
 - *Permanent*—choose when the media should be retained (not deleted) after the workflow has completed. In this case, file management is beyond the scope of the workflow, Vantage, or Telestream Cloud.
- An action can't generate multiple files with different Output Lifespan settings. For example, an IPTV/OVD action can't generate one file which is *Permanent* and another which is *Transient*. If you require multiple outputs with different lifespans, add an action for each, and set this action's output lifespan accordingly.

Creating a Prototype Hosted Workflow

In this prototype, the Conform action ingests the CML file, performs the requisite transformation from CML and produces an intermediate version, passing it to IPTV Flip. Using the IPTV Flip action, a cable-compliant media version is generated as the target output.

To create a hosted workflow, follow these steps, using this prototype as an example:

1. Open Workflow Designer and create a new workflow within the limits of [Hosted Workflow Restrictions](#).
2. Add a Receive action (the only origin action permitted for hosted workflows) to start the workflow, and configure it with the nickname to use for accessing your source media version.

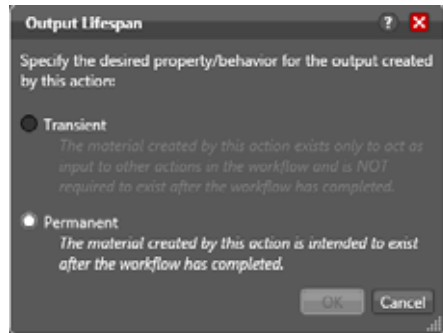


3. Add a Conform action and configure it.

The purpose of this workflow is to produce a Cable-compliant version of the media as defined by the incoming CML file, nicknamed *Original*. The generated output of the Conform action (nicknamed *Transient*) only has a useful lifespan within the context of this workflow, as input to IPTV Flip. As such, the intermediary file *Transient* isn't useful once this workflow job is complete. (A file with this temporal characteristic is referred to as being *transient*.)

Contrast this to the generated output of the IPTV Flip action. This action emits an output file nicknamed *Cable*. This the version of the media that you intend to utilize in production for example, or have an indefinite lifespan beyond job execution. A file of this temporal characteristic is referred to as *Permanent*.

4. Because this is a hosted workflow executing in Telestream Cloud, in order to delete the temporal file, right-click on the action and choose Cloud Mode > Output Lifespan.



5. In the Output Lifespan dialog, select Transient and close the dialog.
6. Finally, add an IPTV Flip action and configure it.

The purpose of this action is to produce a cable-compliant version of the media as defined by the incoming CML file, nicknamed *Original*. The generated output of the IPTV/VOD action (nicknamed *Permanent*) in contrast, has a useful lifespan within the context of this workflow, as input to IPTV Flip.

7. Specify the Output Lifespan as Permanent.

Summary

This prototype is simplified to highlight the basics of Vantage Cloud hosted workflows. However, these workflows can be as complex as you require, including analysis, decision-making, and branching.

You can include any action or number of actions upstream or downstream of Cloud-capable actions. For example, you can use a Copy action to localize a transcoded file out of the Cloud, or use a Deploy action to send the file to another server or storage location. Because Vantage identifies file locations based on nicknames, subsequent actions only require nickname to identify, locate, and process cloud-resident files.

Note: For a Vantage Cloud-capable action to execute successfully, the required accounts and credentials must be correct in all of these platforms and programs:

- Telestream Cloud—You must have a valid Vantage Cloud account, and you must include correct third-party storage credentials on the Data Store page.
- Third party cloud storage—You must have at least one valid cloud storage account.
- Vantage Management Console > Settings & Options > Cloud—You must enter the name of your Telestream Cloud account and its API key.
- Vantage Management Console > Vantage Folder Address Book—You must enter the exact name and keys for your third-party cloud storage accounts.

- Action-based Cloud mode—Select your Telestream Cloud account and your cloud storage account from the menus in the Vantage Cloud Setup dialog.

Verify your credentials carefully in all places. If credentials are entered incorrectly in any of these locations, Vantage Cloud may not function properly.

To review your cloud storage and Telestream Cloud configurations, see [Creating a Cloud Storage Account](#) and [Creating a Telestream Cloud Account](#).

To review your Vantage settings, see [Adding your Telestream Cloud Account to Vantage](#) and [Adding your Cloud Storage Account to the Vantage Folder Address Book](#) for details.

Troubleshooting

The following tips may help you resolve issues with using Vantage Cloud features. If you cannot resolve a problem on your own, please contact Telestream Support for assistance (see [Contacting Telestream](#)).

Errors When Enabling Vantage Cloud Mode on an Action

If Vantage displays an error message when trying to select Cloud mode in a cloud-capable action, the likely cause is that your Telestream Cloud account has not been entered in the Vantage Management Console > Settings & Options > Cloud tab. If you have entered the account, click the Test button to verify that your account credentials are correct and retry.

Connection Failures

An easy way to recognize if Vantage is connecting with Telestream Cloud and accessing third-party storage is that the white cloud logo and the green price indicator both display on the action. If Vantage fails to connect with Telestream Cloud or your cloud storage, as indicated by the absence of the logo and price on the action, check your credentials in every location where they are entered.

Cloud-capable actions require credentials in all of these locations:

- Telestream Cloud
- Third party cloud storage
- Vantage Management Console > Settings & Options > Telestream Cloud
- Vantage Management Console > Vantage Folder Address Book
- Action-based Cloud mode > Vantage Cloud Setup selections.

Cloud and Storage Performance Considerations

If you have intermittent slow performance issues, consider these suggestions:

- Performance may vary by the type of storage resource you choose.
- Network traffic during busy times of day may affect cloud and storage performance and transfer speeds.

- Cloud storage can become temporarily unavailable. If Vantage Cloud can't access your storage, visit your storage web site to determine whether your storage is inaccessible for some reason. Also be sure to verify your credentials.
- Default storage account settings often specify limits on various resources. If your workflows are exceeding these limits—requiring increased network speed or additional storage, update your account settings or contact your storage provider for assistance.

Cloud Storage Is Overloaded by Uploads

The Vantage Telestream Cloud Service upload limit throttles concurrent uploads to prevent overloading cloud storage (default: 4 concurrent files). Use the Vantage Management Console > Services panel to select the service, put it into maintenance mode. Now, display the Cloud service Setup tab to access and change the Upload Limit value.

The total of this number for all nodes should be set to match the concurrent job limit set by Telestream Cloud (30 is the default).

Also, if a large file fails to upload automatically, try this workaround: Use a Copy action before the Vantage Cloud-capable action to manually copy the file to the Cloud.

Monitoring Job Status

You can manage hybrid workflow jobs in all of the same ways you normally would in Vantage. Use the Workflow Designer Job Status tab to get error messages and use the controls to Stop, Restart, or Delete jobs.

You can also view job status in the Telestream Cloud dashboard. Log in and click the Dashboard > Vantage Cloud to see the hybrid jobs action list and hosted jobs list. Click on any job for details. Error messages in the status details will give you clues as to faulty workflow or action settings.

Font Issues in Subtitles

Vantage Cloud-capable actions render fonts differently than actions executing on-premise, because Cloud servers use Linux instead of Windows. Subtitles or other on-screen print renderings that use the fonts built into on-premise Vantage OS may result in print output from the Cloud (Linux) that differs from the same output on Windows. In particular, font size, font spacing, font effects and anti-aliasing may have subtle differences between the two platforms. If you require a specific font style with Vantage Cloud, Telestream recommends waiting until NewBlue support is added to Linux.

Pausing Actions in Vantage Cloud Mode not Supported

Actions operating in Vantage Cloud mode can not be paused and will not respond to a Pause command.

Processing Time-Outs

Vantage Cloud-capable actions are optimized for execution efficiency in Telestream Cloud. However, if you have unusually large files or other factors that require heavy resource usage, it is possible that processing may time out after an extended time period. If this happens, please contact Telestream Support for assistance (see [Contacting Telestream](#)).

Reference and CML File Limits

If a reference or CML file that references more than 32 files is submitted to a Vantage Cloud-capable action, the job will fail at run time, indicating that this is not supported.

Managing and Executing Workflows in Telestream Cloud

This chapter describes how to use the Telestream Cloud service via the Telestream Cloud web app to import workflows into Telestream Cloud and manage revisions. This chapter also describes how to submit jobs to hosted workflows, monitor cloud based actions and workflows, monitor analytics, and set up job notifications.

Note: Managing hosted workflows in Telestream Cloud is an alternative to managing hosted workflows directly in Vantage Workflow Designer, using its HostedWorkflow Manager (see [Managing Hosted Workflows](#)), with similar functionality and a more streamlined process.

While most of the tasks you need to perform to manage Cloud workflows are implemented in the Telestream Cloud web app, they are also implemented in the Telestream Cloud API, enabling you to implement Cloud workflow processing in your own systems or programs.

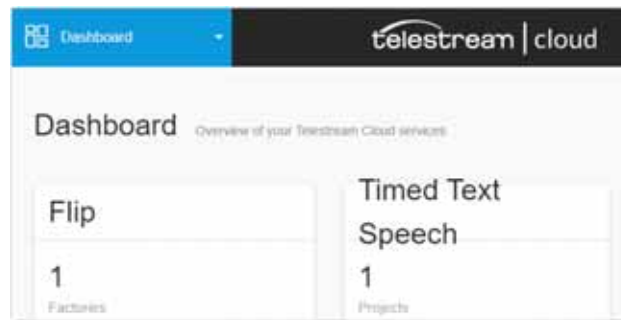
Note: Before you can process media in Telestream Cloud, you must have set up your Telestream Cloud account, a third-party cloud storage account, and your Vantage domain settings for cloud operation as explained in [Getting Vantage Cloud Up and Running](#).

Topics

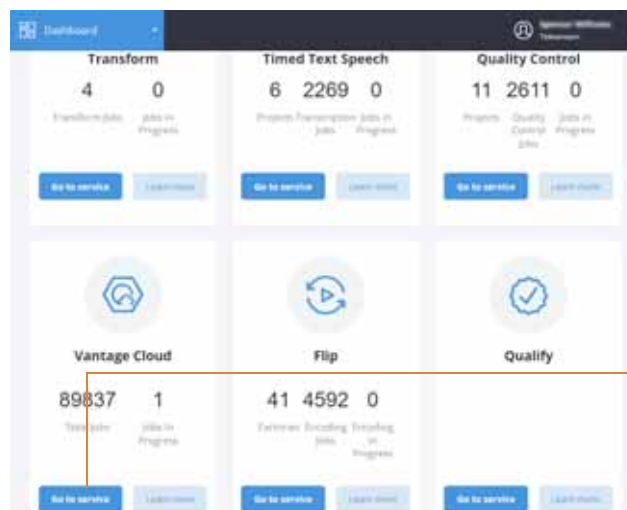
- [Logging in to the Telestream Cloud Web App](#)
- [Importing New Workflows into Telestream Cloud](#)
- [Managing Hosted Workflow Revisions](#)
- [Submitting Jobs to a Hosted Workflow](#)
- [Monitoring and Managing Hosted Workflows and Jobs](#)
- [Monitoring and Managing Action Jobs](#)
- [Monitoring Financial Information](#)
- [Managing Notifications](#)
- [Troubleshooting](#)

Logging in to the Telestream Cloud Web App

To use the Telestream Cloud web app, open the Chrome web browser and log into your [Telestream Cloud](#) account to display the dashboard:

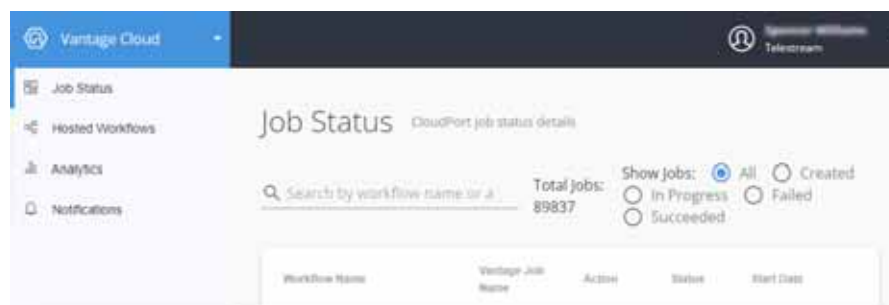


In the dashboard menu (blue, in the upper left corner), choose Vantage Cloud. Or, in the dashboard, locate the Vantage Cloud panel and click *Go To Service*..



