Introduction to Vantage

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Introduction to Vantage

This chapter is intended for media professionals who use Vantage for transcoding and processing digital media and for system administrators who are responsible for configuring and managing Vantage domains.

The Vantage Domain Management Guide comprises a collection of guides for use by Vantage administrators. These guides are published separately and in this collection:

- *Introduction to Vantage*—an overview of Vantage software, options, and licenses.
- *Before You Install, Planning and Managing a Vantage Database, Vantage Installation, Upgrading Vantage, Uninstalling Vantage, and Installation Troubleshooting*—installation planning, including hardware, operating systems, software, database, and network requirements. Also covers installing, upgrading, and uninstalling Vantage and its options as well as installation troubleshooting.
- *Using the Vantage Management Console and Managing the Vantage Domain*— how to start and use the Vantage Management Console, including features such as licensing, user administration, managing services, load balancing, backing up the database, using various logs and utilities, and changing domain and server names.
- *Configuring Vantage Workflow Components*—how to use the Vantage Management Console to manage the Vantage components used by workflow designers. These components include workflows, media nicknames, binders, and workflow analytics.
- *Configuring Job Status Views*—how to configure and use the Vantage Job Status Views web application, which lets you monitor Vantage jobs via the Internet.
- *Configuring the Vantage Workflow Portal*—how to configure and use the Vantage Workflow Portal client, which allows operators to implement operator-intervention workflows, previewing media, creating clips, updating metadata, and submitting files to publishing workflows for final processing.
- *Configuring the Vantage Dublist Portal*—how to configure and use the Vantage Dublist Portal, which allows operators to manage dublists.
- *Using the Vantage Dashboard*—how to configure and use the Vantage Dashboard web application, which allows monitoring and administering a domain via the Internet.
- *Vantage Glossary* defines common Vantage terms and concepts.

You can use this chapter to learn about Vantage and the Vantage programs that you'll use in the course of processing your media in Vantage workflows.

Note: Vantage licenses enable specific features and programs in Vantage, including optional transcoding capabilities, Lightspeed Server transcoding, advanced workflow features, third-party integration, and system management.

Topics

- Vantage Overview
- Accessing Vantage Guides and Online Help
- Vantage Domain Components
- Vantage Domain Configurations
- Vantage Programs and Options
- Vantage Licenses

Review our web site or contact your Vantage representative for features that are available for your media processing requirements.

Telestream allows you to download and install Vantage software at your convenience and purchase only those features that you need. If you need additional features later, you can purchase the licenses you require at any time.

Features for which you do not have a license may be disabled, or work only in demo mode. Topics which describe a feature that requires a license indicate the licensing requirement to use them.

Vantage Overview

At the simplest level, Vantage is a set of customizable software programs that automate media processing via workflows. A Vantage workflow is a collection of actions that you design and configure to process media files in a specific manner.

The actions and features that you can utilize in a workflow are controlled by the Vantage licenses you install. The following table lists some typical media processing objectives and the Vantage licenses that support them (these are not the only licenses you can use in Vantage—for a complete list, contact your Telestream representative).

Workflow Objective (Vantage License)	**Description**
File-to-file transcoding	Transcoding workflows automate the process of converting a video file from one media format to another. Vantage can open most video files, regardless of the encoding and packaging format, and create one or more new video files using one or more selections from an extensive list of encoder and packaging formats.
IPTV VOD Transcoding	Vantage Transcode IPTV VOD provides IPTV and Cable VOD transcoding with the highest possible quality at the lowest bit rates, reducing transmission costs. Additionally, Vantage provides sophisticated stream control and can automate the entire production process, including ingest, transcoding, packaging, delivery, and notification.
Adaptive streaming encoding	Transcode Multiscreen includes transcoding software specifically designed for adaptive bit rate encoding using both GPUs and CPUs. It simultaneously produces multiple bit-rate variants of H.264/HEVC (using x264/x265 codecs) video and containers for deployment to HTTP adaptive streaming players from Adobe, Apple, Microsoft, and players compatible with MPEG DASH.
Live (real time) and tape-based media serialization	Lightspeed Live Capture operates as a standalone capture system and can also extend live encoding capability by providing live capture in a number of high quality mezzanine formats into the Vantage Media Processing Platform.
Commercial and syndicated program processing—locally, regionally, and nationally	TrafficManager streamlines commercial and syndicated content handling for TV stations and cable facilities. TrafficManager provides a complete solution for local/regional, and nationally syndicated and commercial media workflows, from ingest, review & approval, transcoding, dub list reconciliation, delivery for ad insertion servers or broadcast servers, and automation system notification.

Workflow Objective (Vantage License)	Description
Automated editing and composition of advertisements	Post Producer automates the repetitive editing of assets for distribution, promotion and cross promotion. Post Producer allows you to automatically re-purpose movies and episodic content directly from master format for international and domestic distribution.
Moving media between devices (Vantage Transcode Pro Connect)	Media transport workflows use Vantage native connections to move media between a wide variety of broadcast servers, edit systems, and other professional video devices. System integration includes HTTP Post and Get, for REST API calls in workflows. Using these integrations, Vantage can automate the process of receiving media into, or moving media between, different devices—ensuring the right file format at any of many possible destinations.
Re-timing the running-time of media assets (Tempo)	Tempo is based on the Vantage platform, for re-timing file-based content and intelligently decreasing or increasing the running time of shows and segments.
DPP File Creation (DPP License)	Vantage simplifies the creation of DPP-compliant media for the UK market. Operators enter metadata and mark programme segments. After that, Vantage automatically assembles the timeline with slates, bars and tones in the correct places, and programme segments aligned accurately. Vantage also integrates with common QC systems to perform Harding FPA analysis. Vantage then encodes the output AS-11 file with full, 16-bit video processing and optional GPU acceleration, while simultaneously inserting the metadata.
VOD Producer and VOD Producer | DAI	VOD Producer and VOD Producer | DAI simplify creation and assembly of DAI-ready CableLabs compliant VOD assets, enabling revenue expansion. Built on the Vantage platform, this system assembles final output from audio, video, graphics, and metadata, and creates content with branding to meet regulatory requirements, plus Nielsen watermarking for viewership measurement.

Workflow Objective (Vantage License)	Description
Media analysis and media-dependent processing (Vantage Analysis)	Media analysis workflows use Vantage features to analyze media, compare the results to configured values, and make decisions about how media should be routed or processed.
Processing camera files	Vantage offers comprehensive monitoring of card readers and shared storage for camera shots. Spanned clips are automatically stitched to reconstruct camera shots, and shots across an entire camera can optionally be stitched or time-aligned for rushes or multi-camera shoots. Panasonic P2 DV5, AVC-Intra, and AVC-Ultra media are supported.
Third-party analysis and specialized media processing (third-party connectors)	Some workflows communicate with third-party products (such as MediaMate Screen or Digimetrics Aurora) to analyze or process media.

With the appropriate licenses, Vantage workflows can incorporate the objectives listed in this table, as well as other workflow design and management features, which include the following:

- *Workflow visualization*—Vantage offers a highly flexible process design interface, with visual components that help you see what the workflow will accomplish.
- *Notifications*—Vantage sends emails and notifies external systems when media is available.
- *Intelligent branching*—Vantage workflows can be configured to evaluate variables, metadata, and the results of other workflow tasks, and to execute the appropriate workflow branch for further processing.
- *Workflow monitoring and control*—Vantage programs allow you to view the status of jobs that have been submitted, and you can stop, cancel, and restart jobs.
- *Operator control*—Vantage provides tools for enabling operator management. Operators can submit files to workflows, view the results, and submit the results to yet another workflow. Operators can also view the status of workflow jobs and, if granted permission by a Vantage administrator, stop, cancel or restart jobs.
- *Scalability and Redundancy*—Vantage scales to thousands of jobs and dozens of servers in an enterprise environment, to implement high-volume processing.

Vantage also provides many system management features, allowing you to scale a Vantage system across multiple servers, manage user access, and optimize system performance and reliability.

Additionally, as your need for features grows, you can easily add (or remove) licenses to activate the services, actions, and other components you need, using the Vantage Management Console or the Vantage Workflow Designer.

Accessing Vantage Guides and Online Help

Vantage documentation consists of various guides, online help in the form of man pages, and application notes.

Installation and Domain Management Guide—You can access the Domain Management Guide from the Vantage Management Console Help menu.

User Guides—Guides are available from the Help menu of each Windows client and web application.

In-program, Context-based Help—In each Windows client and web application, click the icon in the upper right-corner to display a context-sensitive topic in the relevant user guide, if available. In Workflow Designer, when an action inspector is open, click the icon to display details about the panel you're viewing for detailed help. Also hover over user interface controls to display brief tooltips.

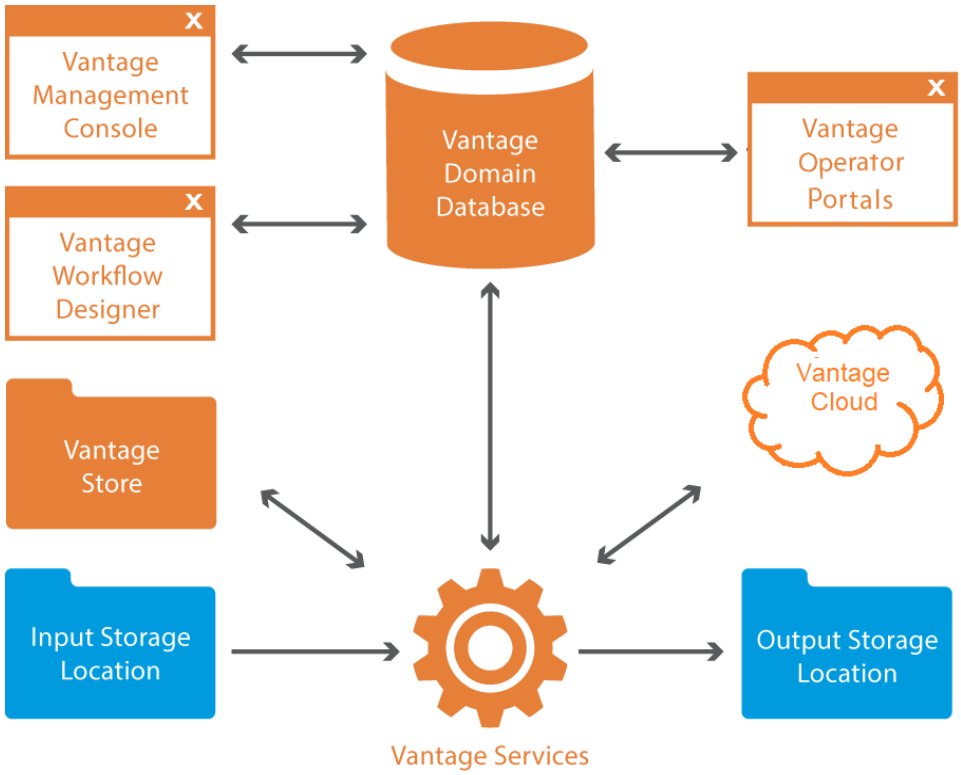
Application Notes—Browse the Telestream web site (at www.telestream.net/telestream-support/vantage/support.htm) for application notes that may apply to your topic of interest.

Vantage Web Library—Click on the Vantage logo at www.telestream.net/telestream-support/vantage/help.htm to display the entire Vantage documentation suite which includes all guides and man pages.

Vantage Domain Components

Each Vantage domain is a set of Vantage software components. You can install and use multiple Vantage domains within a business or other organization. For example, you might install a Vantage domain for the sports department and another for the news department. Domains do not interact with each other—each Vantage domain maintains its own database, and automates its own workflows, independently of other Vantage domains.

Workflows can include Vantage Cloud actions for overflow processing or expanded feature processing (optional features executed in the cloud are charged by the minute and do not require a license).



The work that you want Vantage to perform is defined in a workflow, which is created using the Vantage Workflow Designer program. Each workflow is made up of individual tasks called actions, which specify what task needs to be performed.

