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FILE BASED MEDIA WORKFLOWS IN THE CLOUD

MOVING THE WORLD'S DATA AT MAXIMUM SPEED

PRESENTER

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Director Cloud Platforms and Services
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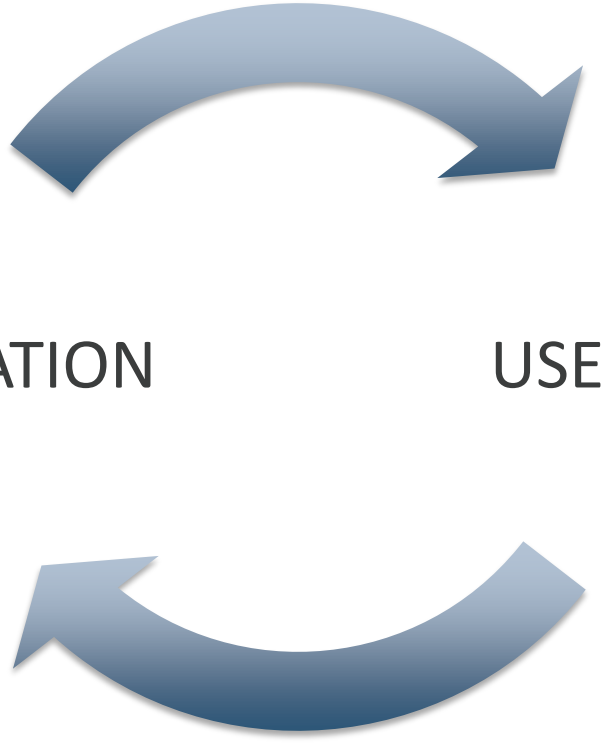
AGENDA

- Aspera
- Technology and Media
- Cloud stories
- Big data delivery challenges

MEDIA BUSINESS TRANSFORMATION

DATA DELIVERY CHALLENGES

INNOVATION USE CASE


INNOVATION
USE CASE

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Customer Stories

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Experimenting with the Cloud

Business challenge:

“Leverage our media assets on a new platform”

Technical challenge:

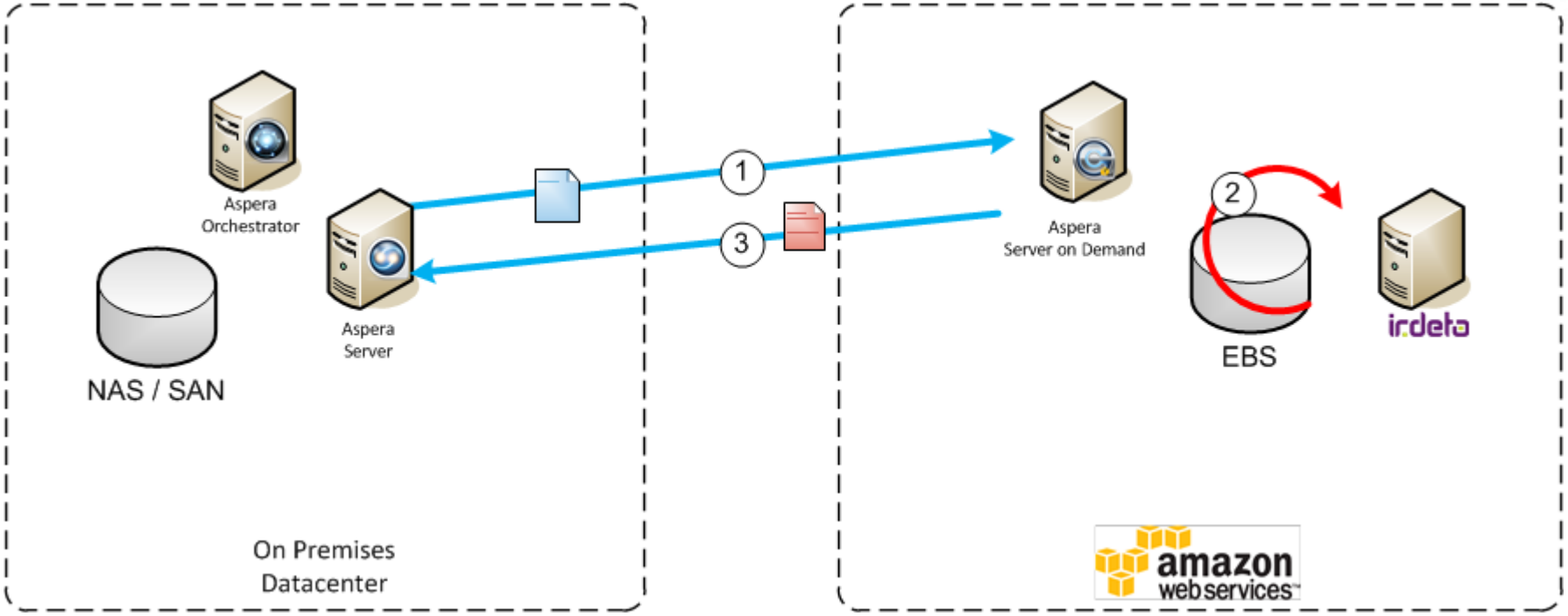
- 2,000 assets
- 10 GB per asset
- Needs to be DRM “Playready” encrypted
- By next Friday

