IBM Aspera

Petra Novakova
Andrea Di Muzio
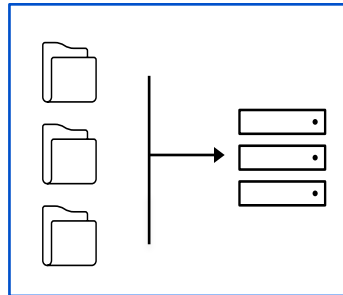
26th September 2019
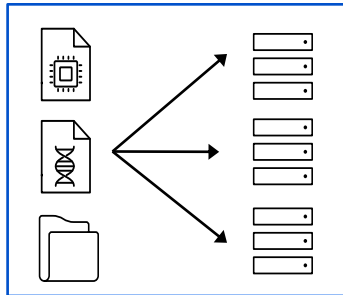
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IBM Aspera

Why **IBM Aspera**?

Securely move data at **high speed** to, from and across on-premises and hybrid cloud environments regardless of **size, distance, and network conditions**
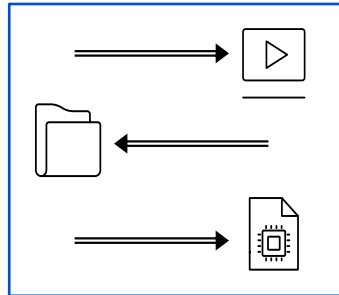
IBM Aspera use cases

Upload & Ingest hi-res content

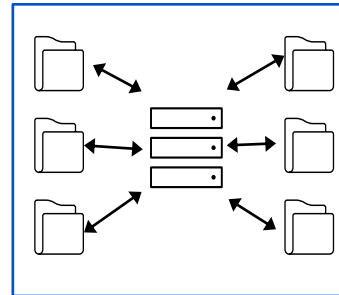**Field reporting & footage contribution**

Distribution of Video Production globally
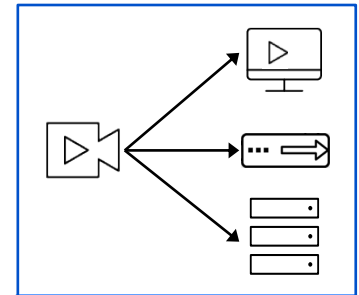
Media aggregation

Share & exchange files & folders

Remote review & Approval

**End-to-end Media file workflow automation -
ingest & distribution**

Stream high-quality video & data

Live sports events

Growing files

FASP protocol

– Performance at any distance

– Any size, any volume

– Bulletproof security

– Any environment: on premise, private & public cloud, hybrid

– Predictable and reliable

– Adaptive bandwidth control

– Integration ready

See how fast you can go:
https://asperasoft.com/performance-calculator/

High-speed data transfer across hybrid cloud infrastructures

MOVING A 10GB FILE		Across US	US - Europe	US - Asia
Legacy Transport	100 Mbps	10-20 Hours	15-20 Hours	Impractical
	1 Gbps			
	10 Gbps			
Aspera FASP®	100 Mbps	14 Min	14 Min	14 Min
	1 Gbps	1.4 Min	1.4 Min	1.4 Min
	10 Gbps	8.4 Sec	8.4 Sec	8.4 Sec

FASP® software environment

CENTRALIZED ADMINISTRATION

ASPERA CONSOLE & ASPERA ON CLOUD
network-wide transfer management

AUTOMATION

ASPERA ORCHESTRATOR
transfer workflow automation

TRANSFER & DISTRIBUTION

ASPERA TRANSFER SERVER
universal file transfer node or cluster

On-premise or Cloud

ASPERA ON CLOUD
in the cloud
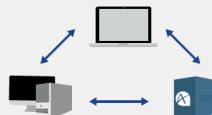
SaaS

CLIENT OPTIONS

Web

Desktop

Mobile

Embedded

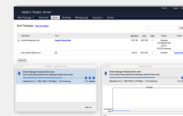**SHARING & COLLABORATION**

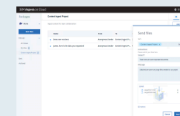**ASPERA SHARES**
multi-node file sharing

ASPERA FASPEX
collaborative file exchange

ASPERA ON CLOUD
file sharing & exchange

On-premise or Cloud

SaaS

CLIENT OPTIONS

Web

Desktop

Mobile

Embedded

SYNCHRONIZATION

ASPERA SYNC
multi-directional synchronization

What's new
IBC 2019

What's New @ IBC 2019

250 Mbps bitrate	200 plug-ins	110+ petabytes
Live edit feeds streamed concurrently from Paris to LA for the 2019 World Cup	Available for workflow design in Aspera Orchestrator	Of data shared & exchanged using Aspera on Cloud since its 2018 launch

Hybrid multicloud workflow automation
- New Automation app in Aspera on Cloud
- New Orchestrator plug-in for IBM Watson Language Translator that works with other available Watson plug-ins (captioning and video enrichment services)

Secure exchange of media assets
- Release of the Blockchain open source reference implementation
- Integration with Irdeto digital watermarking

Private Cloud native architecture
- Aspera's containerized software certified to run on Red Hat OpenShift
- Inclusion in the IBM Cloud Pak for Integration

ONLINE UPDATE AVAILABLE AT IBM.COM/ASPERA/NEW-AT-IBC

Summary of New Available Product Features

The following features labeled early access and intended enhancements are not yet generally available, but are intended to be made generally available in a future release

Aspera on Cloud

- New Automation app to build robust, scalable event-driven workflows in the cloud
- Extended monitoring capabilities that includes multi-session transfers initiated with Connect and Drive
- <u>Early access</u>: Irdeto watermarking capabilities
- <u>Intended enhancements</u>: Monitor on-premises "tethered" nodes with the Aspera on Cloud Activity app

Digital Asset Trust Framework

- New open source project to establish a digital asset trust network (DATN) built on blockchain technology

Cloud-native Aspera High-Speed Transfer Server

- New cloud-native server software running in OpenShift environment to provide simple provisioning of advanced load-balanced, highly-available Aspera transfer clusters

Aspera Orchestrator

- Enhanced performance for high-load HA systems
- Integrate Orchestrator and Aspera on Cloud workflows
- <u>Early access</u>: New plug-ins for media and general IT automation use
- <u>Intended enhancements</u>: Workflow validation tool that uses AI to assess workflow design and areas for improvement; New API to import complex workflows, enhanced user interface with new design

Aspera Faspex

- Support of "out of transfer file validation" (OTFV)
- Enable sender quotas to limit data leaks with support for byte transfer limits per sender in a given period
- Cloud Referencing in AWS/S3
- <u>Intended enhancements</u>: New clientless download/upload with HTTP Gateway 2.0; Multi-language support for each user's interface; Enhanced UI & API performance with faster load times; Ability to obfuscate file names