A typical workflow contains actions to perform these kinds of tasks:

- Monitor folders for new media to ingest and process
- Analyze and transcode video and audio in media files and generate new media files
- Assemble a media file from an edit decision list
- Process metadata
- Deliver finished media files and metadata files to specified locations.

Once a workflow has been designed, you can activate it, and it will run continuously to process media provided through hot folders, the Vantage SDK, or other submission mechanisms.

For more information on the available actions and workflow design, see the *Vantage User Guide*.

The Vantage domain database is the control center of a Vantage domain. All workflows, user information, job history, and most configuration details for the domain are stored in the Vantage domain database. Also stored in the database are statistics and status information about the workflows processed by the domain and the services fulfilling them. Vantage domain administrators configure Vantage using the Management Console.

Working with the Vantage domain database, Vantage services execute workflow actions in a Vantage domain. Each service executes specific action types. For example, the Transcode Service executes the Flip action, which transcodes an input media file into a new file, based on the encoder and codecs you select.

Vantage workflow actions which access input files or publish output files must have read and write access to these storage locations the input and output storage locations shown in the figure. These locations can be folders that reside on a network server or workstation, a Network-Attached Storage (NAS), or a Storage Area Network (SAN). Or, they may be FTP or HTTP servers, or other media platforms.

A Vantage Store is a storage location designated during Vantage installation for storing temporary files that are created during workflow processing. Temporary files are automatically deleted by Vantage when they are no longer needed; you can control how long temporary files are retained by setting expiration rules for jobs and catalogs.

Note: When working with Vantage, be careful not to use these invalid characters in any file names, workflow names, variables, or data entry fields unless the tooltips or help indicate they are allowed: ` * | \ : ; " ' < > ? /. For example, the asterisk (*) may be used as a wild card in some fields, and the colon (:) and semicolon (;) may be used in timecode, but none of them can be used in file names.

Vantage Domain Configurations

Vantage supports different physical configurations, and two different domain types:

- A single node, all-in-one computer domain
- A multiple-computer array, where the Vantage services and Vantage database are distributed among two or more servers.

A single-node all-in-one domain is a Vantage domain in which all the basic Vantage components shown in the figure are installed on a single server. An all-in-one domain is simpler to install and manage, but it has performance limitations which are described in the *Before You Install Vantage* chapter of the *Vantage Domain Management Guide*.

A multiple computer Vantage array (sometimes referred to as a *distributed domain*) is one in which the Vantage components are distributed among multiple servers or virtual machines. For example, you might install the Vantage database on one server, and install all Vantage services on an additional server, and a second Transcode service on the third server. This three-server Vantage domain separates database processing from Vantage service processing, which increases processing capacity for both the Vantage domain database and the Vantage services.

Hosting Vantage services on multiple servers also increases capacity and supports load-balancing and task scheduling, which leads to better throughput.

Vantage Cloud

Vantage Cloud consists of Vantage actions that run in Vantage Cloud and are accessible by locally based Vantage workflows. These Vantage Software-as-a-Service (SaaS) actions enable Vantage domains to leverage additional cloud processing on demand whenever workload peaks or other needs require it.

These are some of the key features of Vantage Cloud:

- Allows seamless cloud execution of Vantage actions whenever needed.
- Uses new or upgraded Vantage installations for workflow creation and execution. Actions can run locally or in the cloud, and workflows can be designed to shift processing to the cloud automatically when workload exceeds a threshold.
- Deploys execution to Vantage Cloud using containerized micro services with engines identical to on-premises services.
- Enables easy modification of existing workflows to run in the cloud.
- Enables easy startup and scaling of additional cloud-based Vantage resources.
- Provides additional cloud processing power on demand at a reasonable cost.

Using Vantage Cloud requires a license for Vantage Transcode or higher. However, actions that are placed into Cloud Mode include licensing in the per-minute cloud execution price. Vantage Cloud can dramatically increase both the processing features and capacity of a Vantage domain at very moderate cost.

For Vantage Cloud details, refer to the *Vantage Cloud User Guide*.

Vantage Virtual Deployment

Vantage Virtual Deployment is a deployment model for Vantage in which permanent, or rental licenses are installed on virtual machines running either on premises or in a cloud environment, such as AWS. All currently supported versions of Vantage may be deployed in this manner following the guidelines set forth in the *Vantage Virtual Deployment Management Guide* (VDMG), available on the Telestream web site.

GPU acceleration can be optionally added to Vantage Virtual Deployment instances. Refer to the VDMG for information on currently supported virtual environments and GPUs.

Vantage software configurations can be rented for a commitment as little as 30 days, allowing for flexible scaling of on-premises or cloud virtual Vantage instances. Combined with Vantage Cloud, Vantage Virtual Deployment and Vantage License rentals offer unparalleled deployment flexibility for environments both large and small.

Vantage Programs and Options

Vantage programs enable you to manage and use the Vantage domain in various ways. The table below lists the Vantage programs according to the type of program and the Vantage management area they serve.

Note: Some Vantage programs are available only with particular Vantage product licenses. To ensure you get the programs you want, contact Telestream sales for the latest bundling and licensing information.

Functional Area	Client Applications	Web Applications
Workflow Management	Vantage Workflow Designer Vantage Workflow Portal	Vantage Job Status Views Vantage Workflow Portal
Domain Management	Vantage Management Console	Vantage Dashboard
Vantage Cloud	Vantage Workflow Designer	Telestream Cloud
Live Stream		Lightspeed Live Stream web application
Real-time and tape-based media capture	Vantage Workflow Designer	Live Capture web applications
Capture event scheduling		Live Schedule web applications
Live playout		Live Play web application
Transcoding Workflow Management	Vantage Workflow Designer	
TrafficManager Commercial & Syndication	Workflow Portal Dublist Portal Syndication Portal	Workflow Portal Dublist Portal
Dynamic Ad Insertion	DAI Portal	
Tempo Asset Re-timing	Tempo Portal	
VOD Producer	VOD Producer Portal	
Post Producer	CML Portal	
DPP	DPP Portal	

From a management point of view, each Vantage program can be classified as a workflow management program or a domain management program. Workflow management programs allow you to design workflows, evaluate and forward the files

saved by a job, and track the status of jobs. Domain management programs allow you to configure the Vantage domain, view status and statistics for the domain, and control domain operation.

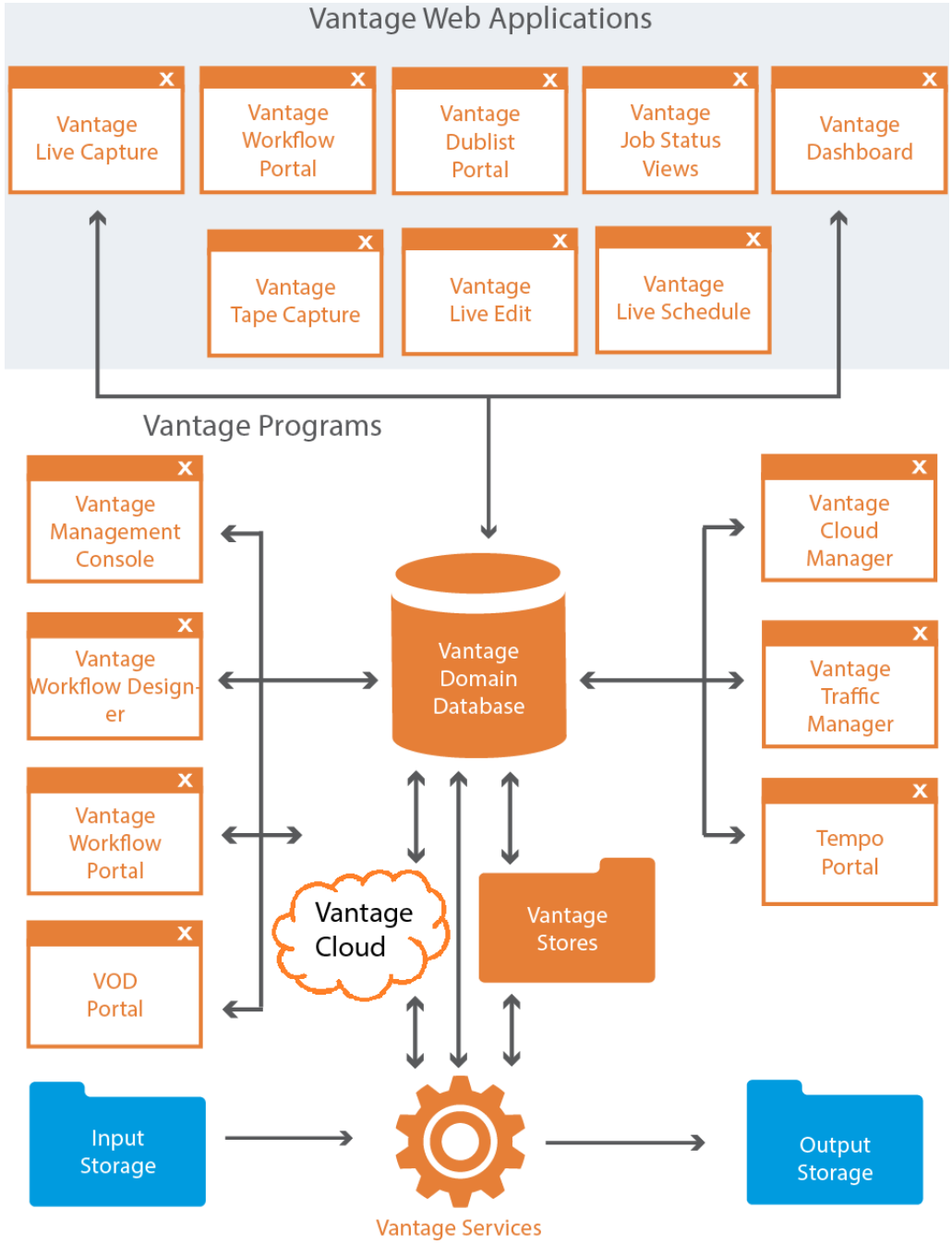
Each Vantage program can also be classified by application type, which is either as a client program or a web application. Client programs run on Microsoft Windows servers and workstations. Web applications are hosted by a Microsoft Internet Information Services (IIS) server and can be accessed from any computer with a compatible browser and a network or Internet connection to the IIS server hosting the web applications.

The following topics introduce the Vantage programs and options:

- Vantage Programs Overview
- Vantage Management Console
- Vantage Workflow Designer
- Vantage Workflow Portal
- Vantage VOD Portal
- Vantage Tempo Portal
- Vantage Web Applications
- Vantage TrafficManager
- Post Producer and Related Options
- Vantage Tempo
- Lightspeed Server
- Capturing Live Video and Tape Feeds

Vantage Programs Overview

This figure illustrates how Vantage programs and web apps interoperate in the domain:



Vantage Management Console

The Vantage Management Console (VMC) enables domain administrators to configure and manage a Vantage domain, including specifying what features Vantage users can access. Here is a list of major Vantage features that administrators can configure and control in the Vantage Management Console:

- Vantage catalogs and stores
- Vantage services (including email on service failure for all license levels)
- Vantage licenses
- Vantage status monitoring
- Application configurations, including Windows clients, web applications, Job Status views, and various portals such as the Workflow, VOD, and Tempo Portals
- Workflow analytics and utilization
- Task scheduling rules
- Action and workflow status
- Import and export of Vantage configuration components
- Report and workorder configurations
- Vantage users
- Dublist and Fulfillment schemes
- Vantage domain settings, ComponentPac management, backup and restore, and other utilities

For details about using the Management Console, refer to *Using the Vantage Management Console*.