Click Go To Service to display the Vantage Cloud page.

Telestream Cloud displays the Vantage Cloud page::



Use the menu (top left) to display each of the main panels where you perform all of your tasks related to Vantage Cloud.

Importing New Workflows into Telestream Cloud

Deploying hosted workflows in Telestream cloud is a two-step process. First, you create and export the workflow from Vantage, via Workflow Designer (see [Creating and Deploying Hosted Workflows](#)). Next, you import it into Telestream Cloud, where it is referred to as a *hosted* workflow. The original workflow (which is not referred to as *hosted*) can continue to be utilized directly in Vantage as well, if required.

Note: Alternatively, consider using the HostedWorkflows Manager in Workflow Designer to upload hosted workflows and perform all other hosted workflow-related management tasks (see [Managing Hosted Workflows](#)).

Topics

- [Creating a Hosted Workflow](#)
- [Hosted Workflow Tutorial](#)

Note: This topic describes how to import *new* workflows—not workflows that already exist in Vantage Cloud and have been *revised*. When you revise an existing workflow and export the new version, if you were to import it using this method, it would be treated as a separate workflow—which may, in fact, be exactly what you want to do. However, if you want to associate the revision(s) with the original so that you can manage them collectively, you should import it as a *revision*. To learn how to import and manage workflow revisions, see [Managing Hosted Workflow Revisions](#).

Creating a Hosted Workflow

To import a CWD workflow file, perform these steps:

1. In the Vantage Cloud Console, display the Workflows panel.
2. Click New Workflow.
3. Configure these fields (all are required):

Workflow Name (max. 255). Descriptive name for this workflow.

Workflow Document (max. 255). Enter the fully-qualified file path (in UNC | drive letter format) or browse to locate and choose the on-premises CWD file.

Default Store. Specifies the store where source media is located. Workflows exported from Workflow Designer for hosting in Telestream Cloud don't include the storage location or subfolder, since they are independent of Telestream Cloud.

Stores are managed at the Telestream Cloud level. To view and manage stores, choose Manage Stores from the Telestream Cloud main menu.

Note: Optionally, specify a subfolder/folder offset and modify the default store. After creating a hosted workflow, you can modify the default store and add a subfolder offset: Click Workflows > (Target Workflow) > Details tab. Click the Gear icon for the

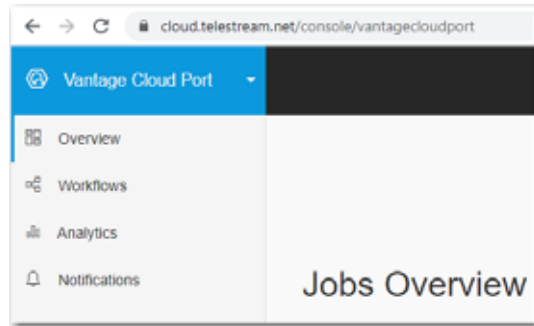
Store to update the default store. Click the Gear icon for the Folder Offset to specify an optional subfolder string.

4. When the file has been uploaded, click *Create Workflow* to validate it and activate it for use.

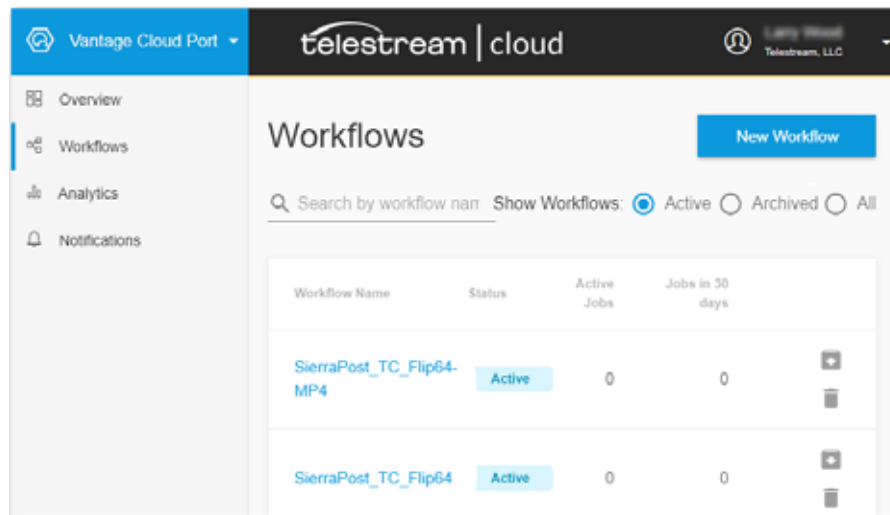
Hosted Workflow Tutorial

This tutorial describes how to import CWD files that have been exported from Vantage Workflow Designer to an on-premises location on your network.

1. On the dashboard, choose Vantage Cloud Port from the menu to display the Vantage Cloud Port web app:

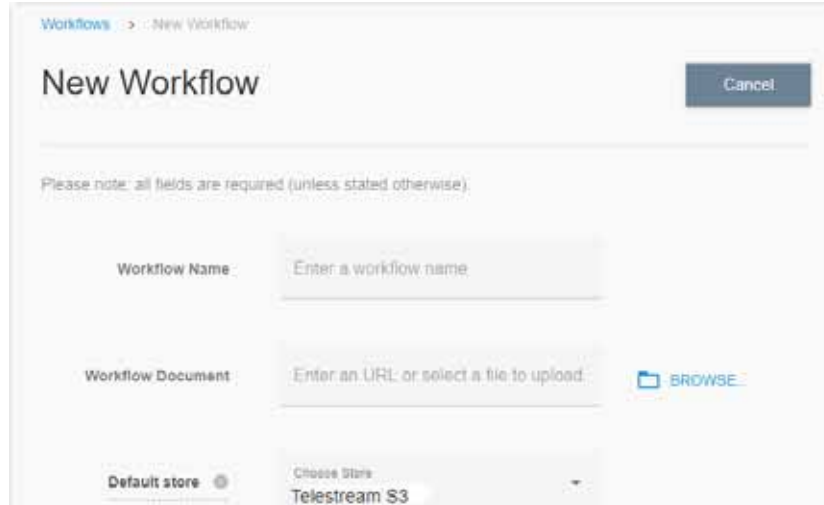


2. In the Vantage Cloud Port panel, choose Workflows to display the Workflows panel:



This panel displays workflows that have already been deployed, and enables you to add new ones to your account.

3. Click New Workflow to display the New Workflow panel:



4. Configure the following fields (all are required):

Workflow Name (max. 255). Enter the descriptive, display name for this workflow. Workflow names must be unique within the Cloud Port service, but the name you enter does not have to match the name used in Vantage Workflow Designer. This name is displayed anywhere that this workflow or its jobs are referenced in the web app.

Workflow Document (max. 255). Manually enter the fully-qualified file path and name in Windows UNC or drive letter format, or click Browse to locate and choose the on-premises CWD file you exported from Workflow Designer. CWD files must be local or network accessible.

Default Store. Name of the store where source media for this workflow is located.

Note: If no stores are available, it indicates that no cloud storage locations have been defined in your Telestream Cloud account. You must add at least one cloud storage location in order to utilize hosted workflows.

To create a new store, choose Add New Store. Select the platform for the store, configure it and click Add Store at the bottom of the panel.)

5. Next, click Create Workflow to upload it into Telestream Cloud.

Telestream Cloud uploads the file to the target store. Progress is indicated to the right of the Workflow Document field.

6. When uploading is complete, click Create Workflow to deploy it for use:

The screenshot shows the 'New Workflow' form in the Telestream Cloud interface. The form is titled 'New Workflow' and has a 'Cancel' button in the top right. Below the title is a note: 'Please note: all fields are required (unless stated otherwise)'. The form contains three main input areas: 'Workflow Name' with the text 'SierraPost_TC_Flip64-MP4', 'Workflow Document' with the file 'SierraPost_TC_Flip64.cwd' and a '100%' upload progress indicator, and 'Default store' with a dropdown menu showing 'Store1'. At the bottom of the form are two buttons: 'CREATE WORKFLOW' and 'CANCEL'.

Telestream Cloud notifies you when deployment is complete and displays the new workflow in the Workflows table:

The screenshot shows the 'Workflows' table in the Telestream Cloud interface. The table has a search bar and a filter for 'Show Workflows' with options for 'Active', 'Archived', and 'All'. The table lists three workflows:

Workflow Name	Status	Active Jobs	Jobs in 30 days		
SierraPost_TC_Flip64MP4	Active	0	0		
LookingAtVariables	Active	0	1		
Flip64_Overlay	Active	0	3		

Summary

You’ve now completed the second half of the hosted workflow Design and Export / Import and Deploy process. Your hosted workflow is now ready to go to work!

Managing Hosted Workflow Revisions

During the life cycle of a workflow, modifications are often made to adapt it to changing requirements. Cloud Port supports *workflow versioning*; enabling you to

import multiple revisions of the same workflow, and activate a specific version at any point in time. The active version is always utilized when you interact with the workflow.

Note: Alternatively, consider using the HostedWorkflow Manager in Workflow Designer to upload hosted workflows and perform all other hosted workflow-related management tasks (see [Managing Hosted Workflows](#)).

This topic describes how to import *modified* workflows—workflows that have been modified and a new version exported from the Vantage domain. Telestream suggests importing updated workflows as a *revision*, so that they are directly associated with the original and you can manage the revisions effectively. Telestream does not recommend proliferating workflow revisions by the method described in [Importing New Workflows into Telestream Cloud](#), as each revision would be a separate, independent workflow.

Using workflow revisions in Vantage Cloud may be very useful. However, Workflow Designer does not support revisions. Therefore, before revising a workflow for use in Vantage Cloud as a hosted workflow, best practice suggests that you duplicate the workflow in Workflow Designer and then make changes to the duplicated version, to maintain previous versions that are still deployed in Telestream Cloud.

