**aspera**
an IBM® company

# Aspera On Demand for AWS
## High speed transfers to, from, and across the cloud

Cloud computing has become a viable, mainstream solution for data processing, storage and distribution, but moving large amounts of data in and out of the cloud has presented a serious challenge for companies with terabytes or petabytes of digital files.

As a pioneer and leading provider of high speed data transfer solutions, Aspera has made significant investments to natively integrate its software technology into cloud storage. IBM's Aspera On Demand solutions are used by many organizations to unlock the value of the cloud for big data. This technology allows companies to reliably and securely move large files and datasets to, from and across the cloud at maximum speed.

## The Aspera Solution

To offer a viable option for big data management, processing and distribution, Amazon Web Services (AWS) needed a high-speed transport solution to address the two main bottlenecks:

- The degradation in wide area network (WAN) transfer speeds that occurs over distance using traditional transfer protocols.
- The "last foot" bottleneck inside the cloud datacenter caused by the HTTP interfaces to the underlying object-based cloud storage.

With Aspera's patented Fast, Adaptive and Secure Protocol (FASP®) transport technology at its core, the suite of Aspera On Demand (AOD) transfer products solves both the technical problems of the WAN as well as the cloud I/O bottleneck.  With AOD, Aspera delivers unrivaled scale-out transfer capacity to enable efficient, large-scale workflows with enterprise-grade encrypted security, a variety of client options (web, mobile, embedded), and applications for transport/ingest, sharing, collaboration and exchange of big data, all available on demand as a subscription service.

AOD is the clear answer to one of the most significant challenges of hosting big data applications in the cloud. Our leading data transfer solutions are a critical part of infrastructure for our customers who need to deliver big data to, from and across cloud storage. Netflix, 72andSunny, GenoSpace, Jabil, and many others rely heavily on AOD to help maximize the performance and utilization of their cloud infrastructure.

## What is Aspera On Demand?

Aspera On Demand for Amazon Web Services is Aspera's transfer software available for deployment and use on AWS with a pay-per-use license model.  Built on top of Aspera's FASP protocol, AOD allows customers to quickly move data of any size to any cloud environment over any network at line speed.  The solution provides high-speed, robust, secure and resume-able file transfers directly to cloud storage environments.
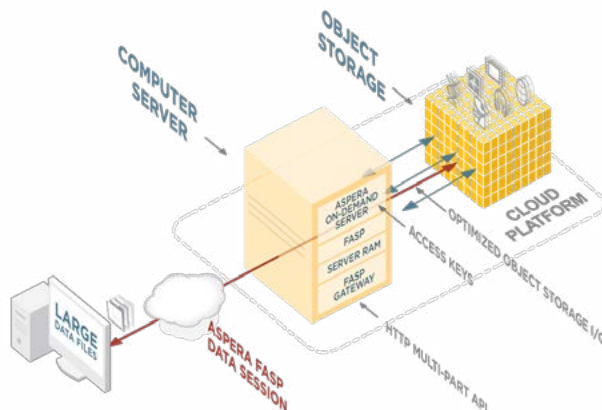


**Figure 1:** Aspera Direct to Cloud transport, a fundamental solution for large file and dataset transfers with cloud object storage, provides native FASP transport capability that is deeply integrated with AWS object storage

Aspera
an IBM® company

## Our Bundled On Demand Solutions

Aspera has developed five distinct AOD bundles with various add-on options to provide customers with simple, robust solutions to their complex problems. These bundles address the needs of the most common deployments and use patterns for our software. They include:

- **Server On Demand:** Enterprise Server, Console and a dedicated client
- **Faspex On Demand:** Enterprise Server and Faspex application
- **Shares On Demand:** Enterprise Server, Shares application, and Console
- **Application Platform On Demand:** Enterprise Server, Console, Connect (SDK sold separately)
- **Console on Demand:** Console

***Add-On options – Drive client, Cargo client, Mobile apps, Aspera Add-in for Microsoft Outlook client, Embedded Client

## Solutions for Common Use Cases

### INGEST / MASS TRANSPORT

Aspera Server on Demand or Shares on Demand are ideal solutions for high speed, large volume, secure data ingest to the Cloud. Using an Aspera Desktop client, or Aspera Connect, users can transfer files at maximum speed directly to cloud storage where the data is accessible by other applications running in the cloud. Both of these solutions provide an easy web-based configuration for both storage access and user management. Aspera Console, which comes with many of the On Demand bundles, provides the ability to configure access to individual storage buckets and directories.