Vantage Workflow Designer

Vantage Workflow Designer enables you to design and automate workflows to meet your organization's transcoding and workflow automation requirements. With Workflow Designer, you can design workflows to perform these tasks:

- Detect media files and related files that are ready for processing
- Evaluate the contents of media files and set variables that describe their contents
- Create decision trees that execute different branches based on variable values
- Generate email and other messages in response to workflow events
- Incorporate related metadata files or add metadata to the output
- Transcode media files to multi-screen formats, including package formats such as Apple HLS and Adobe HDS
- Transcode media files for use in IPTV/VOD/cable applications
- Generate new media based upon edit decision lists or editorial templates
- Perform comprehensive advertisement processing, from catch server to on-air server
- Perform file operations—save media output files and delete source files, and deliver media to a wide variety of media platforms
- Expand media processing capacity and storage to the Cloud using Vantage Cloud
- Combine any or all of the above features in hundreds of possible workflows.

A typical workflow design session involves selecting actions you want to execute, configure the sequence and settings of those actions, and then activating the workflow. When you activate the workflow, the Vantage domain database and Vantage services work together to process any source material that is submitted to the workflow. Each time source material is submitted, a Vantage job is started. A job represents a single execution of a workflow. For example, if ten different media files are submitted to a workflow, ten new jobs are executed.

The Vantage Workflow Designer also includes tools that allow you to monitor the status of workflows and jobs in the domain.

For detailed information on designing Vantage workflows, see the *Vantage User Guide*.

Open Workflows

An option to Vantage workflow functionality, Open Workflows enhance the processing speed of workflows by enabling most actions to begin processing before the previous action has completed. Specifically, Open Workflows are designed to remove the inherent latency that exists between actions within a workflow. For example, during execution of a Watch action when a new file is discovered, the next action—a Copy action—can begin to duplicate the file as the content is received and not wait for the entire file to be received. By reducing the latency between actions within a workflow,

more jobs can be processed in the same period of time, improving domain productivity.

Vantage VOD Portal

The Video on Demand (VOD) Portal is a Vantage option that streamlines creating media assets. This portal allows specification of VOD-specific metadata, such as rating, V-Chip, and more, and allows trimming/stitching of clips to create finished media. The portal also allows marking of ad insertion points, allowing encoding and processing to support Dynamic Ad Insertion (DAI).

Vantage Tempo Portal

Tempo ™ is a comprehensive solution for re-timing file-based content and intelligently decreasing or increasing the running time of shows and segments. Tempo has the ability to re-time the complete asset but allows marking selected segments for inclusion or exclusion from the re-timing process when the overall program is re-timed.

Operator control of Tempo is provided via Tempo Portal, enabling catalog browsing and selecting media to build a Segment List. In the list, you can separate clips into program segments via a mark in/mark out process and configured for re-timing or left untouched. The operator then forwards the program, described in an XML composition file, to a Tempo workflow, which re-times the media accordingly.

Vantage Workflow Portal

The Vantage Workflow Portal, which is implemented both as a Windows client and as a web application, allows operators to manually review and update media and manually submit jobs to workflows. Workflow designers create the workflows, and workflow operators use Workflow Portal to do this:

- Search catalogs and binders which contain media
- Preview proxy media and create clip sets—setting in and out points for trimming
- Review and edit variable values, metadata labels, and embedded metadata
- Update variable values
- Submit media to workflows for processing
- Search, review, and submit commercials and syndicated content to TrafficManager
- Stitch multiple files together

Workflow Portal's user interface is configurable—administrators can customize it using the Vantage Management Console, which controls the features and resources each operator can access. The desktop version of the Workflow Portal is installed on Windows workstations. A web version is also provided, with a subset of features.

To process media in Workflow Portal, for most configurations you must also create an ingest workflow to pre-process the media and register it in a Vantage catalog.

For information about creating Workflow Portal configurations, see *Setting up Workflow Portal*. For information about using the Workflow Portal, refer to the *Vantage User Guide, Using Workflow Portal* chapter.

Vantage Web Applications

The Vantage web applications provide browser access to important Vantage functions:

- Vantage Dashboard Web Application
- Vantage Job Status Views Web Application
- Vantage Workflow Portal Web Application
- Vantage Dublist Portal Web Application
- Lightspeed Live Capture and Tape Capture
- Lightspeed Live Schedule Pro
- Telestream Cloud

Note: Vantage web applications should be installed on a different server from the Telestream Transcode & Analysis engine. For this reason, web applications are included only with the array installer and not with the single-node installer.

Vantage Dashboard Web Application

The Dashboard web application, which is installed separately from Vantage, is designed to help domain administrators track the status and system health for the entire Vantage domain, as opposed to other tools which enable management of domain components.

The Dashboard pages help you quickly assess the health of the domain and progressively dig into deeper detail as needed. For example, use the Summary Status page to quickly see the workflow completion success rate and the error rate on servers in the domain. The information on the Summary Status page can help you determine if it is more appropriate to look for problems in a workflow or in a particular server.

Other Dashboard pages allow you to view the status of servers, services, and jobs. When troubleshooting, it can be very helpful to determine if problems are system wide or confined to a server, a service, or a particular workflow.

Vantage Job Status Views Web Application

The Job Status Views web application, which is installed separately from Vantage, provides Vantage operators and managers with detailed job status information about jobs in the domain. Using the Vantage Management Console, Vantage administrators can configure custom job status *views*, which define what information an operator sees. When there is a large volume of jobs or when security policies dictate, you might want to create custom views for individual operators or departments.

Vantage Workflow Portal Web Application

Workflow Portal is also implemented as a web application, which is installed separately from Vantage. The web version of Workflow Portal works with most configuration types and allows most of the features listed above, except for submitting media from Windows platforms, and stitching files.

The login requirements are the same as for other clients. For information about creating configurations for the Workflow Portal, see the *Vantage Domain Management Guide,* and for details about using portal configurations to perform media processing, see the *Workflow Portal Guide*.

Vantage Dublist Portal Web Application

The Dublist Portal web app enables you to display and manage TrafficManager dublists processed by Dublist monitor workflows. Filters allow you to narrow the list of dublists displayed based on various criteria. Dublist Portal also includes a tab for viewing and managing dublist expirations. For more information on using the Dublist Portal, see the *TrafficManager User Guide*.

Lightspeed Live Capture and Tape Capture

Lightspeed Live Capture is a scalable, automated, multi-channel IP-based MPEG2 TS, SRT, NDI and RTMP and 3G/12G SDI capture solution for ingesting live or tape-based media from SD through UHD/4K directly into production, post-production and broadcast workflows. Native ST2110 input support (-20, -30 & -40), NMOS IS-04 and IS-05 with 2022-7 redundancy up to UHD/4K via dual 25Gbe interfaces.

Live Capture records into enterprise-class codecs and containers ready for any workflow. Support includes XAVC, DNxHD/HR, AVC Intra, AVC-Ultra, ProRes, JPEG2000, XDCAM, HEVC and many more.

Live Capture processes video in 16-bit space to preserve source quality, and records in wide variety of mezzanine file formats for delivery to local storage, CIFS, FTP, NAS, SAN, S3, Aspera and more. Live Capture also supports live AVID ingest into Media Compose and Media Central environments.

The Live Capture web app enables complete control or remote management from any web portal and scales easily for large system deployment. For details, refer to the *Lightspeed Live Capture User Guide*.

Lightspeed Live Schedule Pro

Lightspeed Live Schedule Pro is a web app that enables you to create media capture sessions for Live Capture as events on a calendar, and manage and monitor them.

Telestream Cloud

Telestream Cloud (https://cloud.telestream.net/) provides a web-based interface for managing Vantage Cloud, Vantage Gateway, and Qualify and Timed Text Speech workflows, and providing Vantage on-demand expanded transcoding capacity in Vantage Cloud. Telestream Cloud allows you to set up your Vantage Cloud account, view usage and cost information, and monitor jobs running in Vantage Cloud.

Vantage TrafficManager

TrafficManager™ streamlines content handling for TV stations and cable facilities. TrafficManager provides a complete solution for syndicated and commercial media workflows, from ingest, review and approval, transcoding, dub list reconciliation, delivery for ad insertion servers or broadcast servers, and automation system notification.

TrafficManager automates the entire workflow, using rules that you specify for how to find, process, and deliver media. When new assets arrive, TrafficManager will automatically identify them and execute all of the steps necessary to ensure timely availability for on-air, cable or web transmission. This happens without requiring manual labor, ensuring that media is prepared in the fastest possible manner, and without introducing human error.

For national ads, TrafficManager integrates with popular digital media delivery services including Javelin, ExtremeReach, the Comcast ADN (Radiance), and others.

TrafficManager integrates with select third-party playout automation systems to automate notification of incoming content and metadata.

TrafficManager dublist analysis tools let you quickly see the status of the assets you need. Your traffic and operations staff can see at a glance if any material has not yet arrived, narrowing their search to only the assets which need attention.

Operators use the Vantage Workflow Portal or Syndication Portal to manage and modify commercial and syndication media and metadata and submit them for workflow processing.

Vantage Dublist Portal

Dublist Portal is a TrafficManager-licensed program which allows users to manage dublist processing. It allows you to view a list of dublists for recently active Dublist Monitor workflow actions, manage dublist expiration, and test dublists to pre-qualify them for workflows. For more information on using the Dublist Portal, see the *TrafficManager User Guide*.

Post Producer and Related Options

Post Producer™ fully automates production processes by assembling multi-layered video deliverables from content sources and masters. With Post Producer you can construct finished, branded assets to automatically re-purpose media for today's multi-language, multi-platform distribution.

Post Producer and related products and options are ideal for:

- Frame accurate clipping and montage assembly of video sources
- Dynamic assembly of composition visuals from video and graphics sources and creation of titles
- Selecting, mapping and combining audio channels to match output requirements
- Inserting ancillary metadata for closed captions, subtitles, Vchip and dynamic advertising

VOD Producer with Dynamic Ad Insertion

VOD Producer DAI is built on the Vantage platform. It automates the assembly of CableLabs VOD content and provisions it for Dynamic Ad Insertion. The VOD Portal enables operator-driven production, including viewing of clips and marking the ad insertion points. VOD Producer generates the necessary metadata files for Nielsen and Canoe, and encodes the media to support ad insertion during VOD playback.

Vantage DPP Packager

Vantage significantly simplifies the DPP file production process by offering a complete, automated and easy-to-use solution for creating DPP files quickly and effectively. Operators simply enter metadata and mark programme segments. After that, Vantage automatically assembles the timeline with slates, bars and tones in the correct places, and programme segments aligned accurately. Vantage also integrates with common QC systems to perform Harding FPA analysis. Vantage then encodes the output AS-11 file with its award-winning full 16-bit video processing and optional GPU acceleration, while simultaneously inserting the metadata.

Vantage can also automate delivery to the final destination, allowing you to quickly scale your DPP file production with a minimum of manual labor.

Vantage® offers a complete solution to perform these DPP functions:

- Allow data entry of DPP metadata, including automatic validation and administrator-defined data entry rules
- Assemble a DPP time line, generating bars, slates, tones, and aligning programme segments correctly
- Transcode to create a DPP-compatible AS-11 MXF file, including metadata and time code
- Automate delivery to multiple locations

Post Producer Titler Engine

The Vantage Post Producer™ Titler Engine, powered by NewBlueFX®, is an optional, licensed feature designed to automate versioned titling of video assets.

Titler Engine uses templates created in NewBlue's Titler Pro™ Editor, which is available as a Windows and Mac OS program, or as a plug-in for top non-linear editors including Adobe Premiere. Together with these powerful video editing tools, Titler Engine enables high-level titling capabilities, including animation, and scalable and flexible titling applications.

Vantage Tempo

Tempo™ is a complete solution built on the Vantage platform for re-timing file-based content, intelligently decreasing or increasing the running time of shows and segments.

Tempo utilizes new time compression algorithms that deliver superior quality and faster turn-around times because it is designed to leverage new methods of media analysis. It does not throw frames away. Rather, it intelligently interpolates the desired time change over the duration of the content in a way that produces no noticeable visual or audible artifacts.

Tempo has the ability to re-time the complete asset but allows marking selected segments for inclusion or exclusion from the re-timing process when the overall program is re-timed.