Importing a Revised Workflow

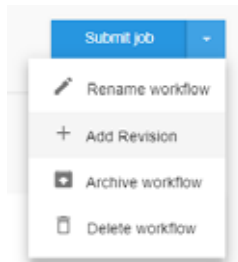
To import a new version of an existing workflow, follow these steps:

1. Click Workflows and then choose the workflow you want to revise to display the workflow panel:

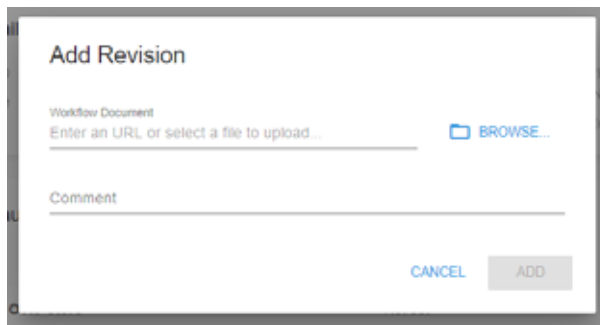
The screenshot shows the 'API Example' workflow details panel. It includes a 'Details' section with workflow ID, name, Vantage Workflow Name, and Created At. Below this is a 'Default Store' section with Store and Folder Offset. At the bottom is an 'Expected Variables' table.

Variable	Description	Video type	Default value
Video Height		HD32	480
Video Width		HD32	720

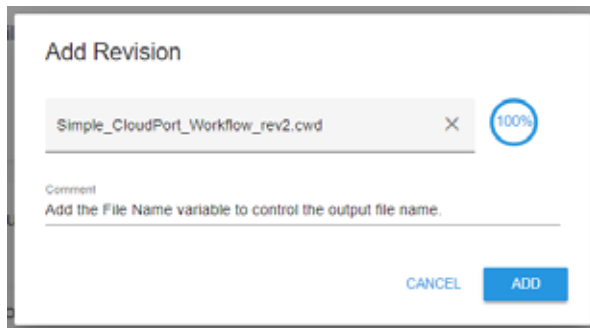
2. Choose Add Revision from the menu (upper right corner):



Telestream Cloud displays the Add Revision dialog:

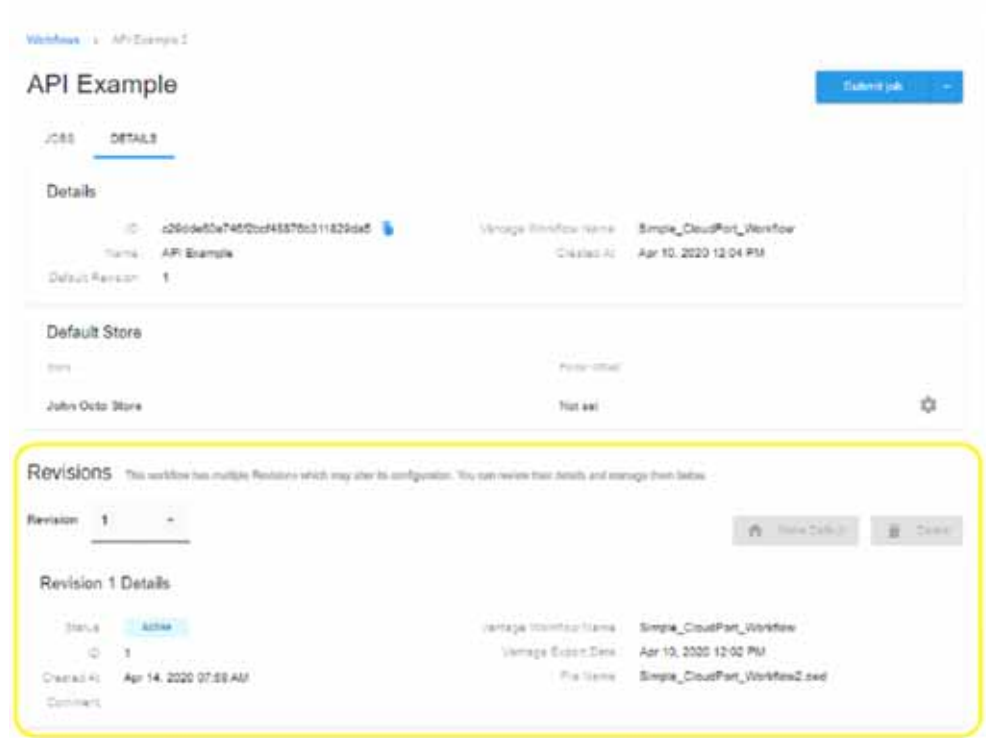


3. Click Browse to navigate to and choose the CWD file and import it as a version of the original workflow. Optionally, enter a comment to provide a description of the revised workflow:



4. When upload is complete, click Add to deploy the revised workflow.

5. Click the Details tab to display all revisions of this workflow:



The Revisions table displays the new version Vantage Cloud just created. Click Make Default to make this the active revision. Use the Revision menu to display details about a given revision or set it to All to display all revisions of this workflow.

Here are the workflow revisions following the upload of a new revision:



In this example, the original (ID 1) version (uploaded on April 14th) is currently active. The new (ID 2) version's status is *Staging* to indicate that it is not currently in use.

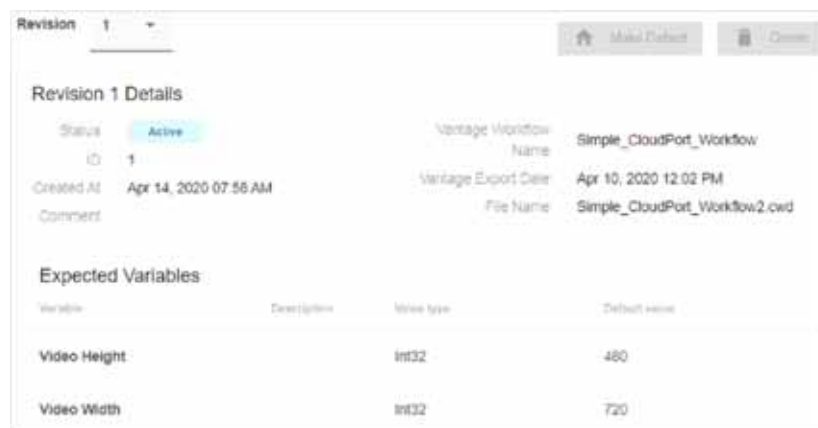
Note: The comment entered when this revision was added explains what changed.

Switching Between Workflow Revisions

When a workflow has multiple revisions, you can switch between them, making any revision active at any time. The active revision may have different variables and expected inputs that are used in the workflow.

Note: Alternatively, consider using the HostedWorkflow Manager in Workflow Designer to specify revisions of hosted workflows and perform all other hosted workflow-related management tasks (see [Managing Hosted Workflows](#)).

For example, when the original revision (Revision ID 1) is selected, the details of this workflow are displayed:



Revision 1 Details

Status: **Active**

ID: 1

Created At: Apr 14, 2020 07:56 AM

Comment:

Vantage Workflow Name: Simple_CloudPort_Workflow

Vantage Export Date: Apr 10, 2020 12:02 PM

File Name: Simple_CloudPort_Workflow2.cwd

Expected Variables

Variable	Description	Value Type	Default value
Video Height		Int32	480
Video Width		Int32	720

If you select the 2nd revision, then the new changes (for example, the newly added variable) display:



Revision 2 Details

Status: **Staging**

ID: 2

Created At: May 01, 2020 09:39 AM

Comment: Add the File Name variable to control the output file name.

Vantage Workflow Name: Simple_CloudPort_Workflow

Vantage Export Date: May 01, 2020 09:24 AM

File Name: Simple_CloudPort_Workflow_rev2.cwd

Expected Variables

Variable	Description	Value Type	Default value
File Name		String	
Video Height		Int32	480
Video Width		Int32	720

The variable which was added to this version of the workflow is now displayed. Also note that the Make Default and Delete buttons are now enabled:



These controls are only enabled for revisions which are not currently active.

Make Default. This revision is made the default or active revision of the workflow. Any API-based interaction with this workflow or any job submission via the Cloud Port web app will use this revision of the workflow, including expected variables and sources particular to this revision.

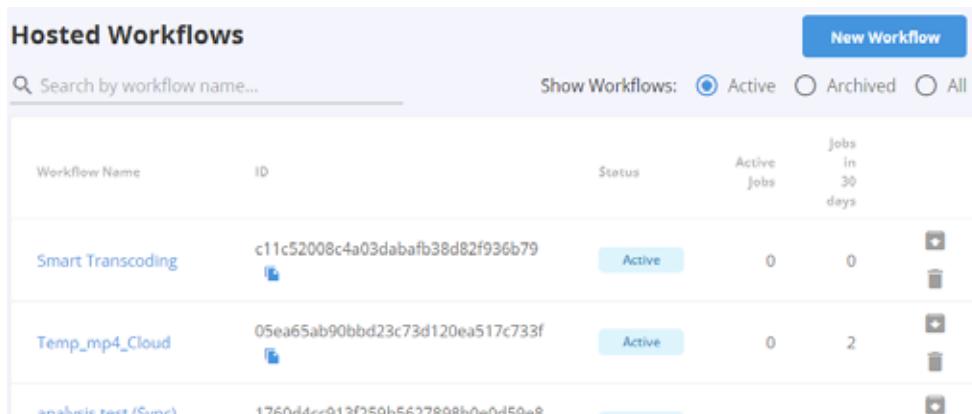
Delete. This workflow revision is permanently removed from Telestream Cloud.

Submitting Jobs to a Hosted Workflow

EDNOTE DO NOT DELETE/ALTER FileName marker: New Workflow panel context topic for [~/vantagecloudport/workflows/new](https://vantagecloudport/workflows/new). Access in TC > CP UX > Workflows > New Workflow. Filename: tc-cloudport-submit-job.htm.

To submit a job to a hosted workflow, follow these steps:

1. To submit a job to a hosted workflow, display the Workflows panel:



2. Choose the workflow to which you want to submit a job.

Telestream Cloud displays the Workflow panel for the selected workflow:



3. Click Submit Job to display the New Job panel, to configure the job requirements:

The screenshot shows the 'New Job for SierraPost_TC_Flip64-MP4' panel. At the top, there's a breadcrumb trail: 'Workflows > SierraPost_TC_Flip64-MP4 > Submit New Job'. The panel title is 'New Job for SierraPost_TC_Flip64-MP4' with a 'Cancel' button. Below the title are four sections: 'Details' with a 'Job Name (Optional)' field and a hint; 'Variables' with a message 'No expected variables defined for this workflow'; 'Source' with an 'Original' radio button, an input field for 'Enter an url or select file to upload', and a 'BROWSE' button; and 'Storage' with a 'Flip64' radio button, a 'Choose Store' dropdown, a slash separator, and a 'Folder offset (optional)' input field. At the bottom are 'SUBMIT JOB' and 'CANCEL' buttons.

4. Configure these controls:

Job Name (optional). Enter a text string to display in the job list for this workflow. If blank, the job name is derived from the file name of the first source.

Variables. For each expected variable in your workflow, specify values for this job. ([Using Variables and Parameters in Vantage Cloud Workflows](#)).