Summary of New Available Product Features

The following features labeled early access and intended enhancements are not yet generally available, but are intended to be made generally available in a future release

Aspera Console
o <u>Intended enhancements</u>: Added watch folder capabilities and proxy communication; Show metadata in Console dashboard for Aspera on Cloud transfers

Aspera Drive and Add-in for MSFT Outlook
o <u>Intended Enhancements</u>: Drive support for multi-session transfers and package downloads for Aspera on Cloud workspaces; enhanced set up process; Outlook add-in to provide functionality support for Aspera on Cloud similar to Faspex

Aspera Connect
o Enables better detection and launching in browser with easier installation and upgrade with guided assistance
o New security updates

Aspera CLI
o Enhanced security & support for decryption & customer tags

Aspera Streaming for Video
o Enhanced web app for auto-discovery and monitoring of streams and devices
o <u>Early access</u>: New streaming gateway/agent with full bi-directional communication & socket-based protocol

What's New in Aspera on Cloud

IBM Aspera on Cloud

A hosted service that enables organizations to securely and reliably move large files and data sets across on-premises and hybrid cloud environments at unrivaled speed
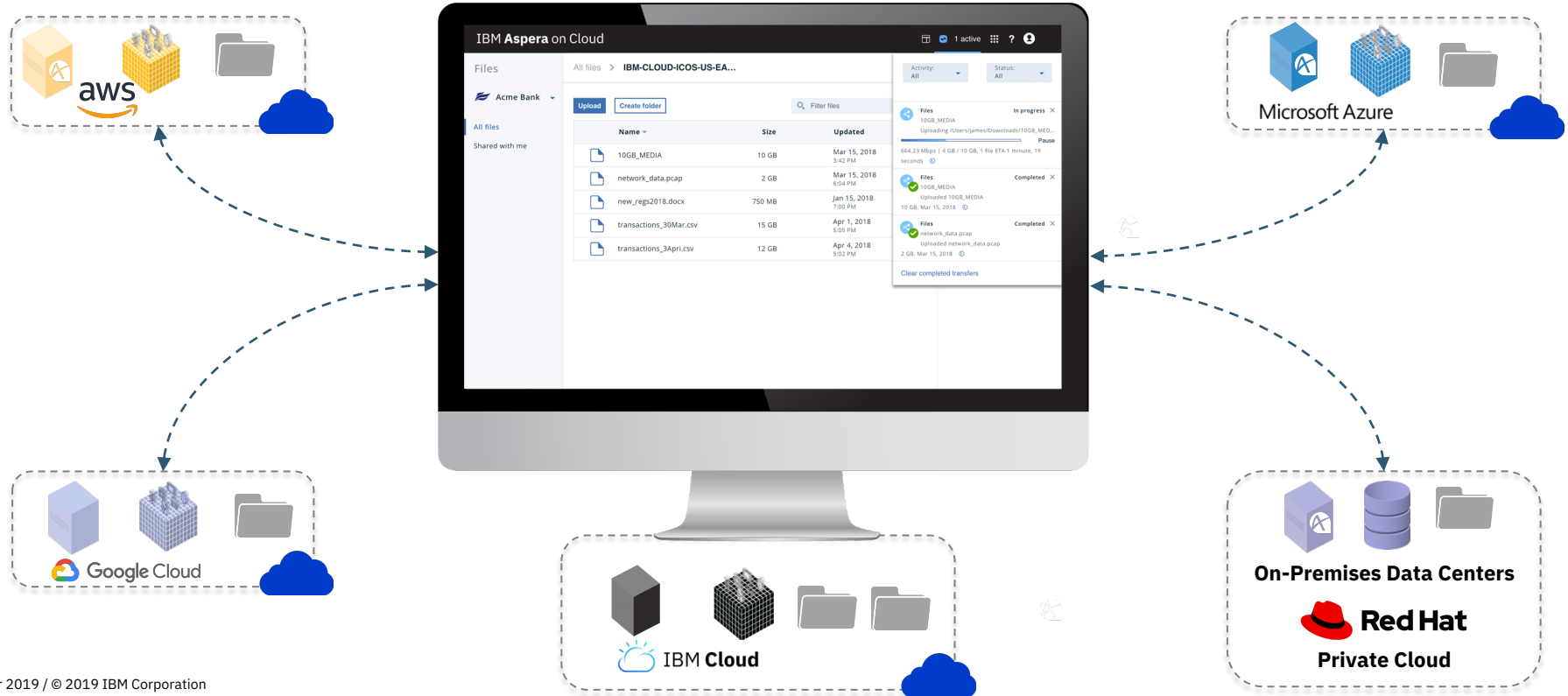
New Automation app

New Aspera on Cloud app to automate workflows and file movement between transfer endpoints: Nodes, Shared Folders, Shared Inboxes

- Initiate transfers via triggers
  - API
  - File arrival
  - Package arrival
  - Per a schedule
  - Manually