Operator control of Tempo is provided through the Tempo Portal, which allows browsing catalogs and selecting media clips to drag and drop to a Segment List. In the Segment List, clips can be separated into program segments via a mark in/mark out process and configured for re-timing or left untouched. The operator then forwards the program, described in an XML composition file, to a Tempo workflow, which re-times the media accordingly.

Lightspeed Server

The Telestream® Lightspeed Server can serve as the hardware platform for a Vantage domain or be added to any Vantage domain to accelerate video processing and transcoding. Lightspeed Server accelerates processing with GPUs and multi-core CPUs to provide the best image quality in the least amount of time. Housed in an efficient 1 rack-unit server, Lightspeed Server reduces rack space, power and cooling requirements while meeting increased output capacity needs.

Lightspeed Server accelerates compute-intensive image processing in Vantage workflows, including scaling, de-interlacing, frame rate conversion, motion vector calculation, and other tasks that require computation and analysis to modify or create new video frames. Faster video preprocessing improves the output quality of all video output formats.

There are several Lightspeed Server models, each pre-configured to your order. You can order Lightspeed configured as an all-in-one single-node server containing a complete Vantage system and licenses, ready to run. You can also order multiple Lightspeed Servers with various Vantage components and licenses installed, ready to network together to create a Vantage array.

For more information about the Lightspeed Server, see Lightspeed Server on the Telestream web site.

Lightspeed Live Stream

Lightspeed Live Stream delivers enterprise-class live streaming for media and entertainment companies, corporations, government agencies and educational facilities. Lightspeed Live Stream provides efficient and superior quality adaptive bit rate encoding for SD, HD and UHD sources into AVC and HEVC. This integrated hardware and software appliance combines multiple CPU and GPU cores as well as targeted ASIC CODEC acceleration to deliver flexible and efficient encoding performance. Input support is available for SDI as well as IP sources, offering future-proof operation as delivery mechanisms change. Output can be delivered via RTMP or as HTTP Live Streaming (HLS) and MPEG DASH packages.

Lightspeed™ Live Stream can be deployed as a stand-alone solution for live, multi-screen services or combined with the Vantage Media Processing Platform via the optional Lightspeed Live Capture product.

Capturing Live Video and Tape Feeds

Telestream offers the latest and fastest in live capture products for media and entertainment companies, corporations, government and education.

Lightspeed Live Capture

Lightspeed Live Capture offers a real-time, enterprise-class video capture system to answer the increased demand for news, sports, and special event broadcasters to simultaneously push live programs over the Internet.

Lightspeed Live Capture independently records multiple channels of SD, HD or a single UHD channel. By integrating parallel file-based open workflows in Telestream's Vantage platform together with the combined CPU/GPU power of the Lightspeed Live server and applications, the fastest possible delivery of all assets is realized.

Lightspeed Live Capture can receive content via four 3G baseband SDI (1080p/60) channels or one 4K UHD channel via four SDI ports. Live Capture can supply a number of high quality mezzanine formats to Vantage, allowing simultaneous use of the full range of video manipulation that the Vantage Media Processing Platform offers.

Lightspeed Tape Capture

Lightspeed Tape Capture, a feature of Lightspeed Live Capture, supports tape log and capture functionality via 4 Sony standard RS422 machine interface ports, 4 SD/HD/UHD SDI inputs, and an HTML 5 browser client added to Vantage web apps. The client allows logging multiple tapes, marking clips to extract from tape, and capturing clips from tapes into output media files using a selectable container/codec. A Tape action added to Vantage enables Vantage workflows to fully take advantage of the tape interface.

Tape Capture supports metadata labels and variables, includes full VTR transport controls with keyboard shortcuts, and provides audio meters with 8 selectable stereo pairs. User accounts provide password protection to prevent unauthorized application access.

Vantage Licenses

Vantage licenses enable specific Vantage features or feature sets. Vantage allows you to download and install Vantage software in demo mode without licenses. At your convenience you can purchase licenses from Telestream Sales and add them to Vantage for only those products you need. If you need additional products later, you can purchase licenses for additional options.

For lists of available Vantage licenses and ordering information, see this Telestream web page: http://www.telestream.net/telestream-support/vantage/vantage-licenses.htm.

Vantage Glossary

action

An *action* is the smallest unit of work that can be specified in a Vantage workflow. Actions are connected together in a workflow to perform a useful task. Each action must be configured to perform its task in the context of the workflow, using an action Inspector. Action inspectors are specific to each type of action.

Actions are grouped in Workflow Designer by functional categories: communication, transcoding, file operations, metadata processing, etc. Each action is defined by the specific task it performs. For example, an email action, or a metadata label/file transformation action. All actions are executed by Vantage Windows services, which correlate to the functional categories.

Actions have limited interdependency, and so, are very flexible. You may impose limitations on actions in a workflow. For example, you might require action B to depend on action A in a Vantage workflow.

During execution, actions operate on files, binders, variables, and states, and they generate an action state when they complete. Actions are executed by Vantage services, which perform the requirements of the action. In the case of the *Vantage Transport Service* and most transcoding services, the services may manage file transfers and transcoding/rendering via an out-of-process resource.

AAF action

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

action state

The *action state* describes the condition of an action execution in process and after completion.

During execution, an action may be Queued | Paused | In Process | Waiting. After execution, an action's final state may be Success | Ignore | Failure. Certain actions (Decide/Examine/Compare/Identify, for example) allow the use to specify the post-

execution state, including Ignore. For all other actions, the post-execution state is set by the service, and is either Success or Failure. These states display in the Vantage Workflow Designer Job Status tab.

Action states are always passed to subsequent actions. The incoming state is tested by the next actions to determine whether or not following actions should execute.

Some actions allow you to specify that an action should execute on a specific state (right-click the action, and select Perform On > Success | Failure | Ignore | Any).

If an action fails, then the next action will inherit the Failure state and (in most cases) will not execute. If one action fails, the entire job fails.

Similarly, if you specify an action to set the Ignore state, the next action will inherit the Ignore state and will also likely not execute. Certain special actions, such as Message, can be configured to perform on any state (Failure, for example)—this allows workflows to send an email if they detect a failure.

Action states have precedence when an action receives states from multiple incoming actions (a merge of multiple branches):

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

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

- If all incoming states are Ignore, the action will inherit the Ignore state. Ignore has lowest precedence of the three states. If an action receives an Ignore state and does not explicitly fail, then it emits a Success state. Otherwise, it emits a Failure state *unless* it is an action which can emit Ignore, and you have configured it to do so.

Alchemist File action

The Alchemist File action, which is executed by the Vantage Alchemist Service, allows you to configure connection settings with an existing installation of Grass Valley Alchemist File software.

Vantage Alchemist Service

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

All-in-one domain

An *all-in-one* (or single-node or single-server) Vantage domain is one in which all server components of Vantage—the Microsoft SQL Server database, all Vantage services, and the optional Vantage web applications—are installed and operate on a single computer.

See also Vantage array.

Analyze action

The *Analyze action*, which is executed by the Vantage Analysis Service on-premises or the Telestream Cloud Service when in Cloud mode, enables you to perform analysis on media using a variety of analysis tools, specifying the result of the analysis in variables, for use in downstream actions. It is Vantage Cloud capable.

Vantage Analysis Service

The *Analysis Service* is the Vantage component which executes the actions relating to the analysis of content: Examine action, Compare action, Identify action, Analyze action, Report action, and MediaInfo action.

Archive action

An *Archive action*, which is executed by the Vantage Staging Service, uses the selected archiver (TAR, for example) to convert the selected input file to another format, usually in preparation for copying, moving, or deploying a file to a given system that has special file format requirements.

array

An informal term for Vantage array.

Vantage Aspera Service

An *Aspera Service* implements the Aspera software for Vantage, and provides two-way communication between workflows (and the Faspex Delivery action) utilizing the Aspera software itself.

Asset Monitor action

The Asset Monitor is an origin action. It uses the Vantage Avid Service to monitor the specified Interplay server for new files to ingest and generate output in one or more media descriptor formats [CML (Interplay Metadata) or MPEG 4 Reference files] from the ingested input file. This action is Open Workflow capable.

When a new file is discovered, the Asset Monitor action submits a job for the workflow to process the file.

Associate action

An *Associate action* uses the Vantage Monitor Service to continually (and at regular periods) poll a target location (a directory, for example) on a device or file system (FTP, network folder, etc.) to discover new files, based on some permutation of the name of the file being processed by the current job.

Associate actions can be executed on any action state.

Generally, the Associate action uses the file name of an existing media file or attachment as the basis for discovering new files. For example, if media file *Vantage.mpg* is currently in the workflow, then the Associate action may look for *Vantage.scc*. This behavior can be configured in the Associate action's Inspector.

Associate actions begin executing when a job is submitted, and execute until a new file is discovered—subsequent actions do not execute until the file is found. When the new file is discovered, the Associate action makes the file available to the other actions in the workflow.

Configuration is accomplished in the inspector, and is based on the target device/file system being monitored and other requirements.

attachment

An *attachment* is a non-media file that is associated with media during execution of a workflow. For example, an attachment may be an XML file that contains

metadata, an SCC caption file, or an STL or PAC subtitle file. An attachment may also be a PDF file, Excel spreadsheet, or Word document, for example. Attachments are identified and processed using nicknames for simplicity. Processing is optional—attachments may be simply passed through a workflow for storage with the processed media and registered in a Vantage catalog.

attachment nickname

An *attachment nickname* is an alias or alternate name that is assigned to an attachment file during Vantage workflow execution. When an attachment file is submitted to a workflow, the actual file name and location is stored in a Vantage binder along with a nickname as defined in the workflow. Within the workflow, all references to a file are by nickname. However, when Vantage needs to access a file, Vantage uses the actual file name and location stored in the binder.

See media nickname and nickname.

AudioTools action

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

Vantage AudioTools Service

The *AudioTools Service* implements the AudioTools Connector and enables Vantage workflows to utilize and interact with various AudioTools products from Minnetonka Audio Software.

Aurora action

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

Vantage Aurora Service

The *Aurora Service* implements the Digimetrics Aurora software for Vantage, and provides two-way communication between workflows (and the Aurora action) utilizing Aurora and the Aurora software itself.

Automate action

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

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

Vantage Avid Service

The *Avid Service* is the Vantage component which executes the actions relating to use of media on Avid Interplay servers using the Media Creation action, Asset Monitor action, and AAF action. Before you can use these actions in a Vantage workflow with a given Avid Interplay server, you must first create an Avid Interplay connection in the Vantage Management Console and configure it.

Baton action

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

Vantage Baton Service

The *Baton Service* implements the Baton software for Vantage, and provides two-way communication between workflows (and the Baton action) utilizing the Baton software itself.

binder

A *binder* is a collection of file and metadata information, created for each job that Vantage executes. A binder contains media and attachment file references and metadata labels that were ingested or created during the job. While a binder is created for every job, many binders are never used. Therefore, only media processing scenarios which require operator intervention should use the Register action in ingest workflows to create binders in a user-accessible Vantage catalog.

You use the Register action to automatically create binders during a job, and you use Exist to determine if a binder of a certain name has already been created. Binders are most often named by some permutation of the name of the file that started the job. Binders that are not explicitly registered are accessible to users only in Workflow Designer, in the Job Status tabs.

Vantage catalogs and their binders are accessible in Workflow Portal. Binders are saved in the Vantage domain database until deleted manually or by job expiration policies. You can also view binders in the Vantage Management Console, and manually create them there—or delete them.

Binders are not file folders and are not part of the Windows file system—they are records in the Vantage database. Thus, binders do not contain the files themselves; they only have the paths to those files.

Camera Ingest action

A *Camera action* is an origin action; it uses the Vantage Monitor Service to regularly poll a target location (a directory, for example) on a card reader device or Windows file system to discover new camera files.

When a new file or shot is discovered, the Camera action submits a job for the workflow which it is part of, for processing.