**Case Studies:  72andSunny, UFC, Netflix**

### SHARING & COLLABORATION

Aspera Shares on Demand with easy file sharing enables a natural solution for big data collaboration in the cloud. Whether you are collaborating with individuals or in groups, occasionally or frequently, Shares on Demand provides the transfer and notification features that meet your needs. This package comes with web-based user management, access control, notification options and storage configuration.
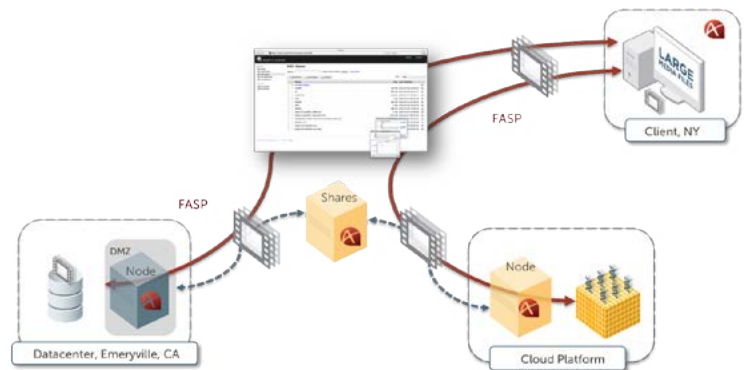
**Case Studies:  GenoSpace, ESAC/NCI, VHX**

Figure 2: Diagram of the sharing and collaboration use case

### PERSON-TO-PERSON DELIVERY

Aspera Faspex on Demand is the ideal solution for organizations that are in need of a high-speed file delivery solution for their employees, customers or partners.  It is an email-style file and package delivery system, which includes user management, storage access control, transfer monitoring and notification in one simple easy-to-use web interface. Aspera Cargo, an automatic downloader, is available as an add-on for those interested in automating transfers from the Faspex platform.
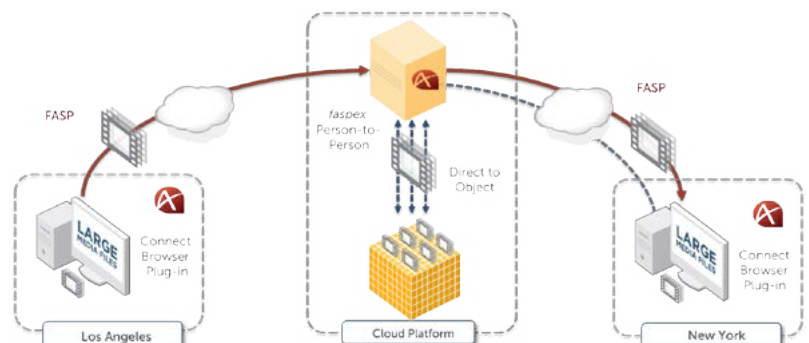
**Case Studies: Jabil, Cinema Cloud**

Figure 3: Diagram of the person-to-person delivery use case

## INTEGRATION

Aspera Application Platform on Demand is the solution for any third party SaaS providers who would like to integrate the FASP high-speed transfer technology into their SaaS platform. This solution, when combined with the SDK, provides the required software and licensing to support integrations. The SDK Developer Subscription is licensed separately and is required to access the documentation, libraries, sample code and developer support.

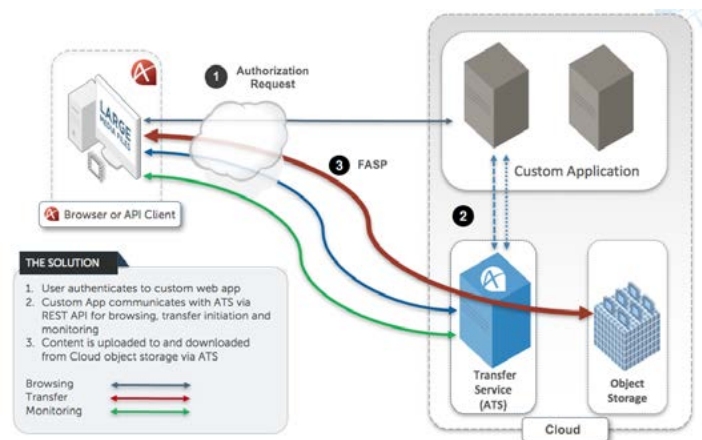**Case Studies: CinePostproduction, Aquipt, Zencoder**