- Integrate via API calls

- Integration with Aspera Orchestrator

- Email notifications

- Dashboard visibility of live workflows

Workflow designer

Actions

Triggers

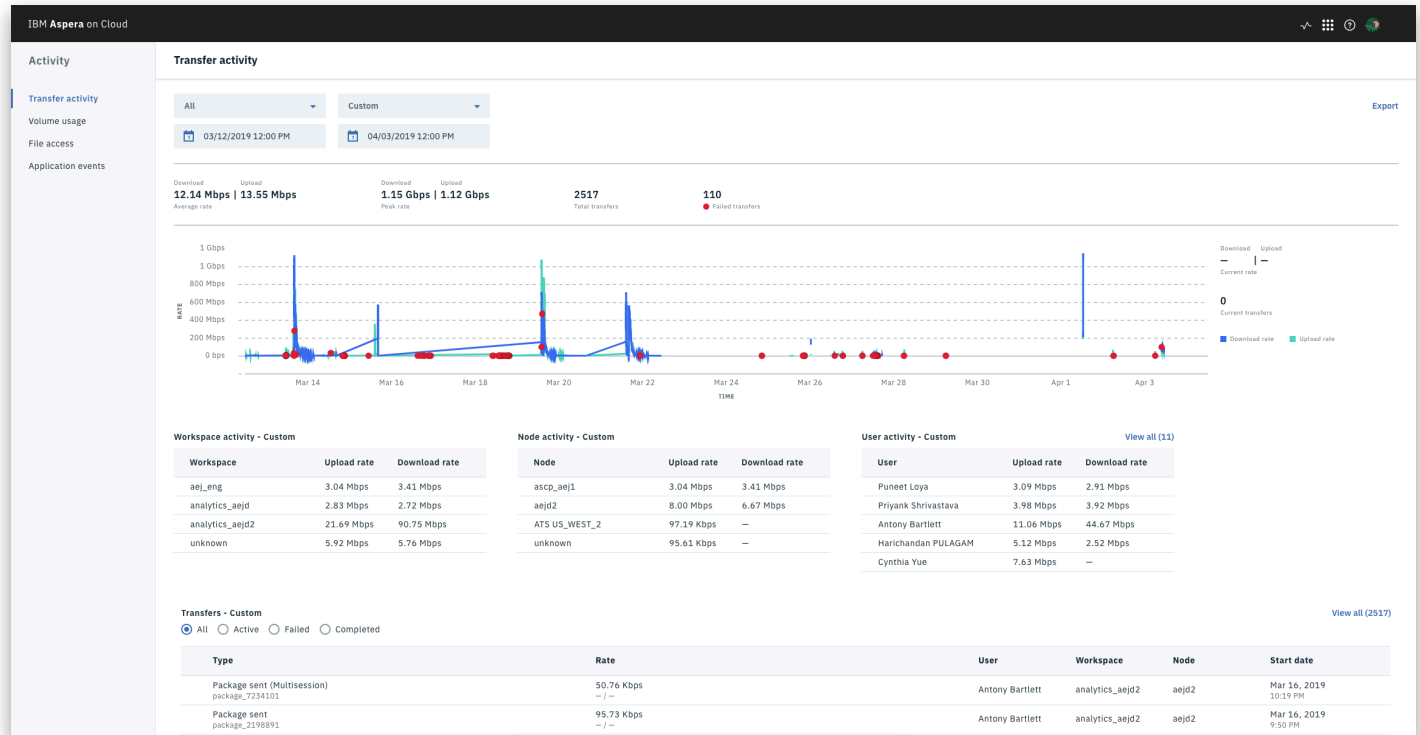# Automation app: Workflow Designer

Example
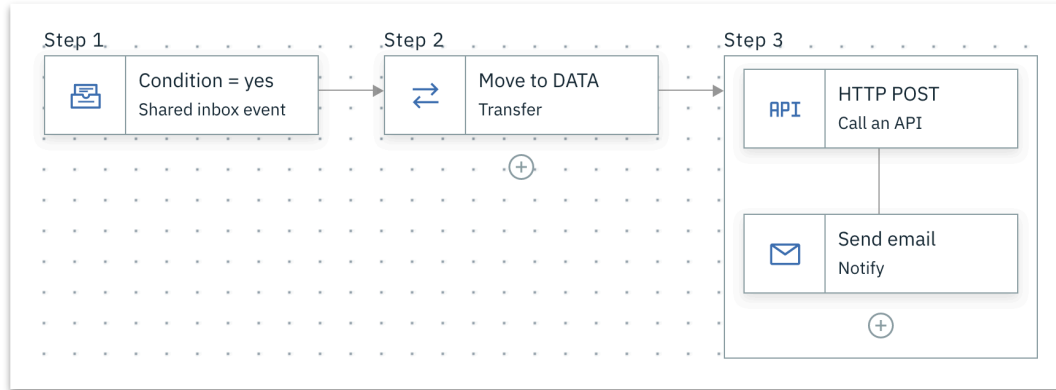
Shared inbox delivery -> Move data ->
API call & email notification
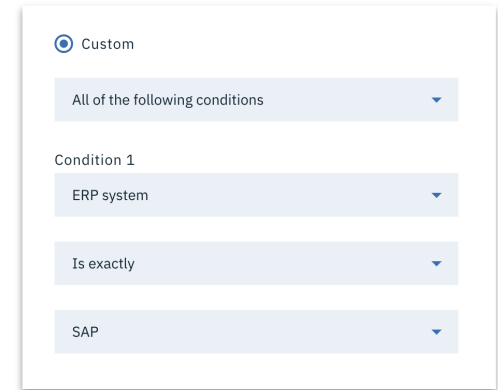
Customized triggers based on
metadata selection

New multi-session monitoring

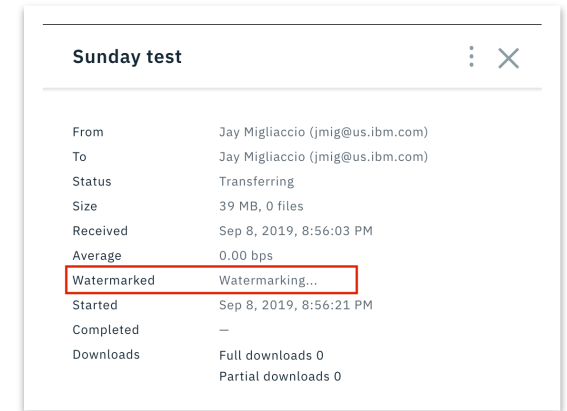Activity app can now monitor multi-session transfers
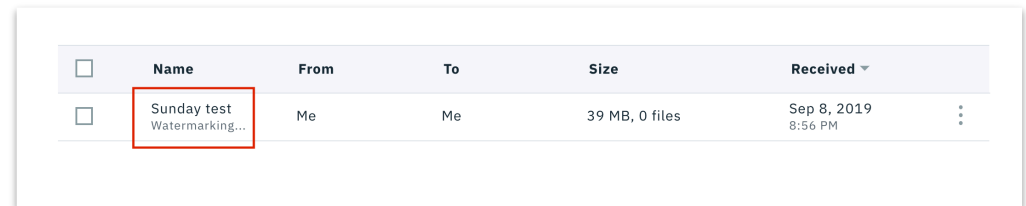
Early Access: Watermarking

