IBM Aspera Orchestrator

File-based workflow automation and orchestration

Key benefits & capabilities

- Automates existing file-based workflows to provide accurate file processing and to improve productivity
- Highly scalable for high-volume workflows, processing hundreds of media files and thousands of metadata files per hour
- Robust orchestration includes complex logical branching, automatic recovery for interrupted steps and configurable retry behavior on errors or failures
- Designed to provide 100 percent reliable, high-speed data delivery with Aspera FASP® transport technology

IBM® Aspera® Orchestrator enables precise control over the Aspera high-performance file transfer environment by allowing organizations to build efficient, predictable file processing pipelines that interconnect business units and external partners. With Aspera Orchestrator, files can be directed, processed and redirected with easy-to-define rules based on an organization's workflows and using existing IT infrastructure. Aspera automation streamlines complex workflows and makes sure that each processing step is accurately performed.

Visually define and automate executions of your existing workflows

Aspera Orchestrator's interactive graphical designer makes it easy to compose execution streams based on your organization's existing workflows. Use drag-and-drop visual elements to define logical sequences, inputs, action types, outputs and dependencies, and group them into reusable templates. The graphical interface also allows you to monitor active workflows in near real-time and to drill down into a detailed history of operations.

An intelligent decision engine with a rich library of plug-ins

To automate workflows and provide timely delivery of content under fixed schedules, Aspera Orchestrator combines a logical execution engine with third-party plug-ins for asset transformation, quality control and other functions. Its conditional rules engine binds inputs to actions on the fly, allowing results from earlier steps to decide subsequent actions in the pipeline, including prompting for human input if needed. An expanded array of plug-ins covers the leading encoding, transcoding, watermarking, and verification products, in addition to full support of verification of file format standards such as ADI, MXF, AS-11 and DPP file formats, and FIMS.

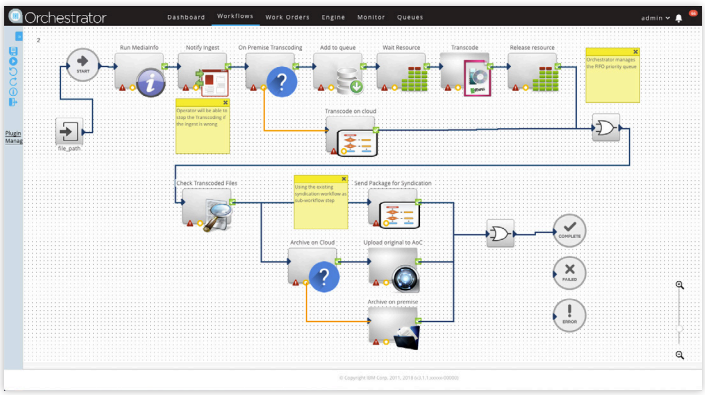

Figure 1: View of the workflow designer in Aspera Orchestrator

Support high-volume workflows

Workflow orchestration systems depend on predictable delivery of files to feed their processing pipeline. To provide uninterrupted data flow regardless of system load, Aspera Orchestrator relies on FASP, Aspera's distinct, patented, bulk data transfer technology that enables high-speed data delivery regardless of file size and format, transfer distance, or network conditions.

Key features

- Easy-to-use graphical designer allows users to create and test sophisticated file-based workflows.
- Powerful rules engine logically executes workflow steps, binding inputs to actions on the fly with support for parallel execution.
- Integrated with Aspera FASP for high-speed transfer regardless of file sizes, transfer distance or network conditions.
- Plug-ins for asset transformation, quality control, media management, ad insertion, antivirus, scheduling and billing, database/stores, encryption, email, IT management and other functions, as well as an SDK for future integrations.

Supported platforms

Operating systems

- 64-bit Linux, 64-bit Windows Server

Browsers

- Firefox, Chrome

Typical applications

High-volume processing and transformation

Scales fluidly and reliably for the extreme processing required by big data workflows.

Secure contribution and distribution

Provides built-in secure transfers between suppliers and receivers, including user and endpoint authentication and authorization, encryption and integrations with antivirus and other security technologies.

Ultra high-speed ingest and upload

ingestIntegrated with high-speed storage platforms for scalable performance across metropolitan and long haul networks, over any distance, with speeds of 10 Gbps and beyond.