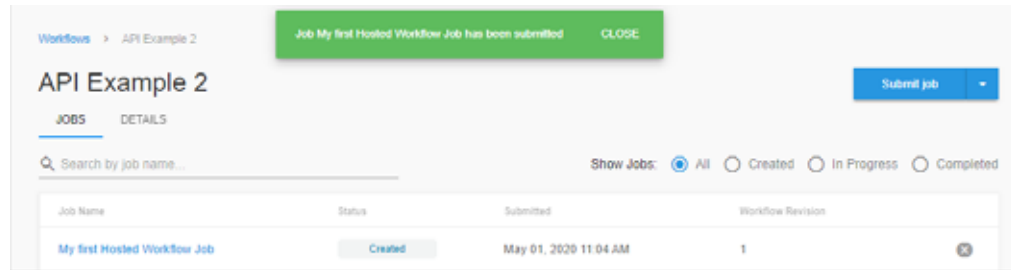
Source. For each nickname in this workflow, manually enter or click *Browse* to choose a locally-stored file. Or, use a cloud storage browser utility to choose the Cloud-stored file and enter a Signed URL to access it. A Signed URL is a special URL which enables access to a file located in supported cloud storage (Google Cloud Storage | Amazon S3 | Azure BLOB Storage).

The easiest way to obtain a signed URL is to use a network file utility to generate a signed URL for the file. For example, the AWS console.

Storage. Choose the storage (with a manually entered optional subfolder offset/qualifier) for the output generated by any transcoding actions or other actions that require storage in this workflow.

Note: The Storage entry specification also defines the Provider and Region where this process should execute. See [Creating a Cloud Storage Account](#) for details.

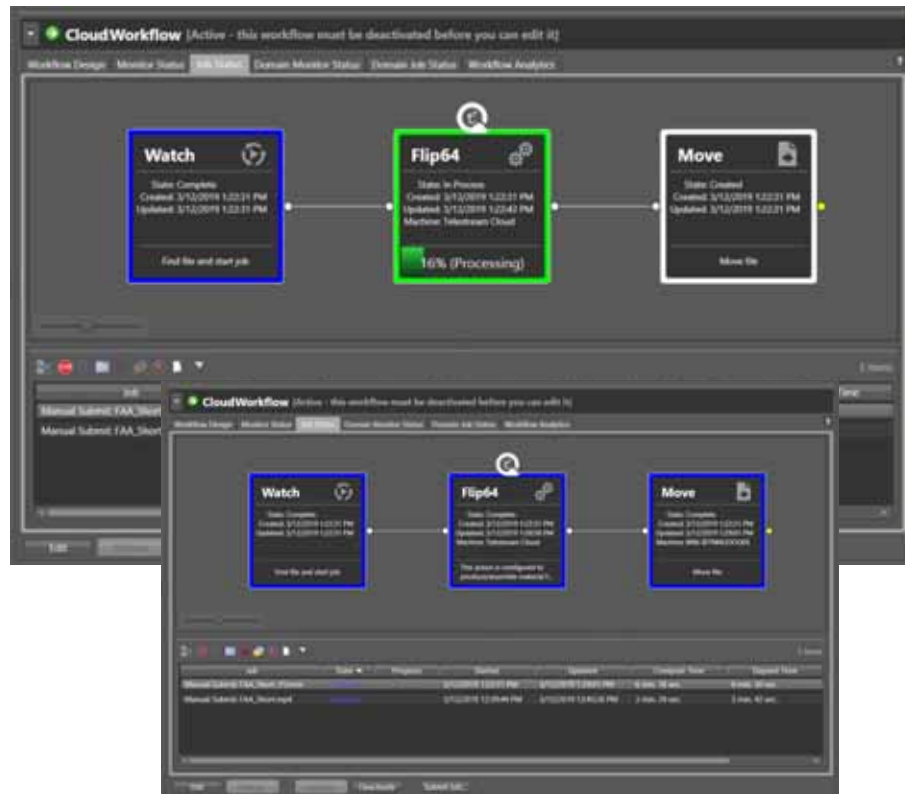
5. Click *Submit Job* to create a new job for this workflow and begin execution:



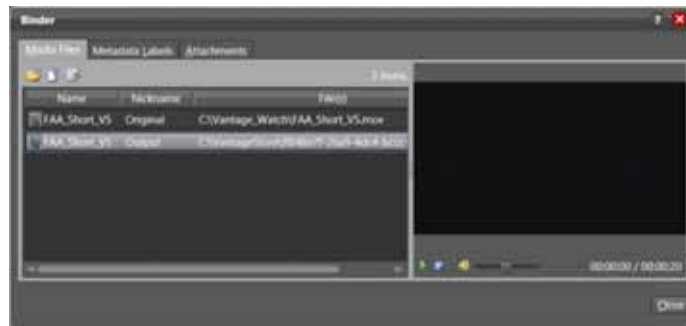
Now that you have submitted a job to this hosted workflow, you can monitor its progress in the Jobs Overview panel.

Reviewing Completed Hybrid Workflow Jobs

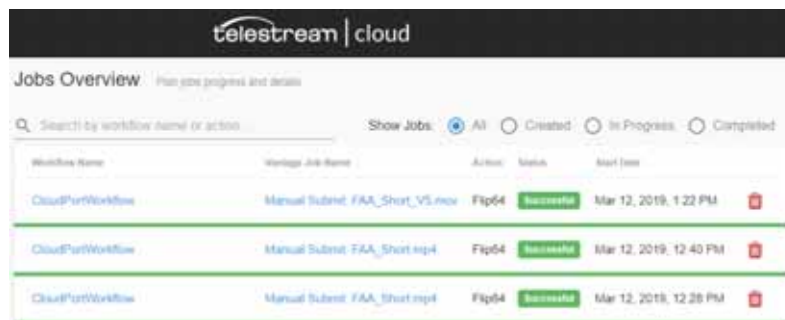
When the job completes, check Vantage Job Status for success or failure. If there is a failure, Vantage Job Status and your Telestream Cloud account provide details about what happened.



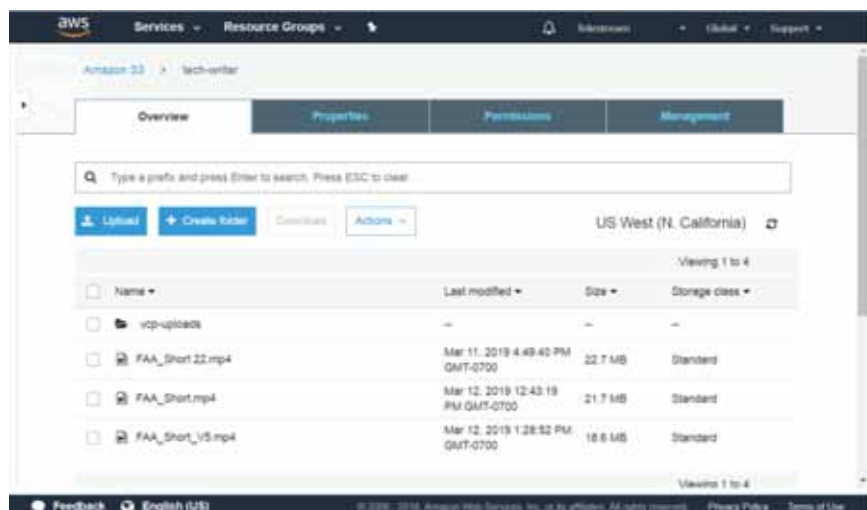
1. Finally, check the binder (right-click the job and select View Binder) and the cloud storage for expected output files (AWS S3 example shown).



2. In Telestream Cloud, display the Vantage Cloud page.
3. Click Overview to display the Jobs Overview panel and all action jobs.



4. Click the Workflow Name or Vantage Job Name to view job details for the target action.
5. Finally, check cloud storage for expected output files (AWS S3 example shown):



Monitoring and Managing Hosted Workflows and Jobs

EDNOTE DO NOT DELETE/ALTER FileName marker: Workflow Jobs Overview panel context topic for ~/vantagecloudport. Access in TC > CP UX by clicking Workflows in main menu. Filename: tc-cloudport-workflows-workflowjobs.htm.

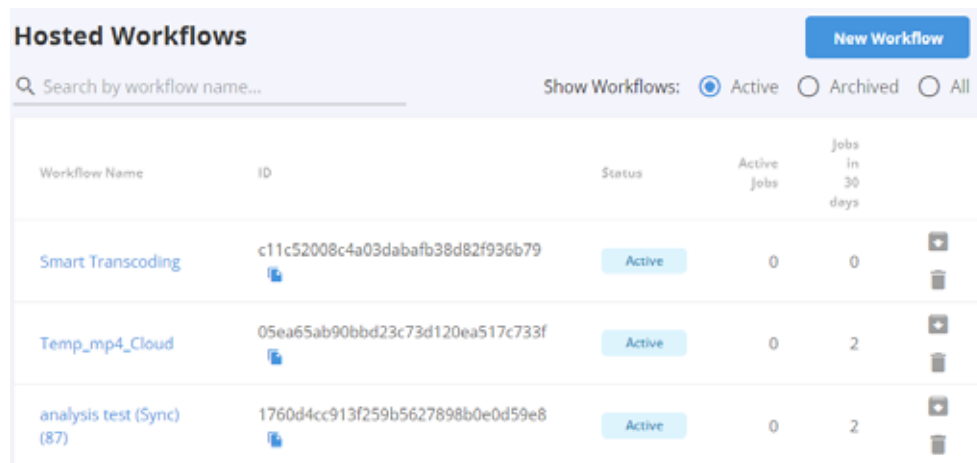
Hosted workflows and their jobs are monitored in Telestream Cloud or via an API-based program. Jobs for hosted workflows are referred to as *workflow* jobs in the context of Telestream Cloud.

Topics

- [Hosted Workflows](#)
- [Hosted Workflow Jobs](#)
- [Hosted Workflow Details](#)
- [Viewing Job Status](#)
- [Viewing Job Details](#)

Hosted Workflows

To view and manage hosted workflows, click Vantage Cloud > Hosted Workflows to display its panel:



Workflow Name	ID	Status	Active Jobs	Jobs in 30 days
Smart Transcoding	c11c52008c4a03dabafb38d82f936b79	Active	0	0
Temp_mp4_Cloud	05ea65ab90bbd23c73d120ea517c733f	Active	0	2
analysis test (Sync) (87)	1760d4cc913f259b5627898b0e0d59e8	Active	0	2

Click the New Workflow button to create a new workflow in Telestream Cloud, by uploading an exported CWD file from a Vantage domain. See [Importing New Workflows into Telestream Cloud](#).

The Workflows panel displays a table of the workflows that have been deployed in Telestream Cloud. Workflows are listed by workflow name, and include the job ID, status, number of active jobs, and number of jobs in the last 30 days.