Capture action

A Capture action is an origin action; it supports Open Workflows on the outbound side and it is used to capture live SDI | IP inputs and output captured media files to Live Storage using the specified output container and encoder. The Capture action is executed by the Vantage Live Service, and only works in a Vantage domain on a Lightspeed Live Server hosting Capture.

catalog

Similar in concept to the folders in a file system, a Vantage *catalog* is a container that stores binders. *Catalog folders* are sub-containers that organize binders. To access a binder, Workflow Portal operators search through the visible catalogs and folders, just as they might sort through folders in a file system.

Vantage Catalog Service

The *Catalog Service* is the Vantage component that executes the Register action and Exist action.

Catch action

A *Catch action* is an origin action; it is a specialized origin action for ingesting commercials and syndicated media assets (including metadata) from catch servers in TrafficManager applications. It uses the Vantage Traffic Service to regularly poll the catch server to discover new files.

When a new file is discovered, the Catch action exposes all relevant metadata and submits a job to the workflow for processing. Typically, the workflow is an ingest workflow which localizes the media, populates a metadata label, creates proxies and thumbnails, and registers the asset in a Vantage catalog. The Catch action also includes an interface to common cloud storage systems, allowing storage in the cloud to be monitored. For more details, see the TrafficManager User Guide.

Cerify action

A *Cerify action* is an optional, licensed feature in Vantage. It uses the Vantage Cerify Service to enable Vantage workflows to utilize the Tektronix Cerify suite of QC components. Cerify is a fully automated system for verifying and checking file-based content.

Vantage Cerify Service

The *Cerify Service* implements the Cerify software for Vantage, and provides two-way communication between workflows (and the Cerify action) utilizing the Baton software itself.

Change Log

The *Change Log* (Vantage Management Console > Support Utilities) captures changes to the Vantage domain configuration and operation and records the following details: date and time of change, Vantage user who made the change, host computer where the change occurred, change summary message.

Chronicle action

The *Chronicle action*, along with Colocate, Compose, and Conform actions, are part of the optional, licensed Post Producer feature in Vantage. The Chronicle action uses the Vantage Edit Service to convert post-rendered Composition XML files into formats for use in other systems—ad-insertion systems, for example.

Cloud mode

Cloud mode is an execution option that you can enable in Cloud-capable actions to enable processing in the cloud (enabled by configuring your Vantage domain with a valid Telestream Cloud account). When supported actions execute in Cloud mode, they are executed by the Telestream Cloud Service.

Telestream Cloud Service

The *Telestream Cloud Service* connects a Vantage domain with Vantage Cloud. The Telestream Cloud Service acts primarily as a proxy for Vantage Cloud as the Vantage component that is responsible for transporting files and executing actions which interact with resources in Vantage Cloud or are related to Cloud processing: Cloud Qualify action | Cloud Speech action | Location action. The Telestream Cloud Service is also responsible for executing the Analyze action | Conform action | Flip64 action | IPTV Flip action | Multiscreen Flip action | Tempo action | Timed Text Conform action | Timed Text Flip action when these actions execute in Cloud mode.

To use the Telestream Cloud Service and its associated actions and features in your workflows, you must have a Telestream Cloud account.
You can create a Telestream Cloud account on the Telestream Cloud web site: https://cloud.telestream.net. When you create your Telestream Cloud account, you are supplied an API key. Use this key in the Vantage Management Console > Settings & Options > Telestream Cloud tab to allow Vantage to log into your Telestream Cloud account automatically to perform cloud processing that you specify in workflows.

Cloud Qualify action

The *Cloud Qualify action* The Cloud Qualify action is part of the Cloud group, which is executed by the Telestream Cloud service. The Cloud Qualify action is supported in Vantage Cloud hosted workflows. For details on using hosted workflows, consult the Vantage Cloud User Guide.

To use the Cloud Qualify action you must have a Telestream Cloud account and it must be registered in Vantage. In your account, you should create one or more Quality Control projects that can be executed by Cloud Qualify workflows in Vantage.

The Cloud Qualify action processes a media file (identified by nickname) in a Qualify project in your account, and returns a report and the result: A string variable with the results of the test.

Cloud Speech action

The *Cloud Speech action* submits media from Vantage workflows to Vantage Cloud for speech-to-text conversion. To use the Cloud Speech action you must have a Telestream Cloud account and enter the account credentials in the Vantage Management Console Settings to enable Vantage to access the account. When the Cloud Speech action executes, the input file is uploaded and processed according to the Cloud Timed Text Speech project chosen in the Cloud Speech action, and the results and status are returned to the on premises workflow. The Cloud Speech action is supported in Vantage Cloud hosted workflows. For details on using hosted workflows, consult the Vantage Cloud User Guide available on the Telestream web site.

Colocate action

The *Colocate action*, along with Chronicle, Compose, and Conform actions, are part of the optional, licensed Post Producer feature in Vantage. The Colocate action uses the Vantage Edit Service to ingest Composition XML files with references to non-file-based URLS (for example, Amazon S3), localize the files, and convert the media references in a copy of the CML into paths to the localized files.

Common action

Common actions are implemented in multiple Vantage services (Catalog, Communicate, Staging, and Metadata) so they are not restricted to execution by a single service. See Receive action, Forward action, Decide action, Compute action, Construct action, Synchronize action.

ComponentPac

Vantage *ComponentPacs* are version-controlled Vantage components, such as an updated Capture action. ComponentPac versions are controlled using Telestream's Secure Version Control. For details, see the Secured Version Control application note on the Telestream web site.

Secured Version Control provides the ability to update Vantage—and create or update workflows that utilize new versions of actions—while keeping existing workflows untouched and operating using existing versions of actions. When you want to upgrade an action in a workflow, you can do so at a convenient time.

Vantage Communicate Service

The *Communicate Service* is the Vantage component that executes the actions relating to electronic messaging: Message action, and Notify action.

Compare action

A *Compare action* uses the Vantage Analysis Service to compare media files based on certain metrics (for example, PSNR). These metrics can generally be published as variables or as metadata labels.

Compose action

A *Compose action*, along with Chronicle, Colocate, and Conform actions, are part of the optional, licensed Post Producer feature in Vantage. The Compose action uses the Vantage Edit Service to convert various media descriptor file formats (Anystream AN2, Final Cut Interchange XML, Simplified Avid AAF, QuickTime Reference, Adobe FC7XML, and Telestream TSEDL) into a Composition XML file so that it can be used by the Conform action to compose media) into a Composition XML file so that it can be used by the Conform action to compose media.

Composition (CML) file

A *Composition file* is an XML schema that provides the vocabulary to describe media elements and their temporal and spatial relationships on a video timeline. Composition files (or Composition XML objects in a computer program) are submitted to a Conform action in a workflow to render the media file from the description.

Compute action

A *Compute action*, which is implemented in every Vantage service, performs various arithmetic and string manipulation functions, permitting you to create and modify values in variables, for use in downstream actions. This action is Open Workflow capable.

Conform action

A *Conform action*, along with the other Edit actions, are part of the optional, licensed Post Producer feature in Vantage. The Conform action, which is Vantage Cloud capable, uses the Vantage Edit Service to assemble and optionally transcode multiple video and still image files into a single output file, applying filters as specified by you. The input files and related specifications for the output file are all defined in a Composition XML file. This action is Open Workflow capable except when executing in Cloud mode.

Construct action

A *Construct action*, which is implemented in every Vantage service, enables you to construct complex strings, paths, and math expressions from literals, variables, and tokens, for use in downstream actions. This action is Open Workflow capable.

Copy action

A *Copy action* is executed by the Vantage Transport Service and is used to replicate a file from a source target (file system/device and directory) to a destination target (file system/device and directory). It typically performs this task by copying the file to the destination.

Copy actions can be executed on any action state. This action is Open Workflow capable.

database

The term *database* is the common term used to refer to the Vantage domain database, where all specifications for the domain are stored, along with workflows and job history.

Data Collection Utility

The *Data Collection Utility* is built into the Vantage Domain Console (Support Utilities > Data Collection). It enables you to collect relevant information about selected services for transmission to Telestream during a troubleshooting session. You can also log point-in-time details about a selected service into a log file for diagnostics purposes.

Delay action

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

Decide action

A *Decide action*, which is implemented in every Vantage service, is an action which allows you to explicitly set the action state based upon analysis of variable values at runtime. It is most commonly used to determine whether or not subsequent actions (or actions in a given branch) in a workflow should execute.

When the Decide action is used, the state set by the Decide action is passed to the next action. Typically, more than one Decide action is required to support decision branches. For example, if one branch is for HD media, it will start with a Decide action that will set the state to Success for HD content, or set it to Ignore otherwise; if another branch is for all other media, it will start with a Decide action that performs the opposite behavior.

See variable, action state.

Delete action

A *Delete action* is executed by the Vantage Transport Service, and is used to permanently remove a file from a source target (file system/device and directory). Delete actions can be executed on any action state.

Deploy action

A *Deploy action* is executed by the Vantage Transport Service, and is used to save the specified files to a destination outside the Vantage domain. Unlike Delete, Move, or Copy actions, Deploy actions allow multiple files to be operated on simultaneously, and do not maintain a reference to those files in the binder after completion.

distributed domain

Another term for Vantage array.

Diva Archive action

The Diva Archive action is part of the DIVA group in Workflow Designer. It is executed by the Vantage Diva Service, and enables a workflow to add a new object to a specified Content Manager | DIVA Core.

Diva Lookup action

The Diva Lookup action is part of the DIVA group in Workflow Designer. It is executed by the Vantage Diva Service, and enables a workflow to determine if a specific object has been archived in the specified Content Manager | DIVA Core.

Diva Restore action

The Diva Restore action is part of the DIVA group in Workflow Designer. It is executed by the Vantage Diva Service, and enables a workflow to write content to a storage system external to Content Manager and Vantage, that was previously archived in the specified Content Manager | DIVA Core.

domain

See Vantage domain.

DPP Validate Action

The *DPP Validate* action is executed by the Vantage Analysis Service. You can use the DPP Validate action to confirm compliance of a DPP metadata XML file. If the XML file passes validation, TRUE is generated; otherwise FALSE is generated. You can test the results of the action downstream to change the workflow's actions based on the validation results. Optionally, you can also generate a validation report. The DPP Validate action is supported in Vantage Cloud hosted workflows with the exception of the validation report option which is not supported. For details, consult the Vantage Cloud User Guide available on the Telestream web site.

DRM action

The DRM action is part of the Multiscreen group, and is executed by the Multiscreen Service. You use the DRM action to execute a script that utilizes input data and generates a JSON string. The string contains the information required to encrypt streaming media with DRM (digital rights management) in Multiscreen workflows.

Scripts are created externally in a supported language and added to a Vantage domain via the Vantage Management Console > Workflow Design Items > Scripts. The specified script is executed in the DRM action, generating the output into a text variable for use in a downstream Multiscreen action. Multiscreen Flip uses the output of the script when encoding the media.

Dublist action

A *Dublist action* is a specialized origin action for ingesting dublist files from a specified server and directory in TrafficManager applications. It uses the Vantage Monitor Service to regularly poll the server to discover new files.

When a new dublist file is discovered, it is parsed by the specified scheme and new entries are added to the master dublist maintained by Vantage. The Dublist action simultaneously polls the selected Vantage catalog for any media files which match entries in the master list; when found, it submits a job to a TrafficManager application workflow for processing. The Dublist action uses the binder name as the unique identifier for the commercial, so it should be set to the Ad ID.

Typically, the workflow is an on-air processing workflow which transcodes the media, optionally trims the clip and alters audio for compliance. Then, it delivers

the media to an on-air server and notifies an automation system. For more details, see the TrafficManager User Guide.

Dublist Portal

Dublist Portal is a client Windows program provided as part of a TrafficManager license. Dublist Portal enables customers who are performing advertisement processing to define, manage, and process dublists as part of their automated TrafficManager workflows.

Edit Decision List

A Vantage *edit decision list* (EDL) is a list of clips that will be merged together in a target clip. The list entries specify the start and stop of the clip, and Vantage supports list entries from multiple media files. Vantage operators use the Workflow Portal program to create EDLs.