Infrastructure challenge:

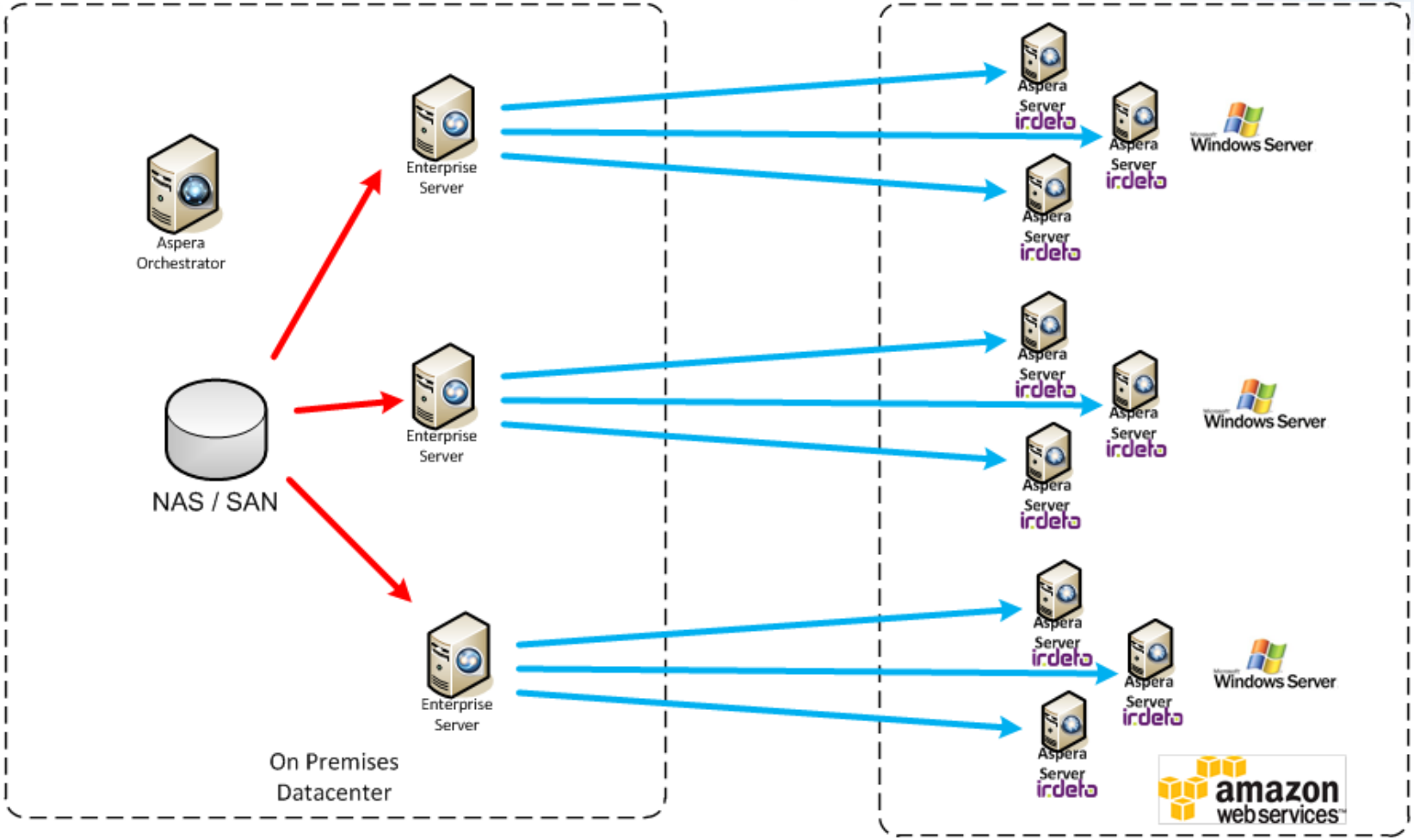
- No spare systems
- No encryption software
- No Cap-ex budget for last minute projects