- Aspera on Cloud integration with Irdeto watermarking service

- Aspera on Cloud package delivery has a new option to watermark files

- Package sender has an option to select watermarking
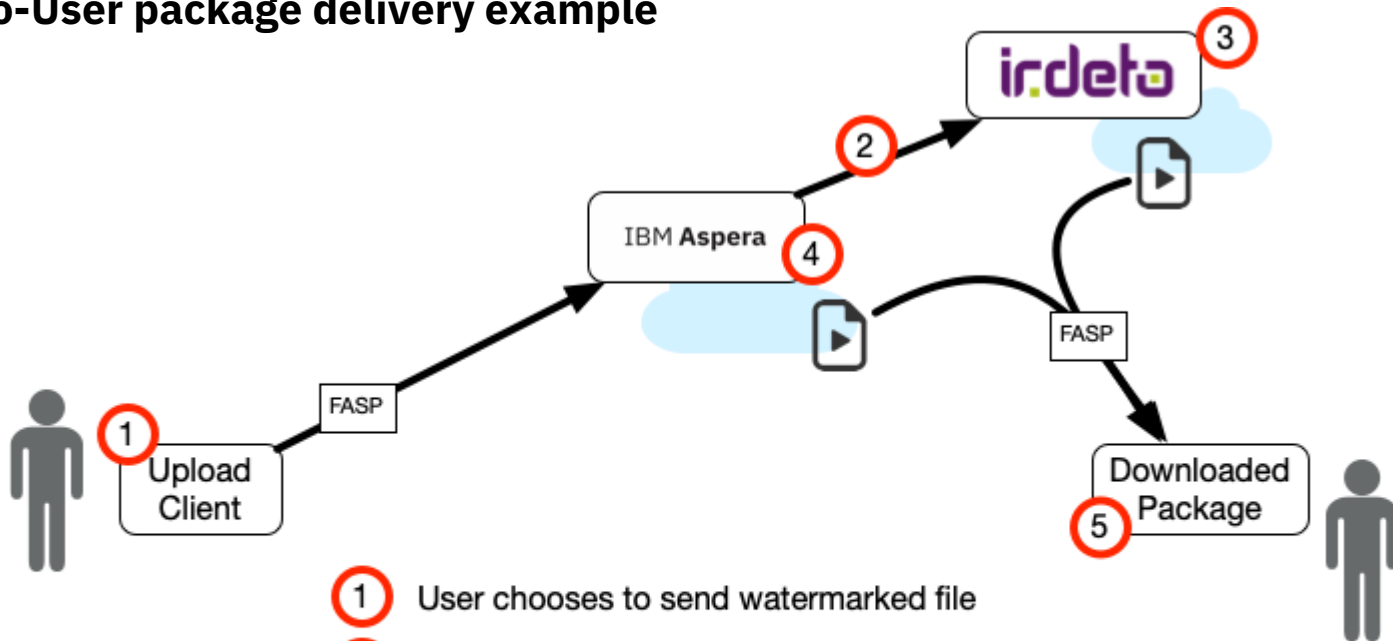
- Package delivery shows status
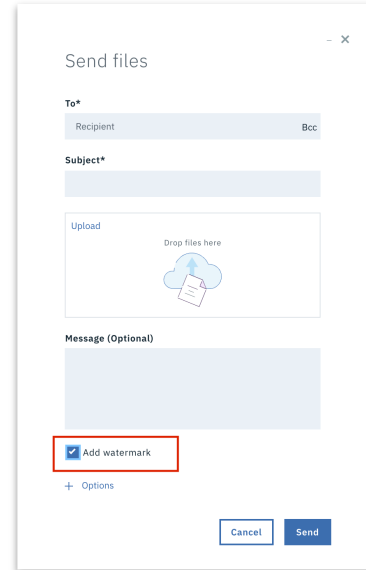
"Add watermark"

Package watermark details

Watermark status included in Inbox view

15

Watermarking: How it Works

User-to-User package delivery example

1. User chooses to send watermarked file
2. Aspera notifies Irdeto of new file
3. Irdeto creates a variant file in cloud storage
4. Aspera uses Irdeto to create watermarked file
5. User downloads a uniquely watermarked package

Intended Enhancement: Hybrid Cloud Activity Monitoring

Activity in on-premises nodes can be monitored by the Aspera on Cloud Activity app
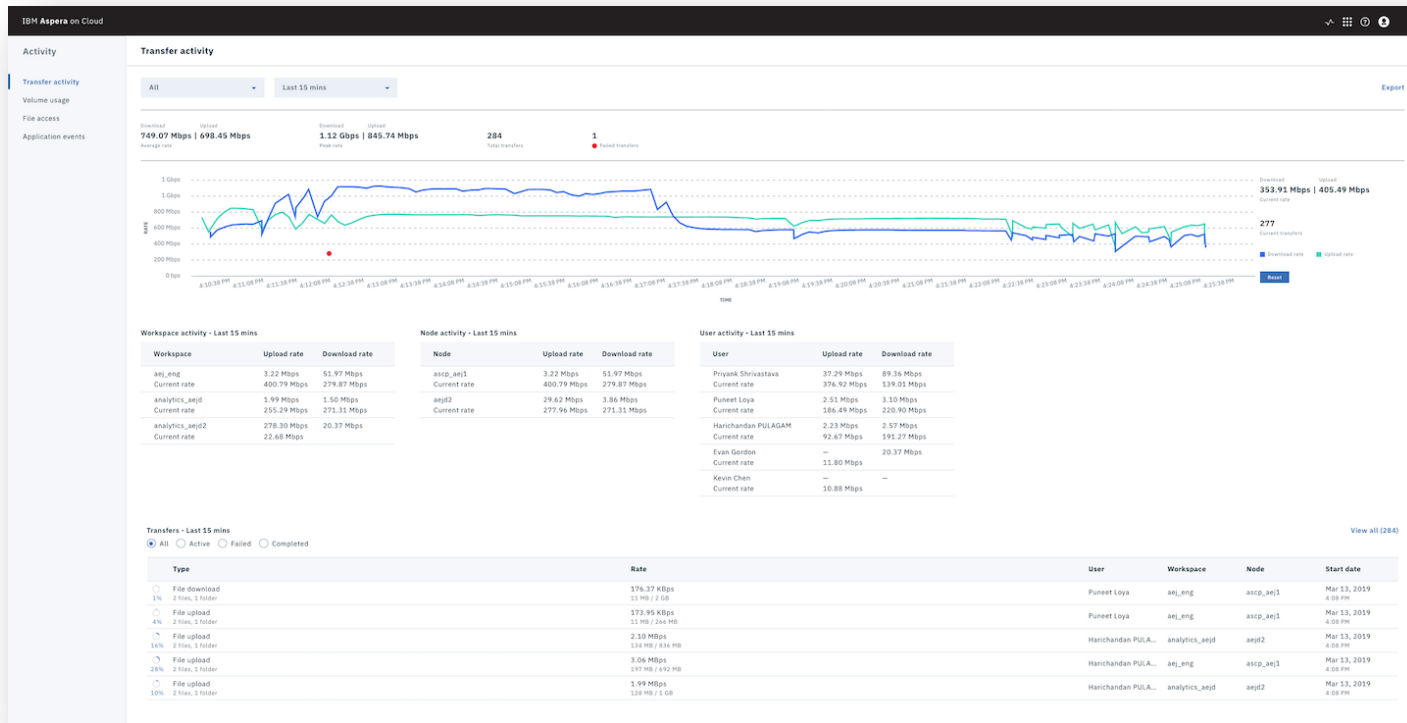
What's New in Aspera
High-Speed Transfer Server

FASP 3.9

AES-GCM FASP Encryption

- Built-in data authentication (including AAD routines)
- FIPS 140-2 compliance (including the built-in authentication/MAC routines)
- Substantially improved performance with 75% reduction in CPU use

AES-CFBC vs AES-GCM
'ascp' Transfer Performance Comparison
1500-byte frames

AES-CFBC fasp encryption (legacy):
10gfile 100%   10GB 2.2Gb/s 00:36
Completed: 10485760K bytes transferred in 37 seconds
  (2294838K bits/sec), in 1 file.