Vantage Edit Service

The *Edit Service* executes the Playlist actions: Colocate action, Conform action, Chronicle action, and Compose action. In the case of Conform, the Edit Service may manage the rendering via an out-of-process resource.

emotion Action

The emotion action is an optional, licensed feature in Vantage. The emotion action enables Vantage to utilize and interact with Emotion Systems Emotion Engine audio software.

Error Log

The Error Log utility captures Vantage errors and records the following details: date and time of error, error source (Vantage service), host computer where the error occurred, type of error (Info or Error), and error message.

Examine action

An *Examine action* uses the Vantage Analysis Service to evaluate the video and audio of a media file to measure certain characteristics, such as audio loudness, or to detect characteristics, such as the presence and size of curtains. You can configure it to publish metadata or variables containing the results of analysis.

Exist action

An *Exist action* uses the Vantage Catalog Service, and allows you to determine if a binder of a given name (or name fragment) is present in a specified catalog.

Extract action

The Extract action, executed by the Vantage Metadata Service, is used to extract specific values from element attributes in XML or key-value pairs in JSON metadata. The Extract action identifies and extracts specific values from structured metadata and populates variables for use in downstream actions. The Extract action enables you to browse a sample file and identify the location in the structured data where the value is located.

The workflow can ingest an XML or JSON file during job execution or by making web service calls. The Extract action automatically generates XPATH or JSONPath

references from the structured metadata in these files to extract the data, and populates a variable with the value. During execution, each extraction path is evaluated against the input and the associated variables are populated for use in downstream actions.

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

Faspex Delivery action

A *Faspex Delivery action*, which is executed by the Vantage Aspera Service, is used to deliver files to Aspera Faspex servers. Upon delivery, recipients are notified and can download the package.

Faspex 5 Delivery action

A *Faspex 5 Delivery action*, which is executed by the Vantage Aspera Service, is used to deliver files to Aspera Faspex 5 servers. Upon delivery, recipients are notified and can download the package.

FileCatalyst action

The *FileCatalyst action* is an optional, licensed feature, which enables Vantage workflows to access and deliver files to FileCatalyst servers via integrated FileCatalyst client software. It is executed by the Vantage FileCatalyst Service.

Vantage FileCatalyst Service

The *FileCatalyst Service* implements the FileCatalyst action for Vantage.

Flip action

A *Flip action* is executed by the Vantage Transcode Service, and implements the specified codec, which is used to transcode decoded digital baseband media into another media encoding format. The Telestream Media Transcode and Analysis Engine performs the transcode on behalf of Vantage. The Flip action has an Export command, which allows you to save the configured Flip action as an XML file, for use in SDK applications.

Flip64 action

The Flip64 action is a Vantage Cloud-capable, 64-bit multi-core-optimized encoder running under the Vantage Transcode Service (except in Cloud mode, when it is executed by the Telestream Cloud Service, operating as a proxy of Vantage Cloud). It transcodes media from one or more input files into another format as specified by the output configuration you specify. Available resolutions extend from SD to UltraHD and 4K in a broad range of file formats, from QuickTime to MPEG-4 and TIFO, and including encoding for x264, x265 (H.265 HEVC), MXF, and more. This action is Open Workflow capable except when executing in Cloud mode.

Forward action

A *Forward action,* which is implemented in every Vantage service, forwards a binder and all current variables to another workflow, starting a new job with the target workflow. A Forward action may be added to the end of a workflow, and requires that the target workflow have a Receive action as its first action.

Typically, workflows are created with a Receive action when they are intended for execution by another workflow that immediately precedes this one. This ability to

chain workflows enables you to create comprehensive, intelligent run-time switching workflows consisting of smaller workflows used as building blocks.

See Receive action.

Frame.io action

The *Frame.io action* is implemented by the Vantage Publish Service and, via the Frame.io connector, allows for the creation and delivery of assets, between Vantage and Frame.io, an online hub that facilitates the organization of and collaboration around media assets. Frame.io allows team members to upload material, annotate this material, and collaborate with other team members on material. A special license is required to use this feature.

Gather action

A *Gather action* is implemented by the Vantage Staging Service, and collects one or more files from a specified server and directory (and optionally, its subfolders), and brings them into the workflow as attachments. Use of a file matching pattern allows you to select only certain types of files.

hosted workflows

A *hosted workflow* is a workflow that has been exported to Vantage Cloud after being designed in Workflow Designer. They are managed in the Vantage Cloud console after deployment in Vantage Cloud.

Jobs to hosted workflows are either submitted via the Telestream Cloud console or a Vantage Cloud API-based client program, and all action execution occurs exclusively in Vantage Cloud. For details on using hosted workflows, consult the Vantage Cloud User Guide available on the Telestream web site.

hot folder

A *hot folder* is a directory on a server that has been identified as a directory for storing media to be processed by a workflow in Vantage. When the workflow monitor identifies new media in this folder, it is submitted for processing. Also referred to as a Watch folder.

See Watch action, Vantage Monitor Service.

Identify action

An *Identify action* uses the Vantage Analysis Service to determine certain properties of a media file, such as codec type, video bit rate, or file size. This information can then be published as a metadata labels or variables.

Inspector

An *inspector* is a series of one or more panels in Vantage Workflow Designer that facilitate the setup and configuration of a given action. Inspectors are unique to each action—for example, configuring a Watch action is very different than configuring a Flip action.

IPTV Flip action

The *IPTV Flip action* is included with the Cable / IPTV version of TrafficManager. IPTV Flip actions are Cloud capable, and are executed by the Vantage IPTV VOD

Transcode Service except when operating in Cloud mode, when the Telestream Cloud Service executes it as a proxy for Vantage Cloud. IPTV Flip can optionally run on a Lightspeed Server for GPU-enhanced x264/x265 encoding and video processing. The IPTV Flip action and IPTV VOD Service supports the features required to handle varying IPTV, set-top box and cable encoding requirements, and ancillary metadata specific to cable ad splicing and cable/IPTV set-top box environments. This action is Open Workflow capable except when executing in Cloud mode.

Vantage IPTV VOD Transcode Service

The *IPTV VOD Transcode Service* is the Vantage component that executes the IPTV Flip action. This service (which can optionally run on a Lightspeed Server for H264 and HEVC encoding and video processing), supports the features required to handle varying IPTV, set-top box and cable encoding requirements, and ancillary metadata specific to cable ad splicing and cable/IPTV set-top box environments. Transcoding is performed by the Telestream Media Framework on behalf of Vantage. Rendering may be performed by an out-of-process resource managed by the IPTV VOD Transcode Service.

job

A *job* is each execution of a Vantage workflow. Jobs have a state (separate from action states), and jobs are comprised of actions that are executing. Jobs, like actions, may be in-process or they may be complete.

As a job executes, each action may be performed by any service (on any computer) in the Vantage domain that is capable of performing it. The capability of a service to perform a specific job depends on its current operating state, its workload, and its suitability, defined by a qualification rule.

Jobs for a given workflow can be viewed in the Vantage Workflow Designer by selecting the workflow in the Workflow Designer panel and displaying the Job Status tab. Alternatively, all in-process and failed jobs within a Vantage Domain may be viewed in the Status details panel of the Management Console.

job routing

See qualification rule and Run On rules.

job state

A *job state* is the current status of a job. Keyword values are In Process | Paused | Complete | Failed | Waiting | Stopped by User | Waiting to Retry.

Job Status Views Web Application

The *Vantage Job Status Views web application* is installed on a Vantage web server and enables you to view real-time information about jobs in the domain from anywhere on your network with a web browser.

label

A *label* or *metadata label* defines a set of metadata by use of name/value pairs associated with content. For example, a spot label may contain Agency, Author, or Ad-ID and other metadata values; this set of metadata is collectively called a Spot

metadata label. Metadata labels can be stored in binders with the associated media and attachment files.

Vantage supplies a set of default metadata labels for use in workflows. In addition, you can create and modify labels for your use using the Management Console (Workflow Design Items > Metadata Labels).

license

A Vantage *license* is stored in the Vantage domain database and enables one or more Vantage features within a Vantage domain. Licenses are delivered as XML files and imported into the database and activated via the Vantage Management Console.

Lightspeed Live Capture

Telestream's L*ightspeed Live Capture* is a scalable, multi-channel on-premise capture solution hosted on a Lightspeed Live Server for ingesting live, live linear or tape-based media directly into production, post-production and broadcast workflows. It is implemented in two web apps—Live Capture and Tape Capture.

Lightspeed Live Server

Telestream's L*ightspeed Live Server* is a 1RU, GPU-enabled, multi-core CPU server used to host Lightspeed Live Capture and other Live products.

Lightspeed Server

A Vantage *Lightspeed Server* is a 1RU, GPU-enabled, multi-core CPU server used to host Vantage services and accelerate video processing and x264 transcoding. Lightspeed Server accelerates compute-intensive image processing, including scaling, de-interlacing, frame rate conversion, motion vector calculation, and other tasks that require computation and analysis to modify or create new video frames.

Lightspeed Live Schedule Pro

Live Schedule Pro is a Windows service-based web application (Scheduling Live Capture Sessions); an optional, separately licensed feature offered as part of Lightspeed Live Capture. Live Schedule Pro enables you to create events you want captured for each source, and automatically starts and stops capturing video on an event-by-event basis, with optional SDI router control.

Lightspeed Live Play

Live Play is an optional, separately licensed product offered as part of Lightspeed Live Capture. The Live Play web app is an enterprise-class software solution that provides flexible and scalable SDI video playback on Telestream's Lightspeed Live Server. Live Play enables you to perform confidence monitoring of file-based and streaming media by playing it back on-screen and via SDI.

Listen action

The Listen action uses the Vantage Monitor Service to listen to a cloud-based message queue and generate jobs from received messages. The Listen action uses a plugin model for various cloud endpoints such as Amazon Simple Queue Service (SQS). The content of these messages could be very simple and contain a single value such as a file path or some sort of identifier to be used, or they could be more

complex such as a blob of json/xml to be processed by a downstream action such as Extract. The Listen action automatically deletes messages from the queue as it processes them. Any messages that are present in the queue when the Listen action starts up will be processed.

Location action

The *Location action* uses the Telestream Cloud Service to determine if a specified file is located in Cloud-native storage or in local storage with an optional, 24-hour signed URL for HTTPS access. This information is usually utilized in branching workflows which execute a given workflow branch based on the location of the file.

Lookup action

The Lookup action is part of the Metadata group and is executed by the Metadata Service. The Lookup action performs a search operation on a set of key-value pairs in a master CSV file, based on values extracted from the metadata file associated with a job submission. If the key is found, the value is returned in the output variable, for use downstream. Lookup is typically used with a Catch action workflow, in TrafficManager applications.

Domain Management Console

The *Domain Management Console* enables Vantage system administrators to effectively configure Vantage domains, and scale domains across multiple servers to meet their operating requirements and perform effectively in their environment.

MediaInfo action

The *MediaInfo action*, which is executed by the Vantage Analysis Service, performs 2 tasks, based on its analysis of the media file and its streams:

- Creates variables from properties, using the MediaInfo API

- Creates a report of the properties and their values.

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

Media Creation action

The Media Creation action uses the Vantage Avid Service to deliver new media to the specified Interplay server and issue the Interplay commands necessary to check the file into the Interplay server. This action is Open Workflow capable.

media nickname

A *media nickname* is an alias or alternate name that is assigned to a media file during Vantage workflow execution. When a media file is submitted to a workflow, the actual file name and location is stored in a Vantage binder along with a media nickname as defined in the workflow. Within the workflow, all references to a file are by media nickname. However, when Vantage needs to access a file, Vantage uses the actual file name and location stored in the binder.

See attachment nickname and nickname.

MediaMate action

A *MediaMate action* uses the Vantage MediaMate Service to enable Vantage workflows to utilize and interact with the Subtitling capabilities of Screen MediaMate. Each subtitling option provides different capabilities that relate to the subtitle process.