Figure 4: Diagram of the Integration use case

# On Demand Highlights

## KEY ASPERA DIFFERENTIATORS

- AOD offers the most tightly integrated high-speed big data transport solutions in AWS.
- Rock solid reliability, pause/resume capability, and in-flight and at-rest encryption in the cloud.
- Automatic retry and checkpoint resume of any transfer (single files and directories) from point of interruption.
- Support for files and directories in a single transfer session up to the largest object size supported by the AWS platform.
- Support for directories containing any number of individual files with high-speed, even for very large numbers of very small files.

## FLEXIBLE AWS PLATFORM DEPLOYMENT

- AOD products support virtually any storage type or location (block, object, on-premises, cloud, or hybrid).
- Adaptable to many use scenarios: one-to-one, hub and spoke, cloud to datacenter, and cloud-to-cloud.
- Fully interoperable transfer support with all core Aspera products acting as transfer peers with the cloud storage and for all modes of transfer (e.g., command line, interactive GUI point-and-click, browser, hot folder automation, and SDK automation).
- Available as pay-as-you go licensing and custom and hybrid deployments across any infrastructure type/combination.

## BUILT ON ASPERA FASP

- Maximum transfer speed over the WAN independent of latency and packet loss.
- Support for extreme file sizes and data sets over global distances.
- Concurrent transfer support scaling for many concurrent transfers per VM instance.
- Direct high-speed transfer to object storage up to the I/O limits of the platform.

## ADAPTIVE BANDWIDTH CONTROL

- Automatic discovery of available bandwidth capacity.
- Fair to other TCP traffic.
- Transfer priority can be preset or changed on the fly.

## ENTERPRISE GRADE SECURITY

- Secure end-to-end authentication.
- User management based on application, directory service or Identity provider accounts.
- Data encryption in transit & at rest on cloud storage.
- Data integrity verification.
- Transfers to/from cloud environments support Aspera proxy on the client side in forward or reverse mode.
- Account management, transfer logging, activity monitoring and reporting.

aspera

an IBM® company

## Subscription Overview

AOD has a subscription license model where pricing for each bundled solution is based on these variables:

1) The term of the contract (monthly, yearly, multi-year)

2) The data transfer volumes over the contract term

3) Optional client add-ons

Purchases are made by pre-paying for a required data transfer volume over the desired term. Pricing discounts are offered by increasing the AOD term commitment and/or the data usage tier for the chosen term.

Subscription data usage starts as low as 100 GB per month for each bundled offering with tiered usage pricing up to 1 PB per month or 12 PB per year or greater. Overages are billed at the end of the term at the original per GB subscription rate. There are no bandwidth caps, no user counts, no limit on number of "servers" (or "instances") customers can run. A sample of current pricing is listed below.

## How to Purchase and Deploy

Currently, there are two main ways to deploy AOD software on the AWS platform, both of which are "Bring Your Own Entitlement" (BYOE) options that involve purchasing a software entitlement directly from Aspera.

A high level overview of the deployment process for both is illustrated below.

### AWS PRE-PACKAGED VIRTUAL MACHINE

1) Purchase entitlement from Aspera

2) Provide AWS account and region information

3) Login to AWS portal in your region of choice

4) Find Aspera AMI via search tool and launch AMI

5) Point Browser to newly launched AMI

4) Login via web interface once the instance is loaded

5) Install Aspera entitlement

### SELF INSTALLED SOFTWARE

1) Purchase entitlement from Aspera

2) Boot an AWS EC2 virtual machine (VM)

3) Load Aspera software on EC2 VM

4) Run Aspera installer

5) Configure Aspera software

6) Enable Server with entitlement

*See details in the quick start guide at https://support.asperasoft.com/entries/21731156

Each AOD software package is available for installation on a standard Linux 64 host from the Aspera software download site. Access to the software, documentation and license keys will be made available upon purchase of the solution entitlement.

## Questions?

Please contact Aspera Sales at aspera-sales@asperasoft.com for detailed pricing, availability and evaluation of our Aspera On Demand product bundles. Additional information on the deployment and advanced configurations can be found on the Aspera Support portal under the "On Demand" forum located at https://support.asperasoft.com/forums/20790238