Integrating Vantage into your environment

From simple to sophisticated – Vantage has a control interface to suit your needs.

Vantage can extend its reach to integrate 3rd party systems directly into its workflows, managing these external systems as part of the workflow, and providing both a method of control and status reporting as part of its integrated workflow management capabilities. As requirements continue to grow, Vantage can be brought under the control of external Asset Management and Business Automation systems, providing all of the media services that the end-to-end content delivery system requires.

Vantage has a well-deserved reputation as the leading media processing platform, able to centralize non-creative tasks and thereby offer increased creativity and more efficient storage and data network traffic. For some media companies, Vantage's capabilities are all that are required to fulfill their process automation and storage management needs. But for many customers, Vantage needs to be integrated into their environment – either to maintain consistency of operator interface or to allow Vantage to function within a larger workflow.

This integration can vary in sophistication, but fortunately, Vantage has a number of interfaces that allow it to interact with other systems in the supply chain with whatever level of integration is required. In some cases, this integration is merely enabling a simple way to submit jobs to Vantage with additional information on exactly how this job is to be processed. In others, some form of asset management system functions as the master application, with Vantage acting as the media processing platform, handling all of the media-centric activities under the direction of the master application. Or perhaps it is necessary for Vantage to interact with scheduling and automation systems, ensuring that media is where it is supposed to be, in the format it is supposed to be in, in time for scheduled playout.

In yet other uses, Vantage may take in media that has already aired on a linear channel and, again under control of an external management system, turn those assets into VOD assets for further delivery and monetization. This document will highlight the key services that Vantage offers for the various integration scenarios detailed above.

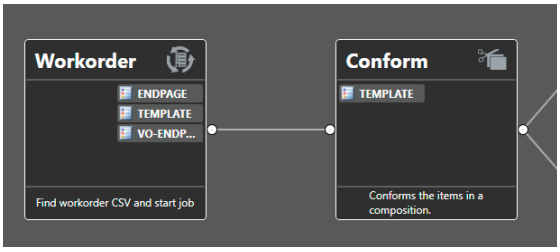
Vantage integration services

Work Orders

The simplest form of external Vantage workflow control is based upon a workorder; essentially a spreadsheet, with the columns representing “variables” and the rows representing “jobs”. Vantage executes the workflow as directed by the variables contained in the Work Order. Use of this control system requires no external programming skills - operators can be given a template which they fill out and submit to Vantage, and Vantage does the rest. This method is particularly applicable to repetitive workflow requirements with variables not found within file header or file path metadata. In this regard, Work Orders can be considered to be a “push” model, sending variable information to Vantage at the initiation of the job. Possible use cases include:

- Adding descriptive metadata that is to be published to an XML file, pushed to a 3rd party application, or published on a social media site.
- Entering descriptive metadata for Workflow decision making
- Extracting text or CSV metadata from a 3rd party application, thus bypassing the API
- Entering readable text for use in slates and visible watermark.

If a “pull” model is required, or if the variables to be submitted are in XML or JSON form, then the next level up in control sophistication is the use of the Vantage Extract Action as part of the workflow.



Execute Vantage workflow based on a workorder

Extract Action

The Extract Action is similar to a Work Order in that it supplies variable parameter values to the workflow for use in later processing stages. In this model, on initiation of a job, the workflow will extract parameters from an external XML or JSON document to supply to the job as variables (as opposed to the CSV document used in the Work Order case). The XML or JSON document may be supplied at the initiation of the job, or the workflow can be instructed to go obtain the document via a web service call detailed within the workflow itself. In both cases, Vantage will extract the information needed to run the job from the structured metadata contained in the XML or JSON file and adjust its processing accordingly. Of particular value in this action is the fact that the XML or JSON metadata, can be unstructured. The Extract Action is used to define a set of variables which are parsed from these unstructured XML or JSON files.