Vantage MediaMate Service

The *MediaMate Service* implements the MediaMate Screen software for Vantage, and provides two-way communication between workflows (and the MediaMate action) utilizing the MediaMate Screen software itself.

Message action

A *Message action* is implemented in the Vantage Communicate Service and enables you to generate and transmit an electronic Message—an email, for example. A Vantage administrator must configure Vantage to use an SMTP server (Vantage Management Console: Settings & Options > Email) before email can be utilized.

Vantage Metadata Service

The *Metadata Service* executes the actions the extract metadata values, and perform conversions between attachment files, metadata labels, and variables. Metadata Service actions include the Extract action, the Populate action, and the Transform action.

Vantage Metric Service

The *Metric Service* gathers and supplies machine-level information about a specific Vantage node. It monitors CPU, network, and RAM utilization and reports these to Vantage. On a Lightspeed server, it also monitors the GPU activity. The bulk of the information that the Metric Service presents is visualized in the Machine Metrics section of the Vantage Console. By convention, a Metric Service should be installed and running on every node in a Vantage domain. If you do not have a Metric Service running on a specific machine, then that machine will not appear (will not have an entry) in the Machine Metrics section of the Vantage Console.

Vantage Monitor Service

The *Monitor Service* is the Vantage component that executes Watch actions and Associate actions, Camera Ingest action, Workorder action, and Listen action all relating to the discovery of files and starting jobs.

Move action

A *Move action* is executed by the Vantage Transport Service, and is used to move a file from a source target (file system/device and directory) to a destination target (file system/device and directory). It performs this task by copying the file to the destination, then deleting the source. The copy first, delete last process insures that the move completes normally before deleting the source file.

Move actions can be executed on any action state.

Multi-Decide action

The Multi-Decide action simplifies a Vantage workflow by allowing multiple phases of Boolean logic called Decision Groups to be implemented within a single action.

One Multi-Decide action can evaluate many different groups of variables and set a Result variable to represent the evaluation result for each group.

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

As an example, a Multi-Decide action can implement internal logic to trigger downstream workflow branches. For example, IF the video format is MXF AND the video frame rate is 60, THEN IF the bit rate is 35 MB/sec, execute branch 1; IF the bit rate is 50 MB/sec, execute Branch 2; otherwise, execute Branch 3. IF the video format is not MXF or the frame rate is not 60, execute Branch 4. The Multi-Decide greatly reduces the number of Decide actions required per workflow because many expressions can be grouped into a single action.

Multiscreen Flip action

The *Multiscreen Flip action* is an optional, licensed feature. Multiscreen Flip actions are Cloud actions; executed by the Vantage Multiscreen Service in Vantage or by the Telestream Cloud Service operating as a proxy, when executed in Vantage Cloud. The Multiscreen Service performs adaptive bit-rate encoding and simultaneous packaging of decoded digital baseband media into multiple bit-rate variants of H.264/HEVC video and containers in adaptive rate streaming formats, including Adobe HDS, Apple HLS, Microsoft HSS, and players the support MPEG DASH. You can configure the Multiscreen action to perform transcoding on a standard Vantage server or on a Lightspeed Server. This action is Open Workflow capable except when executing in Cloud mode.

Vantage Multiscreen Service

The *Multiscreen Service* is the Vantage component that executes the Multiscreen Flip action and the DRM action. This service (which can optionally run on a Lightspeed Server for H264 and HEVC encoding and video processing), supports the features required to handle varying adaptive bit-rate encoding and packaging requirements. Transcoding is performed by the Telestream Media Framework on behalf of Vantage. Rendering may be performed by an out-of-process resource managed by the Multiscreen Transcode Service.

Nexidia Action

The *Nexidia action* is an optional, licensed feature in Vantage. It uses the Vantage Nexidia Service to interact with Nexidia QC servers running Nexidia QC software. The specified input files are passed to the Nexidia QC software where they are analyzed using the test profile selected.

Vantage Nexidia Service

The *Nexidia Service* is an optional, licensed feature in Vantage. It executes Nexidia actions.

nickname

A *nickname* is an alias or alternate name that is assigned to a media or attachment file during Vantage workflow execution. When a media or attachment file is submitted to a workflow, the actual file name and location is stored in a Vantage binder along with a nickname as defined in the workflow. Within the workflow, all references to a file are by nickname. However, when Vantage needs to access a file, Vantage uses the actual file name and location stored in the binder.

Nicknames may refer to either media files or attachment files. Certain actions only allow the use of certain nickname types. For example, a Flip action only allows media file nicknames to be used as the inputs and outputs. However, other actions (such as the Move and Copy actions) operate on any type of file and allow the use of any nickname.

See attachment nickname and media nickname.

Notify action

A *Notify action* is implemented in the Vantage Communicate Service, and is an action which saves job information to a file to interface with an external system. You can configure a Notify action to produce an XML file, and you can also use it to invoke a Web Service.

TrafficManager-centric extensions are presented here for backward compatibility.

Open Workflows

An option to Vantage workflow functionality (enabled by the Open Workflows license), *Open Workflows* enhance the processing speed of workflows by enabling most actions to begin processing media before the previous action has completed its work. Open workflows only operate in Open mode when operating on Vantage domain nodes that are running on Windows in your local environment. They can not operate in Open mode when executing in Cloud mode.

origin action

An *origin action* is a specific type of action, which must be used to start a workflow. A workflow without an origin action as its first action is not properly designed, and cannot be activated. The origin actions include the Capture action, Watch action, Workorder action, and Receive action, as well as the Catch action and Dublist actions (optional TrafficManager actions).

Original nickname

The media nickname *Original* is a reserved nickname that is typically assigned to media files in a workflow by the origin action.

See media nickname.

Populate action

A *Populate action* uses the Vantage Metadata Service to read and write metadata labels. During ingest, metadata labels can be added to ingested media and generally include trim information, audio levels, file properties, and commercial metadata. The metadata labels can then be reviewed and modified by operators using Workflow Portal. At any stage of a workflow, Vantage can extract information

from labels using the Populate action, allowing Vantage for example to use trim points during a transcode, or audio level information when creating the final broadcast asset. This action is Open Workflow capable.

Post Producer

Post Producer is a specially-licensed set of actions and functionality in Vantage that enables iterative, template-driven assembly and encoding of assets for publication. Post Producer workflows automate assembly and reduce production costs by producing multi-layer video deliverables with transition and image effects, graphic overlays, and conformed for IPTV and cable VOD production, news or weather updates, international localization, promo assembly and insertion and advertisement insertion.

Vantage Publish Service

The Publish service implements the Frame.io actionand *Stanza action* in Vantage.

Pulsar Action

The *Pulsar action* is an optional, licensed feature which enables broadcasters to integrate the Pulsar suite of content verification components directly in Vantage workflows. It is executed by the Vantage Pulsar Service.

Vantage Pulsar Service

The Pulsar service implements the Pulsar action in Vantage.

qualification rule

A *qualification rule* influences or controls the routing and execution of actions among Vantage services of the same type in a distributed Vantage domain. Qualification rules can be used to ensure that jobs are routed to services that are best suited for the task. Vantage uses values contained in variables to determine the suitability of a given service to execute the action.

Qualification rules are exclusively based on variables; they are not based on any actual machine analysis. As a result, it is up to the system administrator to correctly set up variables and qualification rules, and apply variables to the appropriate actions to ensure that jobs are routed correctly.

Qualification rules are created and managed in the Vantage Management Console> Services.

See also Run On rules.

Receive action

A *Receive action* is an origin action which is implemented in every Vantage service. Receive actions are designed to receive files from other systems: other Vantage workflows, API-based applications, and Workflow Portal, for example. Files can also be automatically submitted to a workflow starting with a Receive action from another workflow using the Forward action.

See Forward action.

Register action

A *Register action* uses the Vantage Catalog Service to add the binder created by each job to a Vantage catalog. Register actions can be executed on any action state.

See also Vantage catalog.

Remove action

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

Report action

A *Report action*, which is executed by the Vantage Analysis Service, generates a list of variables and their values and saves them in a file format specified by you.

resource cost

A *resource cost* is an integer value, implemented in the Vantage Management Console on each action type to specify a relative computer resource consumption value in relation to all other action types. This value enables Vantage to maximize resources and optimize transactions, so that you can tune your Vantage system for the highest possible throughput on your particular hardware.

retry rules

Retry rules are rules that you can specify on certain actions, to re-execute actions that fail primarily due to platform access and network latency problems. The retry rules you set on a given action override the default retry rules established in the Management Console.

Run On rules

Run On rules are rules that you specify on a given action, to qualify which services have the characteristics that enable them to execute this action. Rules are set up by specifying variables which have been bound to a given Vantage service and values set. After configuration, the action can test each rule by comparing its run time value to the value in the service's copy and determine if there is a match before attempting to execute it.

See also qualification rule.

Vantage SDK Service

The *SDK Service* is the Vantage component which enables integration with third-party or custom-developed client programs, for submitting jobs, tracking status, etc.

Session Log

The *session log* is a function of the Job Status and Domain Job Status panels in the Workflow Designer. This log displays session activity entries, if any, including which variables have been provided to each action and which ComponentPac was used to run an action. This information can be helpful when debugging the use of variable, or when working on an issue with Telestream Customer Service.

Signiant Delivery action

A *Signiant Delivery action*, which is executed by the Vantage Signiant Service, is used to deliver files to servers controlled by Signiant file transfer products.

Signiant Media Shuttle action

A *Signiant media Shuttle action*, which is executed by the Vantage Signiant Service, used for automated Media Shuttle accelerated file transfers among a specified list of users using Vantage workflows.

Vantage Signiant Service

The *Signiant Service* is the Vantage component which enables integration with third-party or custom-developed client programs, for submitting jobs, tracking status, etc.

The *Signiant Service* implements the Signiant file transfer product for Vantage, and provides two-way communication between workflows (along with the Signiant Delivery action and Signiant Media Shuttle action) utilizing the Signiant software itself.

Vantage Staging Service

The *Staging Service* is the Vantage component which executes Archive actions and Gather actions.

Stanza action

The Stanza action is part of the Publish group and is executed by the *Vantage Publish Service*. The Stanza action allows Vantage to create new projects within an installed server instance of Stanza. For more information on Stanza server installations and configurations, see the Stanza page on the Telestream web site for details.

service

See Vantage services.

Secured Version Control

The *Secured Version Control* feature provides the ability to install the latest software and begin building workflows that utilize new ComponentPac libraries (software libraries), while keeping the existing workflows untouched and operating off a previous ComponentPac version. When the user desires to upgrade a workflow or action within a workflow, it can be done at a convenient time. For a detailed description of Secured Version Control, search the *Vantage Domain Management Guide*.

Synchronize action

A *Synchronize action* is a connector action, for the sole purpose of uncluttering workflow connectors. In workflows where there is a many-to-many relationship (for example, 6 Flip actions connecting to 6 Deploy actions, which connect to 6 Deletes), instead of drawing connection between them all, you simply connect them to a common Synchronize action. There is no Inspector for the Synchronize action, because no configuration is required.

Syndicate action

The *Syndicate* action processes and can apply a template to metadata accompanying syndicated content from providers such as Pitchblue and generic providers. The Syndicate action is part of TrafficManager, an optional, licensed feature of Vantage, enabled with the TrafficManager license. It is executed by the Vantage Traffic Service. The purpose of this action is to automatically rearrange segments according to the template, or to mark specific segments as "not included" in the final program. Use the Syndicate action in syndicated media ingest workflows to convert sidecar metadata XML files to a mezzanine format for use in downstream actions in the workflow, or for use in Syndication Workflow Portal applications.

Syndication Forward action

The *Syndication Forward* action is part of TrafficManager, an optional, licensed feature of Vantage, enabled with the TrafficManager license. It is executed by the Vantage Traffic Service.