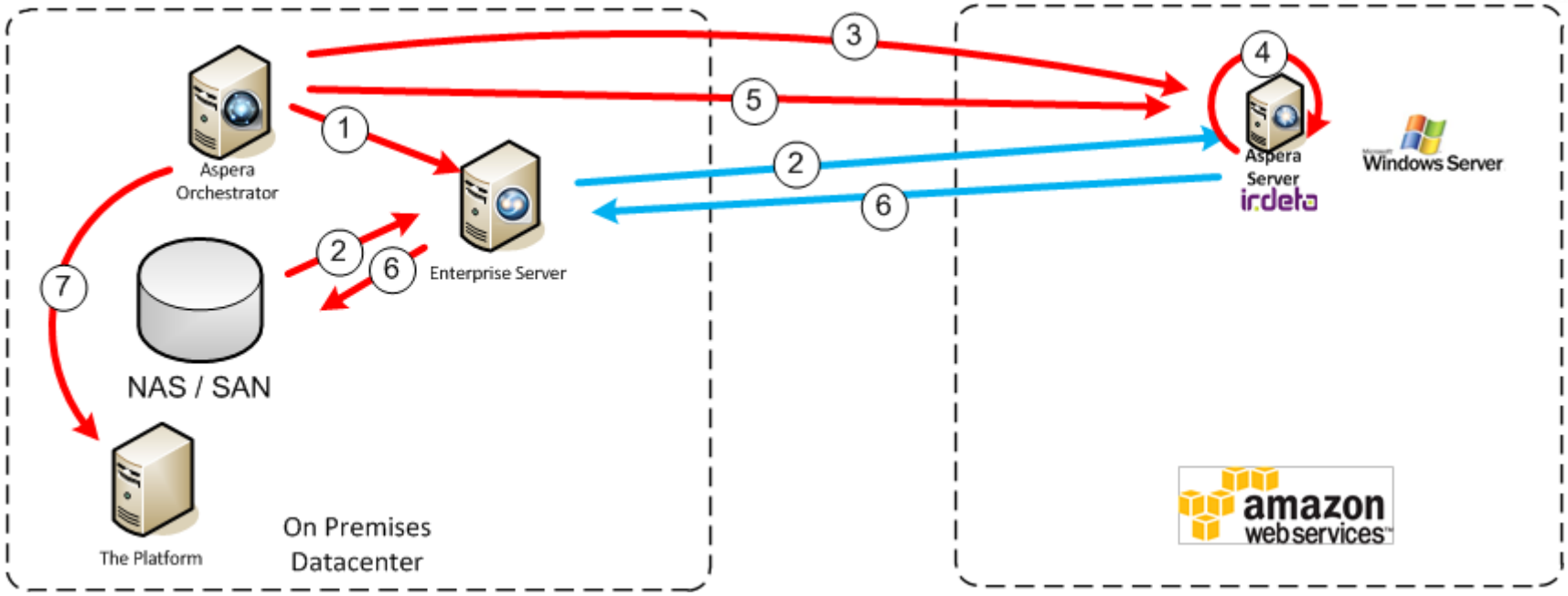
What is the solution?

- Need infrastructure now
- Need lots of it for a short project


Aspera
Orchestrator
NAS / SAN
Aspera
Server
1
3
Aspera
Server on Demand
2
EBS
On Premises
Datacenter
amazon
web services

CABLE COMPANY




Aspera Orchestrator
1
Enterprise Server
2
6
NAS / SAN
7
The Platform
On Premises Datacenter
3
5
2
6
4
Aspera Server
ir.deto
Windows Server
amazon web services

In summary

- The cloud can scale
- The cloud is available on demand
- The cloud is pay-as-you-go

Can this work? What are the potential bottlenecks?

- On-premises storage
- On-premises firewall

Is traditional on premises IT infrastructure ready for the challenges of tomorrow?

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Moving to the Cloud

Business challenge:

"We are shutting down our datacenter and moving everything to the cloud."