AES-GCM fasp encryption (ES v3.8):
10gfile 100%   10GB 5.0Gb/s 00:17
Completed: 10485760K bytes transferred in 18 seconds
  (4746259K bits/sec), in 1 file.

Robust loss-adjusted-queue rate controller

Rapidly corrects for overdrive conditions when the target rate exceeds available network bandwidth, reducing packet loss and increasing transfer performance. Available via configuration settings.

New support for Red Hat OpenShift

Aspera High-Speed Transfer Server software has been optimized to run in a containerized environment

- Easy Helm/Operators-based deployment

- Advanced load balancing capabilities

- Self-healing transfer nodes

- High-availability out of the box
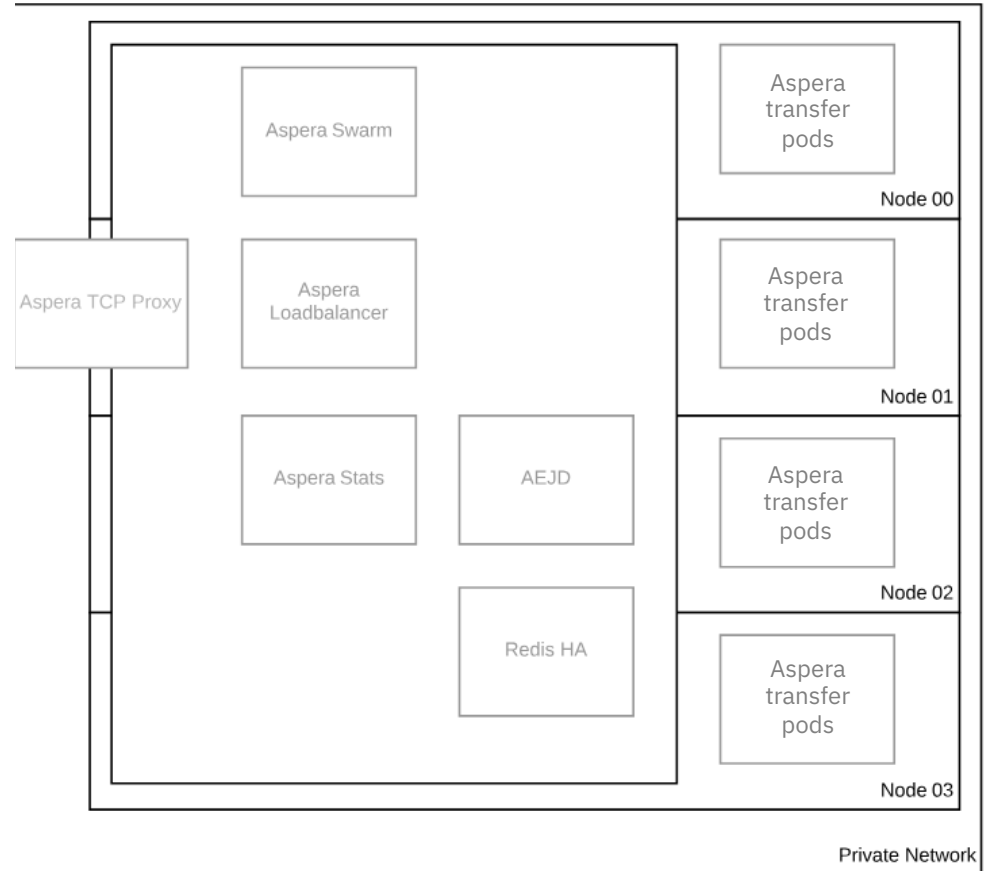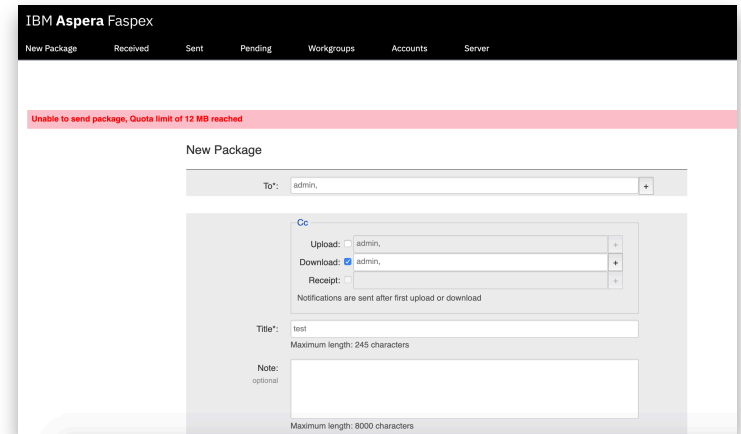
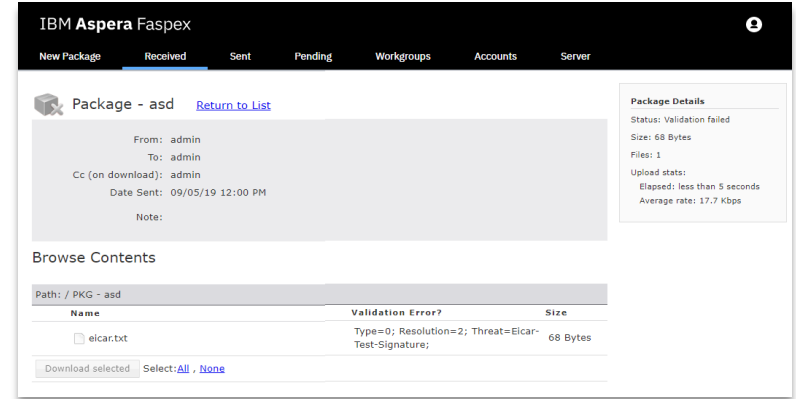# What's New in
Aspera Faspex &
Console

What's New in Aspera Faspex 4.3.0

Improved OTFV Validator

- A new standalone package that can be deployed anywhere
- Load-Balancing
  - Each Validator node can handle multiple HSTS nodes
  - Multiple Validator nodes can be deployed
- New LUA scripts examples (including ICAP)
- New feature to support shared storages (FileWait)
- More robust in failure cases
- Improved web application integration (Faspex, Console)
  - Show validation progress
  - Improve validation status
 - Add email notifications

Sender Quotas

- Control data leaks by setting up quotas for untrusted senders
- Configure byte transfer limits per sender in a given rolling hour cycle
- Ability to exempt quota limits if sending to specific trusted recipients
- Recipient domain white list
- Enhanced user experience