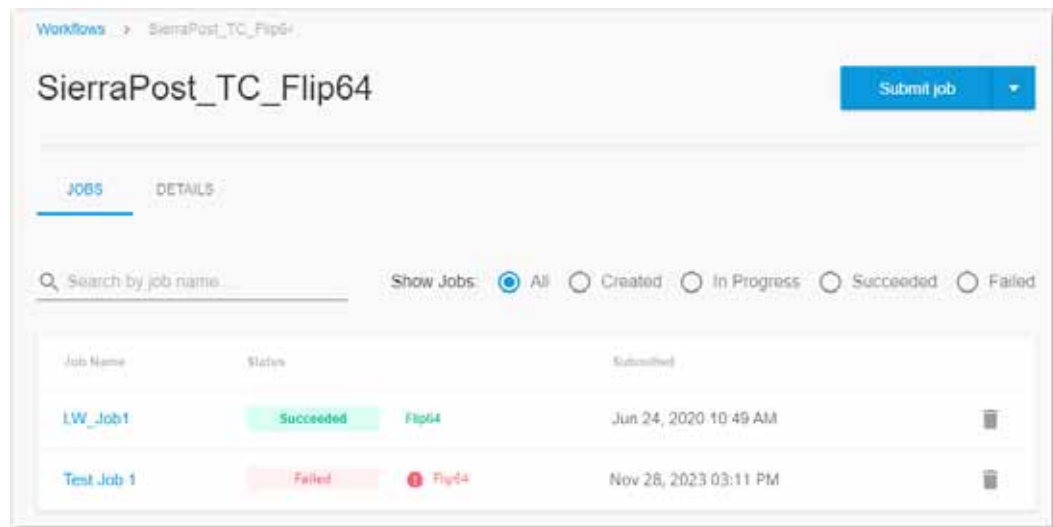
Use the workflows table to:

- Filter workflows—choose Active | Archived | All

- Search for workflows—in the search field, enter workflow or action string.
- Monitor the number of active jobs—the value displayed represents the number of jobs concurrently running in this workflow.
- View workflow status—Invalid | Active | Staging | Archived.
- Archive | Unarchive a workflow—click on the Down arrow icon associated with the workflow to archive it. Click on the Up arrow icon to unarchive it. When a workflow has been archived, you can not submit jobs to it or its active revision.
- Delete a workflow—click on the trash icon associated with the workflow entry to permanently remove it.
- Display workflow jobs and details—click on the workflow name to display jobs and details for the selected workflow. See [Hosted Workflow Details](#).

Hosted Workflow Jobs

To display jobs associated with the selected workflow navigate to Vantage Cloud > Hosted Workflows and select a workflow and display its Jobs tab:



Click the Submit Job button to submit a file to a workflow in Telestream Cloud. See [Submitting Jobs to a Hosted Workflow](#).

The Jobs tab displays a list of jobs associated with this workflow by job name, plus its status, cloud actions, and a time stamp.

You can use the table to:

- Search for jobs—in the search field, enter a string to search in the job name.
- Filter jobs—choose All | Created | Created | In Progress | Succeeded | Failed.
- Check cloud action status—during execution, click on the action name to display a progress bar.
- Delete a job—click on the trash icon associated with the job entry.

- Display jobs and details—click on the job name. For information, see [Hosted Workflow Details](#).

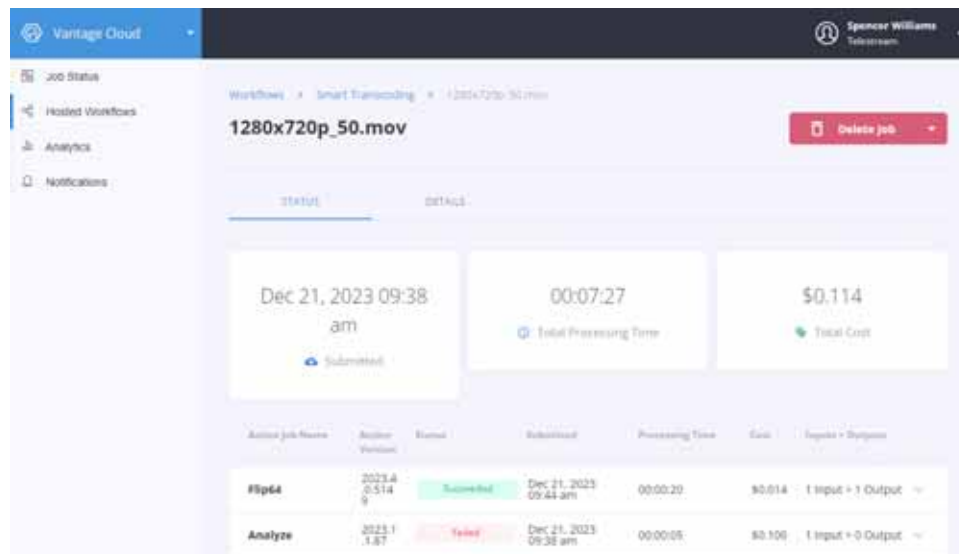
Hosted Workflow Details

EDNOTE DO NOT DELETE/ALTER FileName marker: Workflows Detail panel context topic for ~/vantagecloudport/workflows/<workflow UUID>. Access in TC > CP UX from the Workflows panel by clicking a specific job in table. Filename: tc-cloudport-workflow-details.htm.

The Details tab displays the information for the selected workflows. To display a workflow's details, click on the workflow name in the Workflows table.

Telestream Cloud displays details similar to Vantage related to jobs it has processed.

To display workflow details, display the Details tab:



Click the Submit Job button to submit a file to a workflow in Telestream Cloud. See [Submitting Jobs to a Hosted Workflow](#).

Metadata in the details pane applies to the workflow generally, and its revisions, if any.

Workflow ID. The workflow ID is used to identify and reference the workflow in all API operations. Click Copy to place the ID on the clipboard for use in API-based programs.

Name. The display name of the workflow, assigned when the workflow was imported or when the job ran.

Vantage Workflow Name. Display name of the workflow in Vantage Workflow Designer.

Created at. Date/time stamp when the workflow was imported into Telestream Cloud.

Below the Jobs table, Telestream Cloud also provides other details by category: the default store, expected variables, sources, storage references, and a workflow graph. All

of this information is extracted from the Vantage workflow configuration, as depicted here in part:

Expected Variables				
Variable	Description	Store Type	Default value	
Video Height		int32	480	
Video Width		int32	720	

Sources	
Name	Description
Original	The original version of content encountered or created by Vantage.

Storage References				
Name	Description	Storage	Default Store	Default folder offset
IPTV Flip	IPTV with variables	Permanent	Not set	Not set

Details Panel

The Details panel displays general information about the selected workflow.

Details			
ID	805fc09b93d40f6c78824cefa5f76517	Vantage Workflow Name	analysis test (CloudMode)
Name	analysis test (CloudMode)	Created At	Nov 28, 2023 03:06 PM

It provides the workflow GUID, Telestream Cloud workflow name, Vantage workflow name, and date of upload/import.

Default Store Panel

The default store pane displays the store and subfolder/offset, if any, used by this workflow. You can also set the default store and folder offset here.

Default Store	
Store	Folder Offset
S3 us-east-2 (shared)	Not set

Click the Gear button to modify the default store and folder offset. Choose the store to use for actions in this workflow that generate files. (The cloud storage and subfolder path defined in Vantage for this workflow are not valid in Telestream Cloud and must be specified when you import a workflow (see [Creating Hosted Workflows](#))).

Expected Variables Panel

The Expected Variables panel displays the variables that are utilized in the workflow whose value is not provided by the workflow itself or by the variable's default value.

ednote screen grab req'd

Provide default values here. You can override them when you submit a job.

Sources Panel

Displays the sources defined in this workflow, by nickname and description.

Sources	
Name	Description
Original	The original version of content encountered or created by Vantage.

To change source definitions, edit the workflow in Workflow Designer and upload it as a new workflow or as a workflow revision.

Storage References Panel

Displays the actions in this workflow, by nickname and description with its life cycle, default store and folder offset.

Storage References					
Name	Description	Lifecycle	Default Store	Default Folder Offset	
Flip64	HD transcode	Permanent	Not set	Not set	⚙
Flip64	UHD transcode	Permanent	Not set	Not set	⚙
Analyze	Video height	Permanent	Not set	Not set	⚙

For each action in the workflow, you can define a separate storage location and offset. Click the Gear button to change the default store and folder offset and save it for future jobs.

Workflow Graph Panel

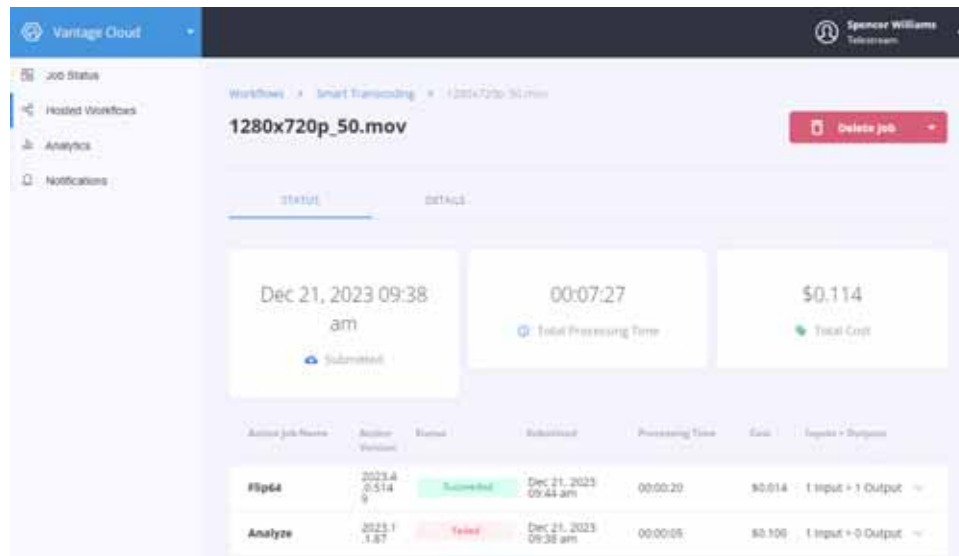
Displays the actions in this workflow as a graph, similar to its representation in Workflow Designer.



Each action in the workflow is identified by name and description. In this view, the graph actions are gray; it denotes the structure and organization of the workflow, independent of job execution.

Viewing Job Status

To display the status of a specific hosted workflow job, navigate to Vantage Cloud > Hosted Workflows. In the Hosted Workflows table, find the workflow you want, and click on its name link. In the Jobs tab, click on the job you're interested in viewing—it displays the information for the selected job. This figure depicts the top portion:



EDNOTE DO NOT DELETE/ALTER FileName marker: Workflows Detail panel context topic for ~/[vantagecloudport/workflows/<workflow UUID>](#). Access in TC > CP UX from the Workflows panel by clicking a specific job in table. Filename: [tc-cloudport-workflow-details.htm](#).

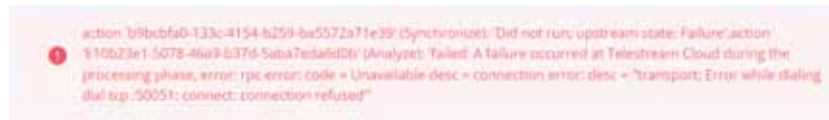
Telestream Cloud displays details similar to Vantage related to jobs it has processed.

At the top, Telestream Cloud displays the submission date, total processing time, and approximate total cost.

The Action Job table displays a list of Telestream Cloud actions and their details: version, status, submission date, processing time, approximate cost, and number of outputs.

Click the disclosure button at the end of the action row to disclose input and output details.