Possible use cases include:

- Parsing Variables from JSON or XML files that could be then published in a 3rd party application, such as an asset management application, or published to a destination site such as a social media platform

```
<primary type="guid" value="3D08C39F-7035-48EE-8D98-A90FEA42DAE9"/>
<looklist>
    <look id="3D08C39F-7035-48EE-8D98-A90FEA42DAE9" name="">
        <lookmodules>
            <module name="R3DIPS" order="0">
                <iso type="int" value="800"/>
                <colorspace type="string" value="9A"/>
                <gammaspace type="string" value="11A"/>
                <sharpness type="int" value="0"/>
                <denoise type="int" value="0"/>
                <detail type="int" value="2"/>
                <deb type="bool" value="false"/>
                <blacklevel type="int" value="95"/>
                <whitelevel type="int" value="685"/>
                <drx type="float" value="0.00000"/>
                <flut type="float" value="0.00000"/>
                <shadow type="float" value="0.00000"/>
                <kelvin type="float" value="5000.00000"/>
                <tint type="float" value="-16.00000"/>
                <saturation type="float" value="1.00000"/>
                <brightness type="float" value="0.00000"/>
                <contrast type="float" value="0.00000"/>
                <tonegamma type="float" value="0.60000"/>
                <exposurecompensation type="float" value="0.00000"/>
                <liftgammagain>
                    <lift>
                        <red type="float" value="0.00000"/>
                        <green type="float" value="0.00000"/>
                        <blue type="float" value="0.00000"/>
                    </lift>
```

Vantage can extract information from an XML file

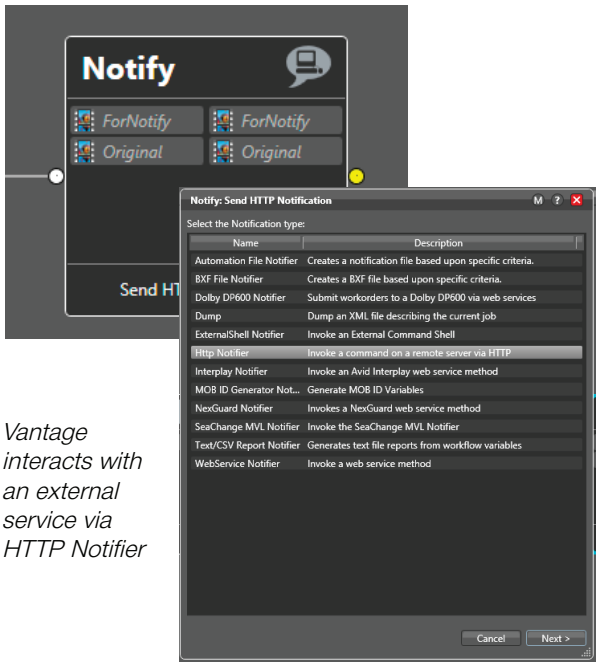
The above 2 methods offer a simple way to introduce variables (control parameters) into a workflow in order to influence certain aspects of the processing. It is just as valuable to be able to extract information from a job in order to influence processes occurring after Vantage has completed its own work. This can be achieved through the use of Vantage’s various “Notifier” actions. Of specific interest are the HTTP Notifier and the Webservices Notifier.

HTTP Notifier

The HTTP Notifier is used to invoke a POST, GET, PUT or DELETE command on a remote HTTP or HTTPS server.

The HTTP Notifier enables Vantage jobs to interact with an external service using the HTTP or HTTPS protocols (via the application/xml, text/xml or application/json standard encoded types). The HTTP Notifier provides the ability to POST information to the service or to GET information from the service. The intent of this component is to enable quasi-native Vantage integration with an external service via HTTP/HTTPS.

As an example, the HTTP Notifier can be used to push job-based information to another system (such as media file processing status, updated file name, file paths, json structured metadata) or to pull information from another system for use in the job (for example, metadata about the file being processed).