IBM **Aspera** Faspex

New Package | Received | Sent | Pending | Workgroups | Accounts | Server

Package - asd   Return to List

From: admin
To: admin
Cc (on download): admin
Date Sent: 09/05/19 12:00 PM
Note:

Package Details
Status: Validation failed
Size: 68 Bytes
Files: 1
Upload stats:
Elapsed: less than 5 seconds
Average rate: 17.7 Kbps

Browse Contents

Path: / PKG - asd

Name	Validation Error?	Size
eicar.txt	Type=0; Resolution=2; Threat=Eicar-Test-Signature;	68 Bytes

Download selected   Select: All , None

IBM **Aspera** Faspex

New Package | Received | Sent | Pending | Workgroups | Accounts | Server

Unable to send package, Quota limit of 12 MB reached

New Package

To*: admin,

Cc

Upload: admin,
Download: admin,
Receipt:
Notifications are sent after first upload or download

Title*: test
Maximum length: 245 characters

Note:
optional

Maximum length: 8000 characters

Aspera Faspex Sender Quotas

- Additional level of control to prevent data leaks by setting up quotas for untrusted senders

- One sender cannot send more than a configured byte size per rolling hour cycle. For example, an administrator could set sender quotas to 2GB per rolling 24 hours cycle.

- Ability to avoid quota limitation if sending to specific trusted recipients
  - Recipient domain white list
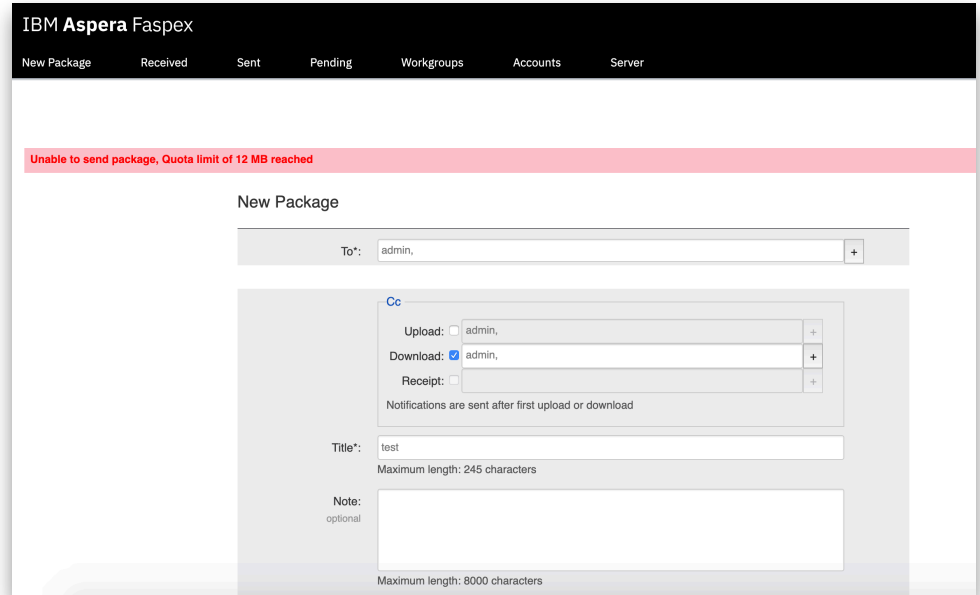
Intended Enhancements in Aspera Faspex

New clientless download/upload with HTTP Gateway 2.0

- Enables an alternative download/upload option if using Aspera Connect is not possible (e.g., highly secure or locked down environments)
- Utilizes the browsers native download manager
- Downloads collection of files as a zip preserving their directory structure
- Supports increased file sizes & quantities transferred

Multi-language support

- Ability to change the user interface language at a user level

Enhanced performance

- UI & API performance enhancements with faster loading times

Ability to obfuscate file names

- Secure sensitive information stored in a file name by obfuscating the file names at the time of upload

Intended Enhancements in Aspera Console

Enhanced Watch Folder Capabilities

- Ability to stop, start, pause, and resume a watch folder

- Support both PUSH and PULL modes

Console communication to Host via Proxy
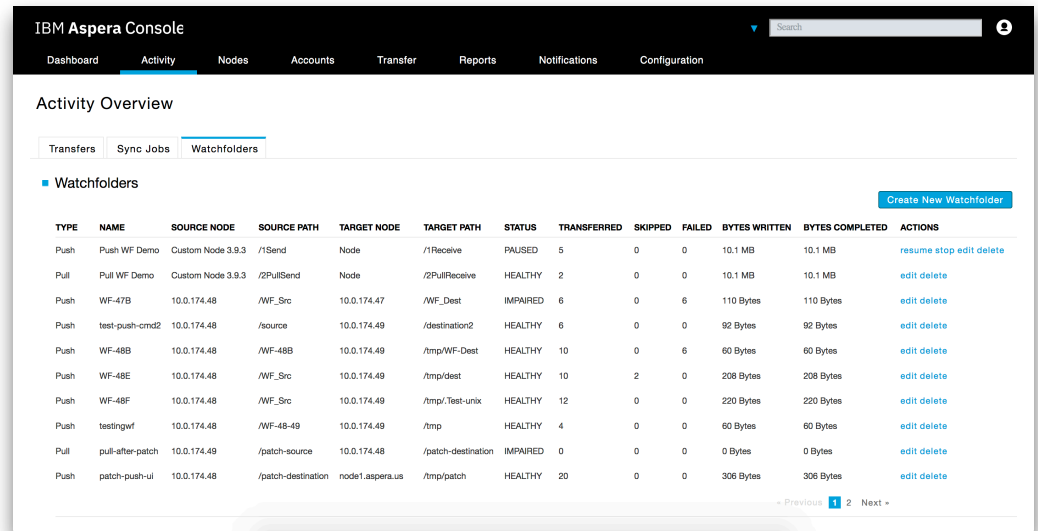
- Proxy communication for endpoint configuration