For actions that failed, as depicted by the Analyze action in the preceding figure, Telestream Cloud reports an error that aids in troubleshooting. For example:

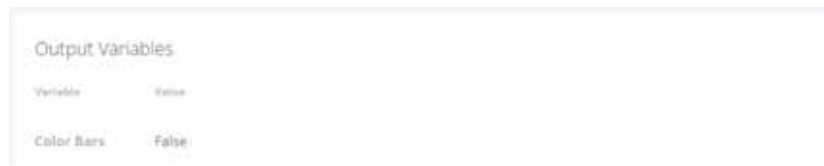


action '3b9bcbfa0-133c-4154-b259-ba5572a71e39' (Synchronize): Did not run; upstream state: Failure; action '110b23e1-5078-46a9-b37d-5eba7eda5d0b' (Analyze): Failed: A failure occurred at Telestream Cloud during the processing phase, error: rpc error: code = Unavailable desc = connection error: desc = "transport: Error while dialing dial tcp :50051: connect: connection refused"

Resolve the error and retry the job.

Output Variables Panel

The Output Variables panel displays the variables that were utilized in the workflow.



Output Variables	
Variable	Value
Color Bars	False

Each variable is listed by name, with its post-execution value and the end of the job.

Workflow Graph Panel

Displays the actions in this workflow as a graph, similar to its representation in Workflow Designer. Post-execution states are color coded:



Each action in the workflow is identified by name and description. In this view, the blue actions executed with a SUCCESS state; red actions have a FAILED state; gray actions did not execute.

For troubleshooting job failures, hover over the i button in each action that is not in a success state to learn details about this action's execution.

Cleanup Panel

Displays the tasks that were automatically executed by Telestream Cloud to delete temporary files from transient storage created during execution.



Each action in the workflow is identified by name and description. In this view, the graph actions are gray; it denotes the structure and organization of the workflow, independent of job execution.

Viewing Job Details

To display a job's details, click on the workflow name in the Workflows table and then, click on the job you're interested in viewing. Click the Details tab—it displays the information for the selected job in relevant panels.

Details Panel

The Details panel displays general information about the selected workflow.



Job ID. The Job ID is used to identify and reference the job in all API operations. Click *Copy* to copy the ID for use in API-based programs.

Name. The display name of the workflow, assigned when the workflow was imported or when the job ran.

Vantage Workflow Name. Display name of the workflow in Vantage Workflow Designer.

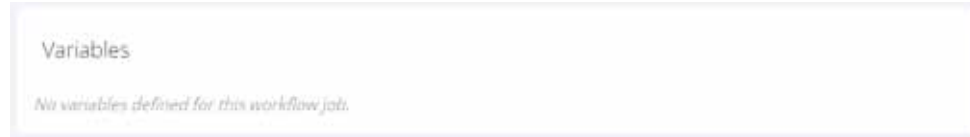
Workflow Job Created at. Date/time stamp when the workflow executed the job.

Telestream Cloud also provides other details by category: the default store, expected variables, sources, storage references, and a workflow graph. All of this information is extracted from the Vantage workflow configuration, as depicted here in part:

It provides the workflow GUID, Telestream Cloud workflow name, Vantage workflow name, and date of upload/import.

Variables Panel

The Variables panel displays the variables that are utilized in the workflow whose value is not provided by the workflow itself or by the variable's default value.



Provide default values here. You can override them when you submit a job.

Sources Panel

Displays the sources defined in this workflow, by nickname and file name as a URL.



Click the link or copy icon to copy the URL for use in an API program.

Storage References Panel

Displays the actions in this workflow that utilized storage.

Storage References			
Name	ID	Store	Folder offset
Analyze	810b23e1-5078-46a9-b37d-5aba7eda6d0b	S3 us-east-2 (shared)	Not set

Each action's store instance is identified by GUID with its store and folder offset.

Each action in the workflow is identified by name and description. In this view, the graph actions are gray; it denotes the structure and organization of the workflow, independent of job execution.

Renaming a Workflow

Renaming a workflow simply changes its display name. It has no other effect—its other copy, in your Vantage domain, retains the identical GUID.

To rename a workflow, follow these steps:

1. Click Workflows and then choose the workflow you want to revise.

Telestream Cloud displays its workflow panel.

2. In the Workflows menu, select Rename Workflow.
3. In the Rename Workflow dialog, enter the new workflow's name and click Save.

Archiving and Unarchiving Workflows

Archiving a hosted workflow renders it—or its active revision, in the case of a workflow with revision—unable to accept new jobs.

Unarchiving a workflow returns it (or its active revision) to a normal state where it can accept jobs and execute.

Archiving a Workflow

To archive a workflow, follow these steps:

1. Click Workflows to display the Workflows panel.
2. Choose the workflow you want to archive. Telestream Cloud displays its panel.
3. In the Workflows menu, select Archive Workflow.
4. In the Rename Workflow dialog, enter the new name for this workflow and click Save.
5. When you archive a workflow, its panel is bannered with an Archive notice.

Unarchiving a Workflow

To unarchive a workflow, follow these steps:

1. Click Workflows to display the Workflows panel.
2. Show archived workflows to view only workflows that have been archived.
3. Choose the workflow you want to return to use. Telestream Cloud displays its panel.
4. In the Workflows menu, select Un-archive Workflow.
5. When you un-archive a workflow, the Archived banner is removed and the workflow can now execute jobs.

Deleting a Workflow

Deleting a workflow permanently removes it and all revisions from Telestream Cloud.

To delete a workflow, choose one:

Display the Workflows click the trash icon for workflow you want to delete, and confirm your decision in the dialog.

—OR—

In the selected workflow's panel choose Delete Workflow from the menu and confirm your decision in the dialog.

—OR—

In Workflow Designer, display the HostedWorkflow Manager. In the Cloud Workflows table, select the workflow and click the Delete button (see [Using the Cloud Workflows Panel](#)).

Exporting a Hosted Workflow

You can export a hosted workflow in CWD format; returning it to the same format exported by Vantage Workflow Designer.

Among other purposes, you can use CWD files for:

- External archiving
- Transfer to other Telestream Cloud accounts
- Importing into Vantage.

Note: You can also download a hosted workflow directly into Vantage using Workflow Designer—see [Downloading Workflows from Telestream Cloud](#).

Exporting a Hosted Workflow from Telestream Cloud

To export a hosted workflow using Telestream Cloud, follow these steps:

1. Click Workflows to display the Workflows panel.
2. Choose the workflow you want to export. Telestream Cloud displays its page.
3. In the Workflows menu, select *Download CWD*.
4. Chrome downloads the workflow file in Vantage CWD format as a JSON file and stores it in your Downloads location (Settings > Advanced > Downloads). When the process completes, displays an entry at the bottom of the window. Click on it to open the file or show it in its folder.

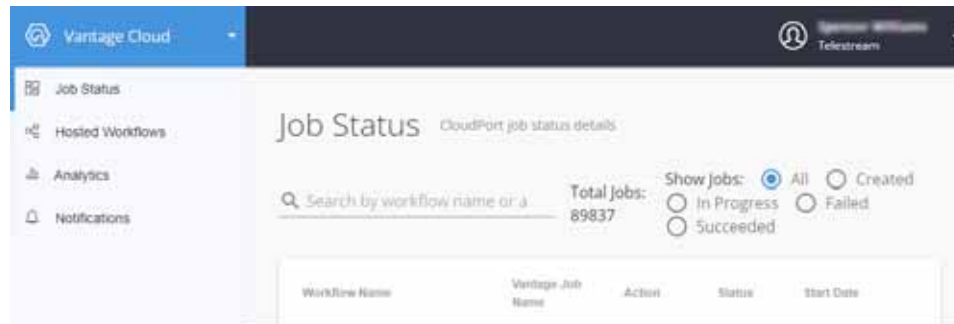
Monitoring and Managing Action Jobs

EDNOTE DO NOT DELETE/ALTER FileName marker: Jobs Overview panel context topic for ~/vantagecloudport. Access in TC > CP UX by clicking Overview in main menu. Filename: tc-cloudport-overview.htm.

Hybrid workflows that transfer actions to Telestream Cloud for execution are called *action jobs* in the context of Telestream Cloud. Action jobs can be monitored and managed in both Vantage and Telestream Cloud. In Vantage, you can focus on the workflow at the workflow level; in Telestream Cloud, you can focus on each Vantage Cloud-capable action that executed in Telestream Cloud. For information about monitoring jobs in Vantage, read the appropriate topics in the Vantage User's Guide.

To view and manage action jobs—Vantage Cloud-capable actions—that have been submitted for execution in Telestream Cloud (from both hybrid and hosted workflows),

in the Dashboard, click go to service in the Vantage Cloud card to display the Job Status panel.



The Jobs Overview panel displays action jobs for all actions that are queued, running, or complete (in any state). If you have multiple Cloud-capable actions in a single workflow, Telestream Cloud displays a separate entry for each one in the workflow.

As jobs execute, the action status for each Cloud-capable action updates in real time.

The action table displays each action job's Telestream Cloud workflow name, job name, the action itself, plus status and start date/time stamp.

Note: The date/time stamp is in UTC; it displays the UTC value adjusted by the browser time zone value, based on the time zone set on your computer. If your computer timezone is set to auto-adjust, the displayed value will vary based on your location at the time of the inquiry.

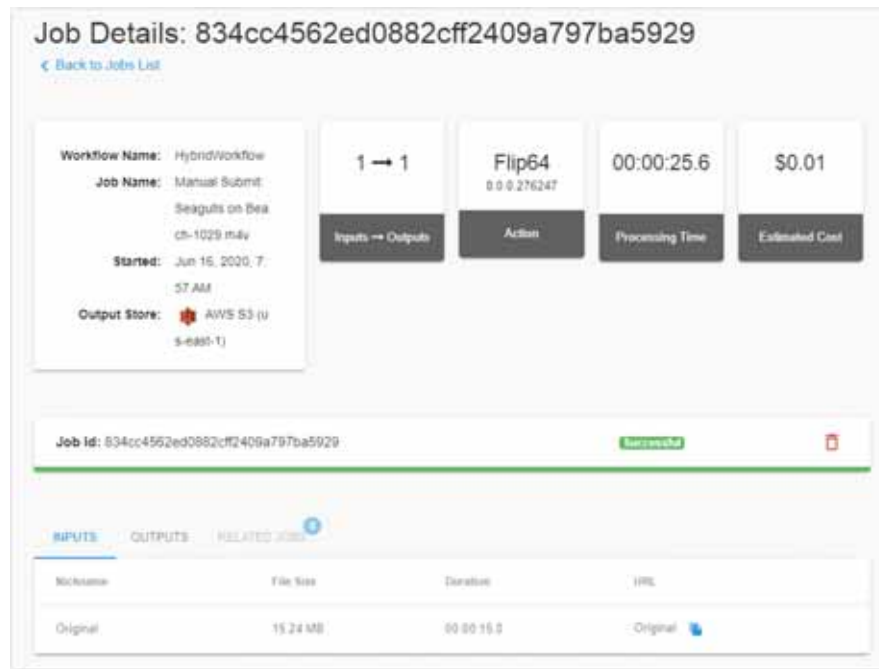
You can use the action jobs table to:

- Search for actions—in the search field, enter the workflow or action string and the table updates automatically. Clear the field to return to the full list.
- Filter jobs—choose All | Created | In Progress | Completed
- Delete jobs—remove jobs that have completed; click on the trash icon associated with the job entry
- Cancel executing actions—click on the trash icon associated with the job entry
- Display action job details—click on the workflow name or Vantage job name to display the Job Details panel ([Viewing Action Job Details](#)).