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

Tape action

The *Tape* action is an origin action (and may be the only action in a workflow) used to start SDI-based tape capture workflows created in any Vantage domain installed on the Lightspeed Live server. The Tape action inspector allows you to select and configure VTR sources for processing, filtering, transcoding, and output. You can also use the action to add metadata labels.

Vantage Diva Service

The *Diva Service* is the Vantage component that executes the DIVA Lookup | Diva Restore | DIVA Archive actions, communicating with a target Content Manager | DIVA Core as defined in the Vantage Domain Management Console, via the DIVA Rest API.

Telestream Live Source Service

The Telestream Live Source service manages the acquisition of material from a specific source (spawned by the Telestream Live Service).

Telestream Media Framework

The *Telestream Media Framework* is a software framework developed by Telestream for reading, writing transcoding, and analyzing many different kinds of media files. Telestream Media Framework is integrated in many Telestream products, including Vantage.

Telestream Playlist Service

The *Telestream Playlist Service* implements Telestream Live Play, which is used to play out files created by Live Capture.

Telestream Playlist Service is an optional, separately licensed feature. The Live Play web app provides on-screen and SDI-based real-time playback features based on custom playlists you create.

Telestream Schedule Service

The *Telestream Schedule Service* is an optional, separately licensed feature. It implements Live Schedule Pro, including Live Schedule Pro, a service-based web application. Live Schedule Pro works in conjunction with Live Capture, enabling you to create events you want captured for each source, and automatically starts and stops capturing video on an event-by-event basis.

Tempo action

The *Tempo action* is part of the Edit group executed by the Vantage Edit Service and is Cloud capable. When in Cloud mode, it is executed by the Telestream Cloud Service in Vantage Cloud. The Tempo action is included in Tempo, a time-adjusting encoding solution built on the Vantage platform. The Tempo action re-times file-based content and intelligently decreases or increases the running time of shows and segments. This action is Open Workflow capable.

Timed Text Conform action

The Timed Text Conform action is part of the Timed Text group and is Cloud capable. The Timed Text Conform action is executed by the Vantage Timed Text Service or via the Telestream Cloud Service when executed in Vantage Cloud. The Timed Text Conform action ingests a Timed Text CML file with references to caption/subtitle files in order to create SCC, MCC, or IMSC outputs.

Timed Text Flip action

The *Timed Text Flip action* is part of the Timed Text group and is Cloud capable. The Timed Text action is executed by the Vantage Timed Text Service, or by the Telestream Cloud Service operating as a proxy, when executed in Vantage Cloud. The Timed Text Flip action automates caption file-type conversions, extracts caption data from media with embedded captions, creates subtitle overlay graphics, and manipulates the timecode of caption data to match media.

Vantage Timed Text Service

The *Timed Text Service* is the Vantage component which executes the Timed Text Conform action or Timed Text Flip action.

Vantage Traffic Service

The *Traffic Service* is the Vantage component which executes the Catch action | Dublist action | Syndicate action.

TrafficManager

TrafficManager is an optional, licensed feature which enables automated advertisement and syndicated media processing from catch server to automation systems and on-air servers, serving both the broadcast and cable industry. It includes the Catch action for catch servers and the Dublist action for dublist management. It also includes the Syndicate action for processing syndicated media.

transcode

Transcode means the process of decoding media in one format (MPEG2, for example) down to digital baseband and then encoding it in another media format (MPEG4, for example).

Vantage Transcode Service

The *Transcode Service* is the Vantage component that executes the Flip action | Flip64 action —transforming media from one format to another. Transcoding for the Flip action is performed by the Telestream Media Transcode and Analysis Engine on behalf of Vantage. The remaining actions are performed within the Telestream Media Framework.

Transform action

A *Transform action* uses the Vantage Metadata Service to transform metadata between XML files (attachments) and labels. XSL style sheets are used to perform these transformations; style sheets can be managed in the Vantage Management Console: Workflow Design Items > Style Sheets. This action is Open Workflow capable.

Vantage Transport Service

The *Transport Service* is the Vantage component that executes (or manages the execution via an out-of-process resource) the actions relating to file operations: Move action, Delete action, Copy action, and Deploy action. File transfers may be performed by an out-of-process resource managed by the Transport Service.

Utilization action

A *Utilization action* enables users to determine the relative load on the domain as well as transcoding services within the domain. Other downstream actions can then make intelligent branching decisions based on that information: Vantage Cloud versus on-premises transcoding of media, for example.

Vantage array

A *Vantage array* is a Vantage domain whose software components are distributed among multiple computers for durability and scalability, instead of installed and operating on a single computer (often referred to as a distributed domain). A typical array has the Vantage domain database installed on a dedicated server, and all Vantage services installed on another computer, and additional Transcode Services each installed on other computers for high-performance, parallel transcoding.

Vantage catalog

Formal name for catalog. Similar in concept to the folders in a file system, a Vantage *catalog* is a container that stores binders. *Catalog folders* are sub-containers that organize binders. To access a binder, Workflow Portal operators search through the visible catalogs and folders, just as they might sort through folders in a file system.

Vantage domain database

A *Vantage domain database* is a Microsoft SQL Server database which contains all workflows, actions, jobs, binders, licenses, and configuration information for a Vantage domain.

Vantage domain

A *Vantage domain* is a set of computers, Vantage workflows, actions, Vantage services, jobs, binders, and configuration settings, all known to and interacting with each other, stored in a database. This collection constitutes a Vantage domain. Vantage domains may exist on a single computer or they may be distributed across many computers for durability and scalability.

The name of a Vantage domain is the same as the name of the server that hosts the Vantage domain database.

Multiple Vantage domains may exist on a network, but they are independent entities that do not communicate with each other. They are not bound together and do not share resources or work. The purpose of storing an entire domain in a database is to provide an easy way to create and manage the domain and to provide access to all the details about each resource in the domain to any other resource that needs it.

Vantage EDL nickname

The nickname *Vantage EDL* is a reserved nickname that is typically assigned to media files that are created in catalog ingest workflows, to identify the ingest files of an Edit Decision List in Workflow Portal, during Stitch and Trim operations. See media nickname.

Vantage folder address

A *Vantage folder address* is an alias to a local or remote file folder. You can create and manage Vantage folder addresses in the Vantage Folder Address Book dialog, in Copy and Move actions in Vantage Workflow Designer, and in the Vantage Management Console.

After you create a Vantage folder address, you can specify the destination directory in any workflow simply by selecting the Vantage folder address. Changes to a Vantage folder address—such as updating an IP address or a password—immediately affect all workflows that use that Vantage folder.

Unlike Vantage stores, temporary files that are created during workflow execution are not automatically deleted from Vantage folders according to job expiration settings.

Vantage Live Service

Part of the Vantage Media Processing Platform on a Lightspeed Live Server, the Vantage Live Service is listed in the Management Console Services list and executes the Capture action processes.

Vantage Proxy nickname

The media nickname *Vantage Proxy* is a reserved nickname that may be assigned to media files encoded using the QuickTime encoder in H.264/AAC as QuickTime

movies or MP4 files with x264/AAC, which enables previewing with the media viewers provided in Vantage programs such as Workflow Designer, Workflow Portal, and the Vantage Management Console.

Alternatively, the Workflow Portal Windows Client QuickTime Media Player supports MP4 with x264-encoded H.264/AAC, provided that QuickTime 7.7.6 or later is installed.

See media nickname.

Vantage services

The term *Vantage services* refers to the collection of Windows services in a Vantage domain, which are responsible for executing all of the actions in a workflow as it executes.

Vantage store

A *Vantage store* is a directory on a Windows file system that stores temporary files. Stores are managed by the Vantage domain for the purpose of centralizing large directories for reading and writing files. Unlike a Vantage folder, temporary files placed in a Vantage store are deleted when the binder is deleted. Vantage stores are generally used to hold temporary files for the duration that a job is executing.

Vantage stores are managed in the Vantage Management Console: Storage. Services that create temporary files, such as the Transcode Service, can be configured to use specific stores.

Vantage Thumbnail nickname

The media nickname *Vantage Thumbnail* is a reserved nickname that is typically assigned to output media files that are created to display thumbnail images instead of binder names in Vantage programs such as Workflow Portal.

See media nickname.

variable

In Vantage, a *variable* is a container for temporary job information—a symbolic name (or identifier) which contains some known or unknown quantity or element of information; a value. You use the variable name to reference the current value; this separation of name and content allows the name to be used independently of the exact information it represents. The variable can be bound to a value (that is, you can set a variable to a given value) during run time, and the value of the variable may change during the course of workflow execution.

A variable identifies temporary job metadata. Variables have a name (such as *Number of Audio Channels*), a type (such as *Integer Number*) and a default value (such as *50*). Variables values can be set inside a job in a variety of ways: through analysis, through metadata population, in the Watch and Associate actions, as a property of an action, or by a service as it executes an action.

Variables are used by Vantage services and actions to control workflow execution. Many settings in actions can be bound (or attached) to variables, allowing the workflow to dynamically update values on a job-by-job basis.

For example, a variable may be assigned a value by an Analysis action to determine how many lines of black are at the top of a video frame; a crop filter later in the

workflow can bind to that variable, ensuring that every crop in every job is appropriate to the workflow requirements.

Variables in services may be also be used for job routing. For example, an action with a boolean variable named *hostnameRequired* set to TRUE must pass this condition to a service which evaluates the condition to determine if it can successfully perform the action.

Variables can be created in Vantage Management Console (Workflow Design Items > Variables) or in Vantage Workflow Designer, and assigned for use in workflows and services.

VidChecker action

A *VidChecker action* is an optional, licensed feature in Vantage. It uses the VidChecker Service to enable Vantage workflows to utilize and interact with various QC tests provided by the VidChecker software.

VidChecker Service

The *VidChecker Service* implements the VidChecker QC software for Vantage, and provides two-way communication between workflows (and the VidChecker action) utilizing the VidChecker software to perform media quality tests.

Watch action

A *Watch action* is an origin action; it uses the Vantage Monitor Service to regularly poll a target location (a directory, for example) on a device or file system (FTP, Windows network folder, etc.) to discover new files. This action is Open Workflow capable.

When a new file is discovered, the Watch action submits a job for the workflow which it is part of, for processing the file—typically, a media file.

Web Dashboard

The *Web Dashboard* is an optional, licensed web app which displays important domain information from anywhere on your network in a web browser. The Web Dashboard is installed on the IIS server on your Vantage domain database server.

workflow

A *workflow* in Vantage is a set of actions designed to perform an automated process. Vantage workflows are created using the Vantage Workflow Designer by adding and configuring actions and connecting them together. Workflows are stored in the Vantage domain database, and executed by Vantage services.

Workflow Designer

Vantage Workflow Designer is a client program that enables you to create and edit workflows, activate and deactivate workflows, monitor job status, and review and delete jobs that have completed.

Workflow Portal

Workflow Portal is a client program that features a customizable set of functionality to support various operator-related tasks: selecting media and submitting jobs, updating variables and metadata, forwarding jobs, creating EDL-based jobs, etc.

Customization is implemented in the Vantage Management Console, when Vantage administrators construct the user interface and functionality they want for a given task, then save it. When operators launch Workflow Portal, they select the configuration appropriate to the task at hand, and Workflow Portal dynamically display the user interface components specified in the configuration file.

Workflow Portal Web Application

The *Workflow Portal web app* is a limited implementation of Workflow Portal, for use in a web browser over a network or Internet connection.

Workorder action

A *Workorder action* is an origin action; it uses the Vantage Monitor Service to regularly poll a target Windows directory for new workorder files to process. The Workorder action provides a simple and highly effective method of submitting multiple similar jobs without using the SDK.

When a new file is discovered, the Workorder action submits one job for each row in the file.

workorder file

A *workorder file* is a comma-separated value (CSV) text file containing one or more work orders, or job descriptions. Each row in the CSV file specifies a job, and each column specifies either an input file for the job, or value for run-time use; typically assigned to a variable in the workflow. Workorder file configurations are specified in the Domain Management Console. At least one workorder scheme must be created in order to use a Workorder action.