Console dependency on Adobe Flash

- Remove Flash dependency in Console

Tighter integration with Aspera on Cloud

- Show detailed metadata in Console dashboard for Aspera on Cloud transfers

What's New in Aspera Orchestrator

What's New in Orchestrator

Automation of hybrid cloud workflows

- New ability to integrate Aspera Orchestrator and Aspera on Cloud workflows

- Allows for separation of processing between the cloud and on-premises
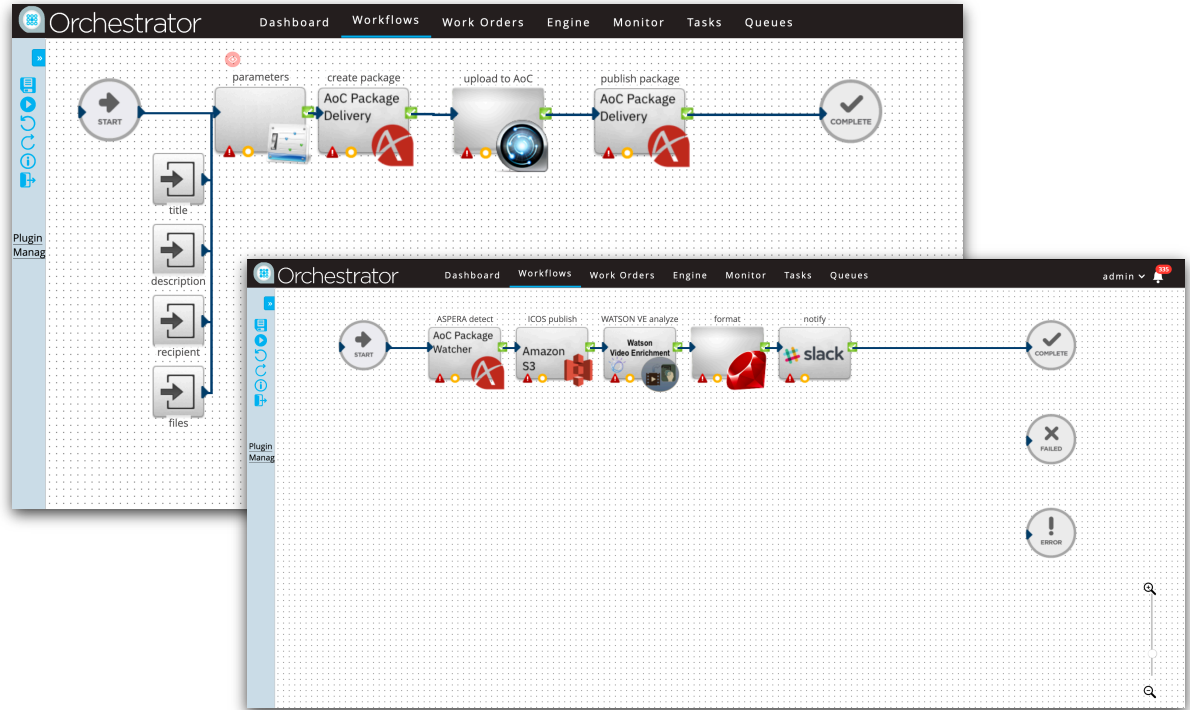
What's New in Orchestrator

New plug-ins

- EditShare Qscan
- Dolby VM 600 Audio Analysis
- Amazon SimpleDB
- Amazon SQS Trigger mode
- Amazon Dynamo DB
- Amazon SNS
- Screen Systems MediaMate
- Frame.io
- File Archiving Operation on Remote Nodes

Updated plug-ins

- VantageTranscoding to correctly report progress
- FaspTransfer enhancements (Aspera on Cloud, tags, etc)
- LoadManager makes allocation policy configurable
- AMQPTrigger flexible routing key support
- ScheduleTrigger correctly handles time zone

Early access plug-ins in Orchestrator

Media and entertainment focused

- Watson Language Translator - Translate text across multiple languages

- AWS Transcribe - Convert speech to text

General IT

- IBM Cloud - Interact with the Softlayer API

- Jira - Add tickets to a Jira project

- Kafka - Send and receive messages on an Apache Kafka system
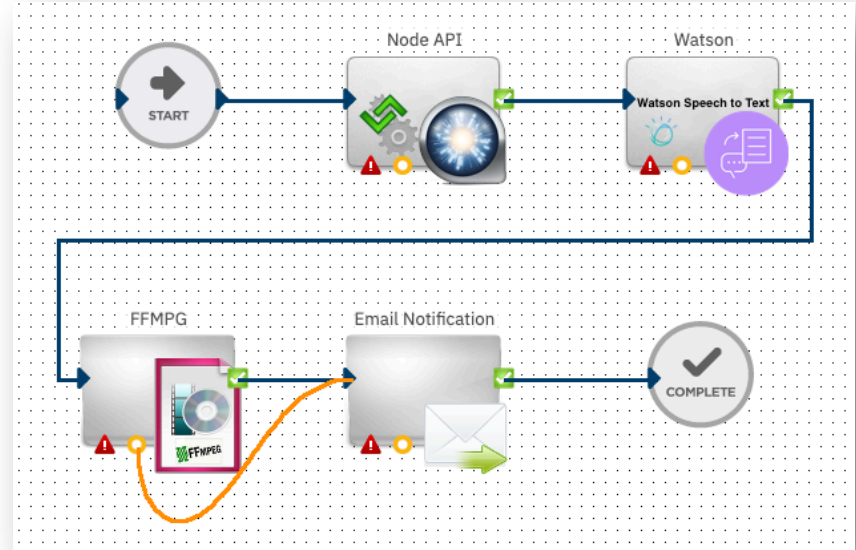
Intended Enhancements in Orchestrator

Workflow Validation using AI

Use artificial intelligence to analyze and determine if a workflow is well designed. Workflows can often be misconfigured, which is a hard problem for users to identify

Orchestrator will harness AI to alert and guide users in such situations

Workflow Import API

- Complex workflows can now be imported with a specific configuration into an Orchestrator system
- Allows for workflows to be easily synchronized across multiple Orchestrator nodes (e.g. test machine and production machine)

A simple, but misconfigured, workflow

Intended Enhancements in Orchestrator

Modernization of user interface including new design

What's New in
Aspera clients

What's New in Aspera Connect 3.9

Usability and UX Updates

- The use of browser extensions to facilitate the app's communication with the web browser improves the reliability and integration of launching Connect.

- Easier installation and upgrade procedures with the guided assistance dialog and the new quick installer that requires little interaction