Viewing Action Job Details

EDNOTE DO NOT DELETE/ALTER FileName marker: Jobs Details panel context topic for ~/vantagecloudport/jobs/<jobUUID>. Access in TC > CP UX by clicking Overview > specific job in main menu. Filename: tc-cloudport-overview-actionjob-details.htm.

Choose a job in the Jobs table to display the Job Details panel for this action:



The Job Details panel displays the following information:

Workflow Name. The Vantage name of the workflow that contains this action.

Job Name. The display name of the job that was submitted in Vantage for execution.

Started. The date/time stamp when the action began execution.

Output Store. The cloud location where the output is written to.

Inputs—Outputs. The number of input files and output files defined in this action.

Action. The Vantage name of this action, including the version number.

Processing Time. The elapsed time of execution.

Estimated Cost. The estimated cost of execution, in US dollars. The estimated cost is based on the duration of the output media and the features used in the action.

Job ID. The UUID assigned for this action job.

Note: Use the action job ID when utilizing this job via the API. You should also include the action job ID when a problem is being reported to Telestream Customer Service. Click the Copy icon to copy the job ID to the clipboard for use elsewhere.

Status. The status of the action:

Queued—Telestream Cloud is waiting for cloud resources on which to execute the job.

Downloading—The cloud server running the execution container is acquiring the source files required to start the job.

Processing—The job is being executed.

Uploading—The output from the job is being uploaded back to your specified cloud storage location.

Successful—The job completed successfully.

Failed—The job encountered a problem during execution. See details of the job for error messages.

Inputs Tab

The Inputs tab lists each input file utilized by this action. The input is listed by nickname, and includes file size, duration, and link to a signed URL, which you can copy (click on the copy icon) for use in accessing this file.

If the signed URL is current, the link is the file name and you can click it to view the file. If the URL has expired, the filename is replaced by the nickname.

Output Tab

The Outputs tab conversely, lists each output file created by this action. The output is listed by nickname, and includes file size, duration, and URL, which you can copy (click on the copy icon) for use in accessing this file.

If the signed URL is current, the link is the file name and you can click it to view the file. If the URL has expired, the filename is replaced by the nickname.

Related Jobs

The Related Jobs tab displays other jobs that have the same Vantage job ID when the job was submitted. The jobs are listed by job name, and include the action and status.

Monitoring Financial Information

The Analytics panel provides you a financial breakdown of the cost of workflow processing by workflow and action. (Due to rounding of display values, the sum may vary slightly from the Total Cost entries.)

Analytics		
Date Range:		
Jun 01, 2020 - Jun 17, 2020		Show filters
Workflow Name	Action	Total Cost
HybridWorkflow-Flip64-Flip64	Flip64	\$0.013
		\$0.013
HybridWorkflow	Flip64	\$0.041
		\$0.041
		Total: \$0.054

The Analytics table displays workflows and cloud actions, and the cost associated with its usage.

On this panel you can:

- Change the Date Range—click in the Date Range field, then select the Period Begin date and the Period End date and click OK.
- Organize line items—click Show Filters; group them by Action | Filter | Domain ID.
- Organize line items—click Show Filters and filter them by Workflow Name | Action Name | Features Name | Domain ID.

The Feature value is the SKU of the Telestream Cloud component utilized. The Domain ID is the numeric identity of the Vantage domain from which the workflow originated.

Managing Notifications

Notifications enable Vantage Cloud—and other Telestream Cloud services—to send alerts when certain events occur.

Note: Notifications can also be viewed and managed at the Telestream Cloud level by selecting Notifications from the main menu. The table displays notifications at this level for all services in Telestream Cloud.



The Notification panel displays a table of notifications that have been created. Each entry is listed by event, deliver method (type), and end point (for example, email address or URL).

On this panel you can:

- Create new notifications—click [Add Notification](#) to create a new one.
- View and update notification settings—click the [Gear icon](#) for the target notification.
- Delete Notifications—click the trash icon of the target notification to permanently remove it.

Adding Notifications

To add a new notification, perform these steps:

1. To add a notification—on the Notifications panel, click *Add Notification*.
2. On the Add Notification panel, complete these fields:

- **Service.** Defaults to Vantage Cloud.
 - **Store.** Specifies which store (or all stores) this notification is intended for. (Stores are created and managed in Telestream Cloud via the main menu > Manage Stores).
 - **Delivery Method.** Choose the delivery method: webhook | email | Amazon Simple Notification Service (SNS) | Azure Event Grid | Google Cloud Pub/Sub. Based on the delivery method, configure the notification to function as required.
 - **Available Events.** Check one or more events to trigger the notification.
3. Click *Create* to save the notification you just configured and activate it.

Editing Notification Method Settings

Changes to an existing notification are limited to configuration settings of the specified delivery method—you can't change the service, store, or delivery method.

To edit an existing notification, perform these steps:

1. On the Notifications panel, click the [Gear icon](#) for the target notification.
2. On the Add Notification panel, make changes to the delivery method's configuration controls and field:
3. Click *Save* to update the notification and re-activate it.

Troubleshooting

The following tips may help you resolve issues with using Telestream Cloud features. If you cannot resolve a problem on your own, please contact Telestream Cloud Support for assistance (see [Contacting Telestream](#)).

Connection Failures

An easy way to recognize if Vantage is connecting with Telestream Cloud and accessing third-party storage is that the white cloud logo and the green price indicator both show up on the action. If Vantage fails to connect with Telestream Cloud or your cloud storage, as indicated by the absence of the logo and price on the action, check your credentials in every location where they are entered.

For a Cloud-capable action to execute, the required credentials must be correct in all of these locations:

- Telestream Cloud
- Third party cloud storage
- Vantage Management Console > Settings & Options > Telestream Cloud
- Vantage Management Console > Vantage Folder Address Book
- Action Vantage Cloud mode > Vantage Cloud Setup selections.

Cloud and Storage Performance Considerations

If you have intermittent or slow performance issues, consider these suggestions:

- Performance may vary by the type of storage resource you choose.
- Network traffic during busy times of day may affect cloud and storage performance and transfer speeds.
- Cloud storage can become temporarily unavailable. If Telestream Cloud has trouble accessing your storage, visit your storage web site to determine whether your storage is inaccessible for some reason. Also be sure to verify your credentials.
- Default storage account settings specify limits on various available resources. If you bump up against the limits and need greater speed or additional storage, contact your storage provider for assistance.

Cloud Storage Is Overloaded by Uploads

The Telestream Cloud Service in Vantage has an upload limit that throttles concurrent cloud file uploads to prevent overloading your cloud storage. The default is four concurrent files.

To view or change the upload limit, follow these steps:

1. Open the Vantage Management Console.
2. Click Services in the Component panel on the left.
3. In the Services panel, select the Telestream Cloud Service and set it to maintenance mode.
4. Display the Setup tab below the table—change the Upload Limit value and click Apply.
5. Bring the Telestream Cloud Service back online.

If a large file fails to upload automatically, try this workaround: Use a Copy action before the Cloud-capable action to manually copy the file to the cloud before processing it.

Font Issues in Subtitles

Cloud-capable actions render fonts differently than actions executing on-premise, because cloud servers use Linux instead of Windows. Subtitles or other on-screen print renderings that use the fonts in the on-premise Vantage server may result in print output from the Cloud (Linux) that differs from the same output on Windows.

In particular, font size, font spacing, font effects and anti-aliasing may have subtle differences between the two platforms. If you require a specific font style with Vantage Cloud, Telestream recommends waiting until NewBlue support is added to Linux.

Processing Time-Outs

Cloud-capable actions are optimized for execution efficiency in Telestream Cloud. However, if you have unusually large files or there are other factors that cause significant resource usage, it is possible that processing may time out after an extended period. A job that self-terminates displays an error message.

If this happens, contact Telestream Support for assistance (see [Contacting Telestream](#)).

Managing Hosted Workflows

Web FileName marker in chapter title is VWD_HostedWorkflow_Manager. It is linked to the ? button in main HostedWorkflow Manager window/wizard

The HostedWorkflow Manager window enables you to manage your Vantage domain's 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 and the same workflow; they are associated with each other by their GUID.

Note: Use of HostedWorkflow Manager requires that you have a Telestream Cloud account and, in the Vantage Management Console, you've added the account API key.

Topics

- [Requirements](#)
- [HostedWorkflow Manager Overview](#)
- [Selecting Your Telestream Cloud Account & Store](#)
- [Setting the Default Cloud Workflow Revision](#)
- [Downloading Workflows from Vantage Cloud](#)
- [Uploading New Workflow Revisions](#)
- [Uploading Workflows to Vantage Cloud](#)
- [Troubleshooting](#)

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>.

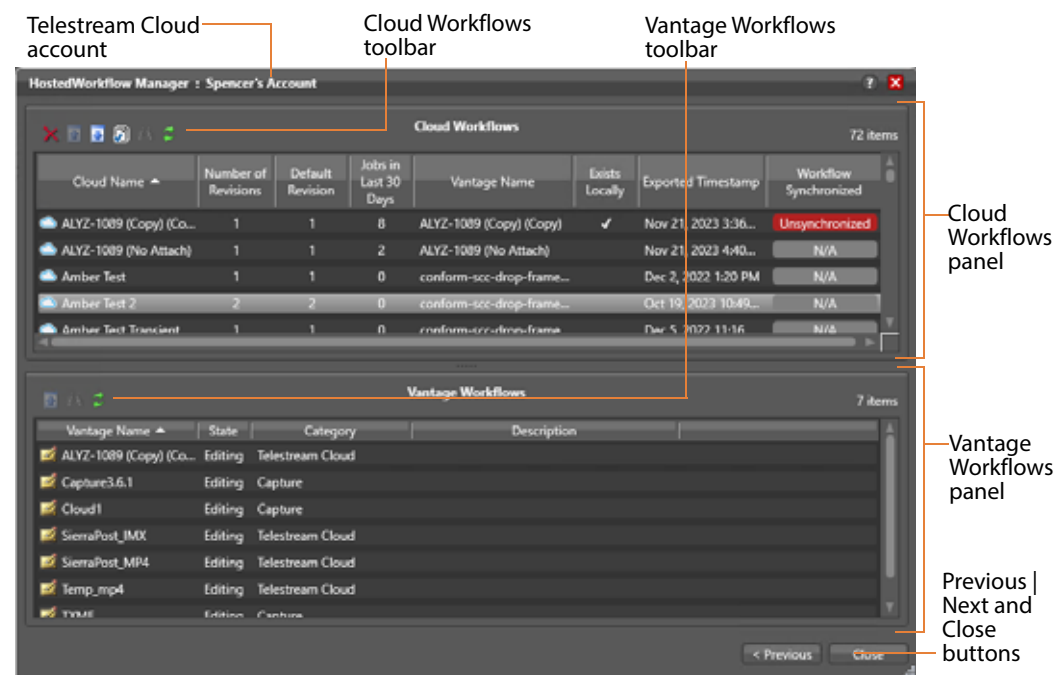
- In Vantage Cloud, create one or more stores where you want to save workflows.
- If user administration is enabled in your domain, your user must have Vantage Administrator privileges. (User administration is not required to develop hosted workflows.)
- You have created an account record in the Vantage 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 from Vantage 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](#).