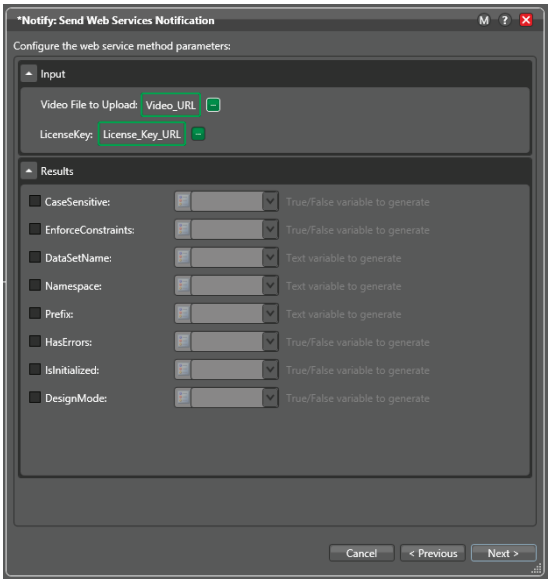


Vantage interacts with an external service via HTTP Notifier

Webservices Notifier

The Web Service Notify Action offers a SOAP-based Interface for communication with external services. It enables the user to select a remote service and related method(s) and supply to the remote service using SOAP.

The Vantage Web Service Notifier can also make SOAP based web services calls to remote web-based services (methods) that return data back to the Vantage workflow.



Web Notify Action

The Vantage REST API

The 4 methodologies detailed above cover ingesting and extracting metadata from a workflow. For many use cases, this is sufficient information to allow Vantage to be integrated into the end to end supply chain. But there are scenarios – such as those involving Asset Management systems – where far more sophisticated control and status interchange are required.

For those configurations, Vantage offers a sophisticated REST API which allows external control systems to initiate, manage and report on detailed facets of an individual job or workflow using industry standard HTTP GET, PUT, POST and DELETE methods. The API is comprehensively and fully documented.

For all of the above data transfer protocols, Telestream provides dedicated support resources to developers who wish to implement these protocols as their control and status method of choice. Full documentation of the API is available on request.

Integrating 3rd Party Systems into a Vantage Workflow Using Vantage Connectors

So far, this paper has presented Vantage data exchange Actions in which the user defines metadata fields (e.g. “Variables”) based upon various communication protocols and formats. Vantage Connectors offer API level integration with specific applications and include a GUI for Variable selection. Connectors can be used to push and pull metadata between Vantage and a 3rd party application. As Connectors are based upon API-level integration, processing status, pass/fail results, file path and other job-specific variables and information are supported. Available Connectors are:

NexGuard Connector

NexGuard is used in post-production facilities to provide audio and video watermarking that makes content copies traceable and secure throughout the dubbing, review, preview, and distribution processes. The optional Vantage NexGuard connector allows you to embed a NexGuard watermark during transcoding in Vantage.

Teletrax Connector

The Teletrax system uses an imperceptible watermark in a piece of video content to monitor when and where that content is broadcast. Teletrax monitors over 1900 terrestrial, satellite and cable channels worldwide and records and logs any Teletrax watermarks detected on those channels. The optional Vantage Teletrax connector allows the Teletrax watermarking capability to be used from within Vantage.

Aspera faspex Connector

Aspera faspex™ transport technology is a transfer protocol that leverages existing WAN infrastructure and commodity hardware to achieve speeds many times faster than standard FTP and HTTP, while delivering end-to-end security, 100% reliability and bandwidth control. The optional Vantage Aspera service enables the automated delivery of media and associated files directly to Aspera faspex Servers.

Interra Baton Connector

Interra Systems Baton is a file-based QC tool that includes comprehensive quality checks to verify a wide variety of content transformations. The optional Vantage Baton connector enables the Baton QC process to be utilized as an action within a Vantage workflow.

Cerify Connector

Cerify® automated file-based QC software which offers extensive analysis of the video quality of large volumes of content. The optional Vantage Cerify connector enables the Cerify QC process to be utilized as an action within a Vantage workflow. As Cerifyis now part of the Telestream product portfolio, this connector is offered as a no-cost option.

Aurora Connector

Aurora is automated, no-reference, file-based quality control software for digital media. The optional Vantage Aurora connector enables the Aurora QC process to be utilized as an action within a Vantage workflow. As Aurora is now part of the Telestream product portfolio, this connector is offered as a no-cost option.

FileCatalyst Connector

FileCatalyst is a software-only file transfer solution that provides secure and reliable delivery of files much faster than FTP. The FileCatalyst protocol creates a connection that operates even in poor network conditions. Users may send and receive files across the globe at full line speed, up to 10 Gbps and 1000 times faster than FTP. The optional Vantage FileCatalyst connector and action enable the automated delivery of media and associated files directly to any external FileCatalyst servers you specify.