- Benefit users of on-premise servers and Aspera on Cloud
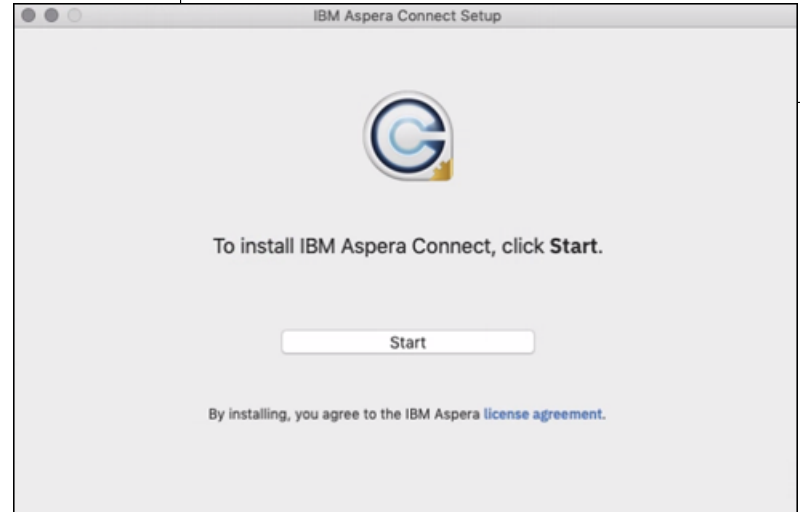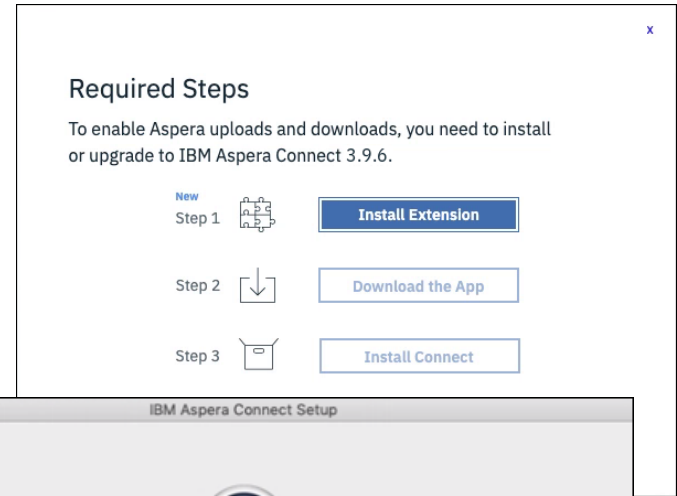
Intended Enhancements in Aspera Drive

Multi-session Transfer

Maximize transfer throughput using multi-session transfers to Aspera on-premises servers and Aspera on Cloud

UX Update for Account Login

Improved set up account wizard to streamline linking accounts from Aspera on Cloud, Faspex, Shares, and High-Speed Transfer Server
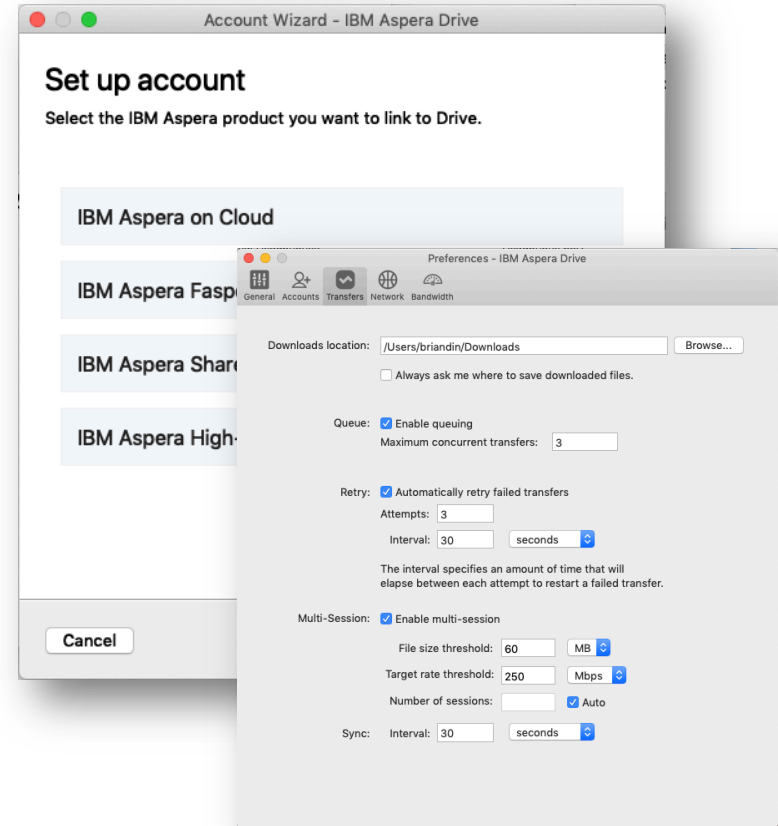
What's New in Aspera
Streaming for Video

# What's New in Aspera Streaming for Video

Stream Director

An optional Aspera Streaming for Video feature that allows for simplified management, monitoring and distribution of streams via a simple and intuitive UI.

Key Benefits

- Nearly eliminates stream setup time
- Lower deployment effort and operational costs
- Increased control & security of streaming workflows
- Valuable visibility of location, device and stream details to operations and production staff

Key New Features

- Simple fan-out configuration and monitoring
- Choose stream and connection direction "on the fly"
- Dynamic tag and metadata support
- Enhanced filtering and sorting
- "Mini" view to show more streams concurrently
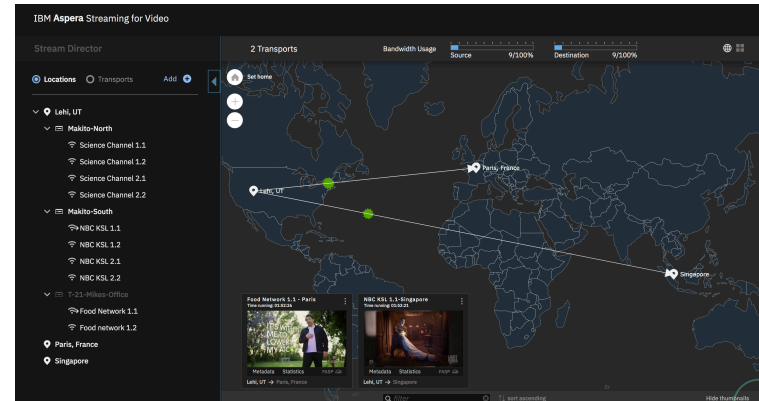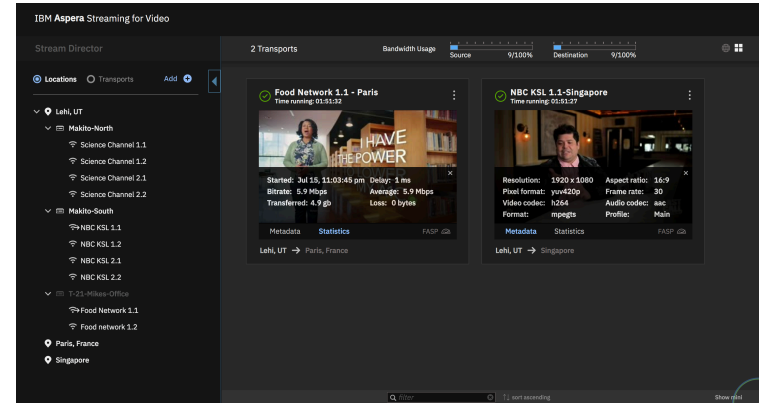
Děkujeme

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