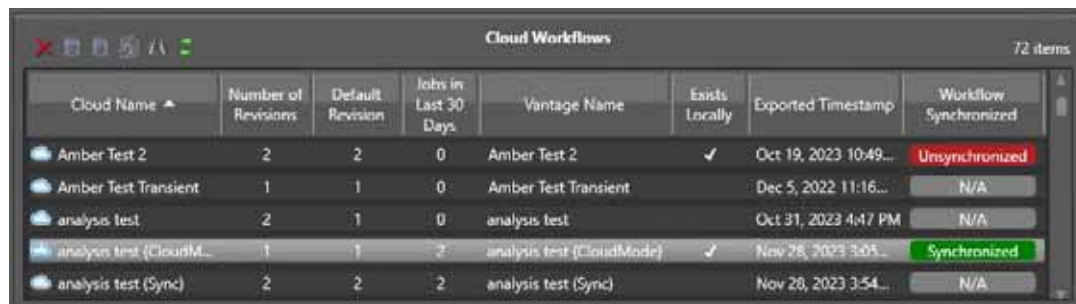
Here is a depiction of the HostedWorkflow Manager window and its components:



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.





Cloud Name	Number of Revisions	Default Revision	Jobs in Last 30 Days	Vantage Name	Exists Locally	Exported Timestamp	Workflow Synchronization
Amber Test 2	2	2	0	Amber Test 2	✓	Oct 19, 2023 10:49...	Unsynchronized
Amber Test Transient	1	1	0	Amber Test Transient		Dec 5, 2022 11:16...	N/A
analysis test	2	1	0	analysis test		Oct 31, 2023 4:47 PM	N/A
analysis test (CloudML...	1	1	2	analysis test (CloudMode)	✓	Nov 28, 2023 3:03...	Synchronized
analysis test (Sync)	2	2	2	analysis test (Sync)		Nov 28, 2023 3:54...	N/A


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  icon, uploads the associated workflow to your Telestream Cloud account as a new revision. See [Uploading New Workflow Revisions](#).

 **Download Cloud Workflow(s)**—For workflows that aren't in your domain, copies the default revision of the selected workflow(s) to your domain. See [Setting the Default Cloud Workflow Revision](#).

 **Revision Management**—When several revisions exist, allows you to change the default revision for execution. See [Setting the Default Cloud Workflow Revision](#).

 **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 Vantage Cloud. Permits sorting ascending | descending.

Number of Revisions—The number of variations in this hosted workflow.

Default Revision—The revision of the workflow that is used when this workflow executes a job and when workflows are downloaded to a Vantage domain.

Jobs in Last 30 Days—The number of jobs that have been executed by this workflow in the last 30 days.

Vantage Name—The name of the workflow in the Vantage domain when the workflow was first uploaded to Vantage Cloud. The name may have been changed in the Vantage domain after the upload occurred.

Note: Telestream recommends that you use the same name for workflows that are hosted both in your domain and in Vantage Cloud.

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.




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 workflow up to your Telestream Cloud account, using the name you specify. See [Uploading Workflows to Vantage Cloud](#).

 **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.

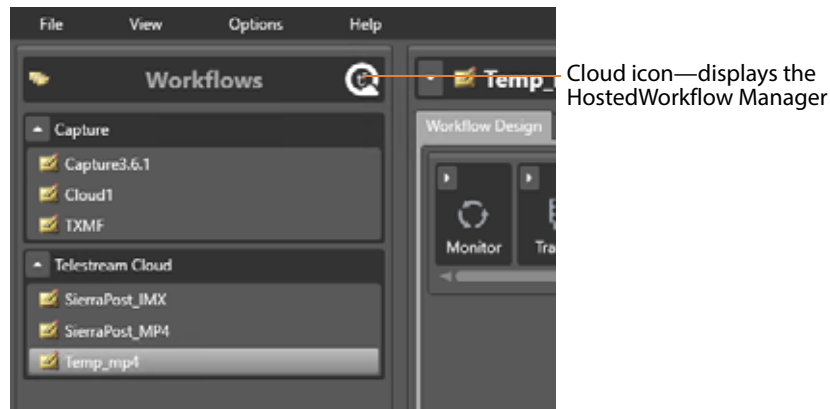
Category—The Workflow Designer category that this workflow is stored in.

Description—The description of the workflow.

Selecting Your Telestream Cloud Account & Store

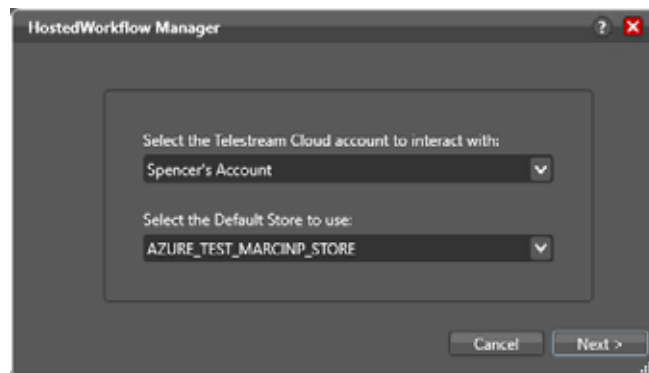
To select or change the Telestream Cloud account and store that you want to use, follow these steps.

1. In Workflow Designer, select File > Vantage Cloud HostedWorkflow Manager
OR
Click the Cloud  icon in the Workflows panel title bar:



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

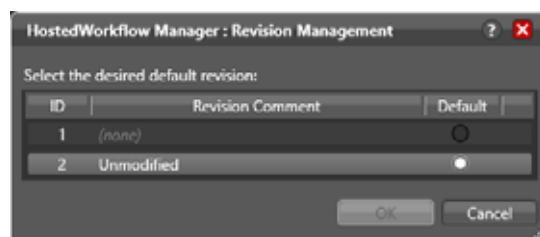
Web FileName marker `VWD_HostedWorkflow_Revision_Management`. use this for the Revision Management capability, it is linked to the ? button in the Revision Management dialog

For workflows with multiple versions in Vantage 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: Vantage 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, display the Revision Management dialog:



Select the revision to set as the default revision and click OK.



Downloading Workflows from Vantage Cloud

Web FileName marker: VWD_HostedWorkflow_Download. use for Download Workflow capability, it is linked to ? button in the Download Workflow dialog

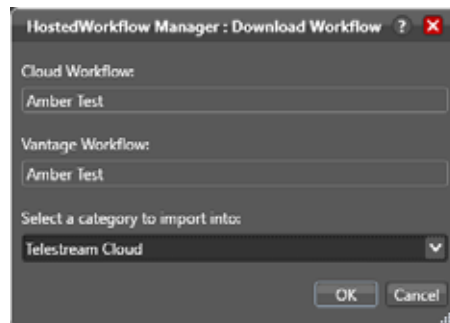
You can download workflows from Vantage Cloud to your Vantage domain if they haven't previously been downloaded or when they don't have an associated workflow already in the domain.

Note: Workflow Designer downloads the revision currently-assigned as the default version. See [Setting the Default Cloud Workflow Revision](#).

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 downloaded copy of the workflow uses the original Vantage Workflow name, not the Vantage 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 you download that workflow, the local Vantage copy is 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 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 Workflows table: It displays a  icon in the Exists Locally column, and displays the synchronized  icon to advise you that the two revisions are identical.


Uploading New Workflow Revisions

Web FileName marker: `VWD_HostedWorkflow_Upload_Revision`

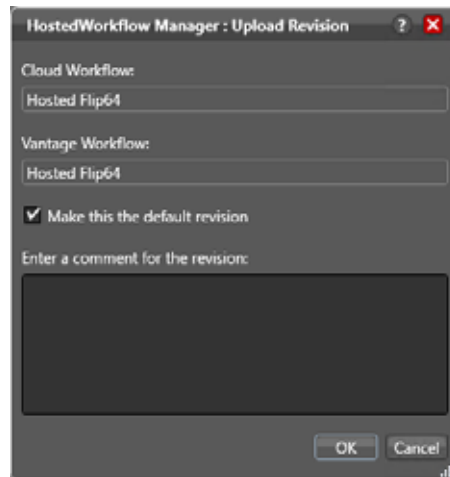
When you modify a hosted workflow in Vantage, Workflow Designer flags its associated Cloud workflow with the unsynchronized **Unsynchronized** icon.

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 Vantage 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 Workflows to Vantage Cloud

Web FileName marker: VWD_HostedWorkflow_Upload. use this for the Upload Workflow capability, it is linked to the ? button in the Upload Workflow dialog

When you create a hosted workflow in Workflow Designer and validate it for execution in Vantage Cloud, you can upload it to your account and store for execution.

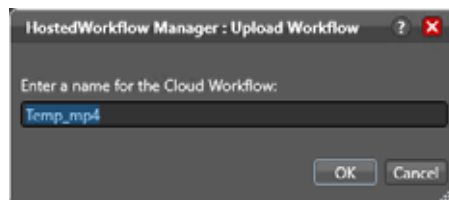
Note: Telestream recommends that you use the same name for both copies of the workflow to avoid confusion. Even if you name them differently in Vantage and Vantage Cloud, they are in fact, the same workflow with the same GUID.

To upload Vantage workflows to Vantage 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:



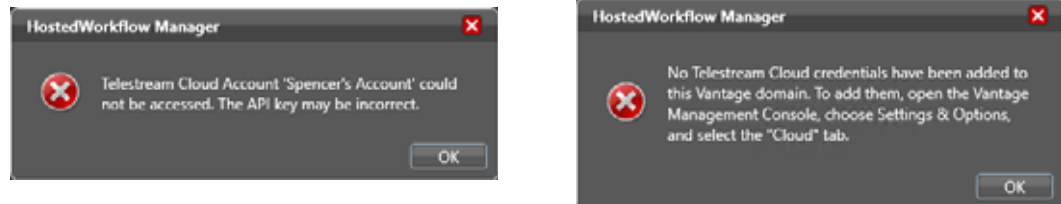
3. Enter the name for the Vantage Cloud copy or accept the default value: the same name. Telestream recommends using the same name in both Vantage and Cloud domains. These two copies are one and the same workflow, and they are associated with each other by their GUID; changing names can lead to confusion.
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 Vantage 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.

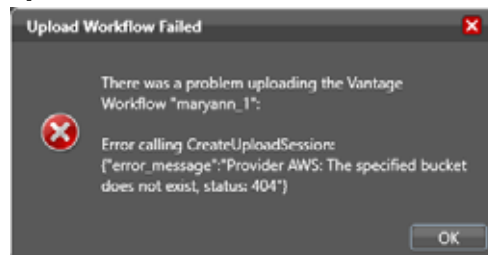


Solution. You don't have a Cloud account registered in Vantage or the account you entered is incorrect.

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.

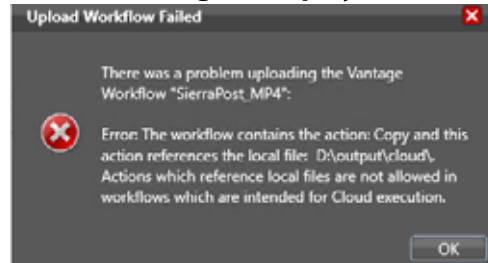
If you don't have a Telestream Cloud account, go to <https://cloud.telestream.net/console/signup> and create one.

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.

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 Vantage Cloud—thus, its not considered a valid cloud-hosted workflow. Read the error details, correct the configuration, and retry.