Minnetonka Connector

The Minnetonka AudioTools Server (ATS) is a highly configurable and modular audio processing system. The Vantage AudioTools Connector uses the AudioTools Server to support fundamental loudness control workflows and custom, predefined workflows for broadcasters.

Nexidia Connector

Nexidia’s Illuminate QC provides automated closed caption and video description verification, closed caption alignment, and language verification for broadcast and IP infrastructures. The optional Vantage Nexidia QC connector provides access to Nexidia’s Illuminate QC functionality from within Vantage workflows.

Screen MediaMate Connector

MediaMate is a flexible software system to encode, repurpose and/or decode subtitles and captions. The optional Vantage MediaMate connector offers a direct I/O connection from Vantage workflows to MediaMate. Through this connector, you can use Screen’s MediaMate software to perform tasks under control of a Vantage workflow.

VidChecker Connector

Vidchecker removes the labor intensive tasks of manually checking conformance by eye and hand, the need to check video/audio compliance with waveform monitors and audio loudness meters and other tools. The optional Vantage VidChecker connector provides access to VidChecker QC functionality from within Vantage workflows. As Vidchecker is now part of the Telestream product portfolio, this connector is offered as a no-cost option.

Signiant Connector

Signiant's intelligent file movement software ensure fast, secure delivery of large files over public and private networks. The optional Vantage Signiant connector integrates the Signiant file transfer technology directly into a Vantage service and workflow action, enabling automated high-speed transfer of files, including media and metadata files, to or from any Vantage workflow.

Venera Pulsar Connector

Pulsar software provides file-based content verification, including automated quality checking and control. Pulsar can be used to perform quick scanning, QC, auto sorting, and in-depth verification. The optional Vantage Pulsar action allows you to automate access to the Pulsar server from within a Vantage workflow. The workflow can route media files through Pulsar, performing any necessary QC checks, and returning test results to the Vantage workflow for appropriate decision-making and branching.

Nielsen Connector

Nielsen's TV measurement captures and delivers unparalleled insights into what audiences are watching across all measured designated market areas (DMAs). The optional Nielsen Watermarking Filter is available within the audio configuration when using the Flip (General Purpose) encoder, IPTV VOD encoder, and the Multiscreen encoder.

Emotion Connector

The Emotion Systems' eNGINE is a flexible and scalable audio server, either used for achieving medium to high levels of processing in an automated environment, or for providing flexibility in broadcast and playout environments. The optional Vantage Emotion Connector allows users to integrate Emotion's eNGINE service into Vantage, so that Emotion audio processes can be automated by adding Emotion connector actions directly into your workflows.

Dolby DP600 Connector

The Dolby DP600 hardware and Dolby VM600 software are audio platforms that provide a file based workflow solution for loudness correction, audio conversion, and up-mixing. The Vantage Dolby DP600 Notify is used in workflows to pass a file to the DP600/VM600 for processing and then wait for its return to be used elsewhere in the Vantage workflow.

It should be noted that the Connectors listed above are completely independent of each other and of the Vantage API. It is certainly possible – and very common - to include some of the Connectors listed above in a Vantage system which is itself being controlled by (and reporting status back to) an overarching control system, offering the customer the maximum benefit from a Vantage-driven media supply chain.

Fulfilling Your Needs Now And In The Future

Vantage is a very sophisticated media processing platform. For many customers, Vantage is all that they need to meet their current requirements. As those requirements grow, Vantage can extend its reach to integrate 3rd party systems directly into its workflows, managing these external systems as part of the workflow, and providing both a method of control and status reporting as part of its integrated workflow management capabilities. As a customer's requirements continue to grow, Vantage can be brought under the control of external Asset Management and Business Automation systems, providing all of the media services that the end-to-end content delivery system requires. The best news is that integrating Vantage into an externally controlled ecosystem requires no changes to the existing Vantage workflows whatsoever.

Learn More

For more information about Vantage, please visit: https://www.telestream.net/vantage/overview.htm.

And for more information about partner integrations with Vantage, please visit: https://www.telestream.net/vantage/resources.htm#literature.

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