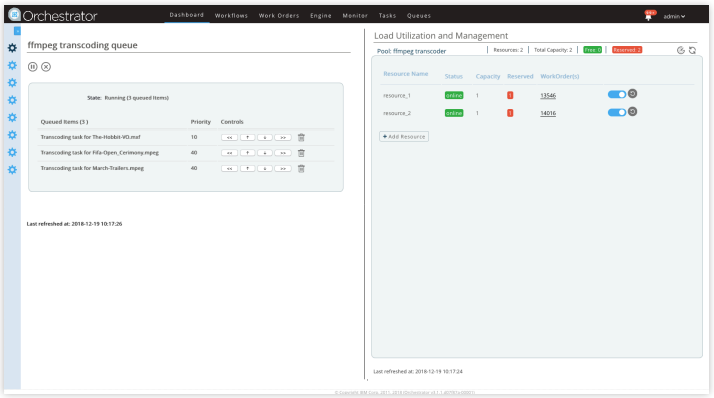

Figure 2: View of the operational dashboard with priority queue

Plug-in library highlights

File transformations

BitMovin, Ateme, Cambria FTC, Harmonic's Carbon Coder (Rhozet), Digital Rapids Stream, FFmpeg, Telestream Flip Factory, BigBand, Sorenson Media Squeeze, ThoughtEquity, Zencoder, Handbrake, Telestream Vantage, Episode, Envivio VOD, Encoding.com, AWS Elemental, Amberfin

Quality control and analysis

Venera Technologies' Quasar, Interra Systems Baton, Mediainfo, ADI 1.1/3.0, Tektronix Cerify, Pulsar, Digimetrics Aurora, XSD/XML, IRT MXF, DPP

Media management

Dalet, Videomenthe's Eolementhe, Everz's Mediator, Frame.io, Marquis' MEWS, OpenText's MediaBin, YouTube

Ad insertion
SeaChange

Antivirus
Symantec, McAfee, Sophos, ClamAV

Scheduling and billing
Xytech, SintecMedia

Database / stores
Influx DB, MongoDB, Microsoft SQL Server, MySql, iMeet Central

Encryption
PGP, Symantec

Email and messaging
Microsoft Exchange, GMail, Slack

IT management
Microsoft System Center Management (SCOM) Notification

Archiving
AWS Glacier, Diva Archives

IBM Applications
MQ, Watson Video Enrichment, Watson Speech To Text and Text To Speech

Cloud Operations
AWS S3, AWS SimpleDB, AWS SNS, AWS SQS, AWS SWF

Features and benefits

Easy-to-use interfaces for defining and monitoring complex workflows

- A drag-and-drop, browser-based interface allows you to graphically compose workflow sequences of inputs, actions and outputs quickly and efficiently.
- Templates can be exported and imported across Aspera Orchestrator instances, and workflow sub-sequences can be reused in new workflows, making it easy to create repeatable, consistent operations.
- Automation of restoration from a Snapshot and ability to schedule snapshots.
- Processes can be distributed over multiple globally dispersed instances. The master controls the end-to-end workflow, while execution of the sub-workflows is delegated to the remote nodes.
- Integrated Active Directory/LDAP eases user configuration and management.
- Execution dashboard and notifications enable near real-time workflow oversight.

Powerful engine for logical, conditional execution

- Inline validation options include ADI, DPP, and Antivirus integrated in the Aspera transfer allow for processing before, after, and while a transfer is in progress.
- Automatic restart on transmission failures and parallel execution support.
- Support for Active/Active without shared disk (for Cluster in Amazon cloud).
- Active / active support distributes and balances execution across multiple Orchestrator run-time instances in a high-availability configuration.
- A rich library of plug-ins including: Telestream Episode, XFTP, Pulsar file QC, McAfee Virus scanning, File Info, Generic REST adapter, SOAP listener trigger, Amazon SQS queue, Amazon S3 direct upload, MediaSilo, ADI Parser and Validator. XML-based API allows management, monitoring and control from 3rd party applications.
- Support for prioritized queues and support for load balancing between managed resources.
- Integrates through web services (SOAP, REST, XML-RPC), commodity wire protocols (FTP, HTTP, SMB2, NFS, SCP), SSH and open APIs.
- Engine optimization for timeout and heartbeat management.

Integrated with Aspera FASP for maximum data transfer speeds

- Scales for the most demanding file-based workflows.
- Precise bandwidth control helps ensure the entire allocated bandwidth is utilized to achieve maximum transfer speeds, while being fair to other traffic.
- Virtually fail-proof data delivery: automatically resumes partial transfers, retries failed transfers and falls back to HTTP for highly restrictive networks.

About IBM Aspera

IBM Aspera offers next-generation transport technologies that move the world's data at maximum speed regardless of file size, transfer distance and network conditions. Based on its patented, Emmy® award-winning FASP® protocol, Aspera software fully utilizes existing infrastructures to deliver the fastest, most predictable file-transfer experience. Aspera's core technology delivers unprecedented control over bandwidth, complete security and uncompromising reliability. Organizations across a variety of industries on six continents rely on Aspera software for the business-critical transport of their digital assets.

For more information

On IBM Aspera solutions, please visit us at https://www.ibm.com/cloud/high-speed-data-transfer or contact aspera-sales@ibm.com.

IBM Corporation
Route 100
Somers, NY 10589

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