Technical challenge:

- Ingest movie and tv show assets into AWS S3
- Average 100 TB per month
- Multiple content providers

NETFLIX

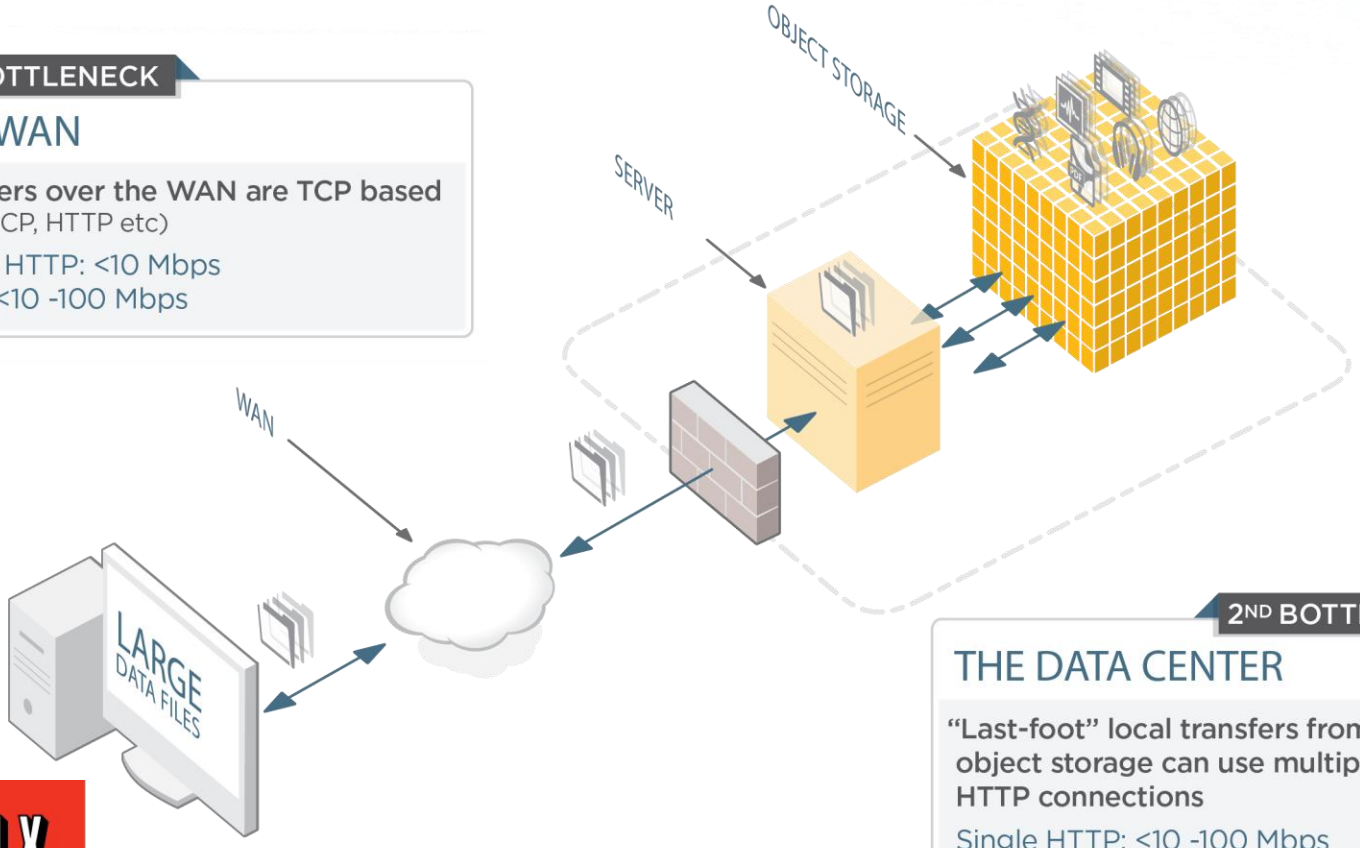
MOVING TO THE CLOUD

1ST BOTTLENECK

THE WAN

Transfers over the WAN are TCP based
(FTP, SCP, HTTP etc)

Single HTTP: <10 Mbps
Multi: <10 -100 Mbps



amazon web services™

NETFLIX

2ND BOTTLENECK

THE DATA CENTER

"Last-foot" local transfers from server to object storage can use multiple HTTP connections

Single HTTP: <10 -100 Mbps

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MOVING TO THE CLOUD
WITH DIRECT-TO-CLOUD

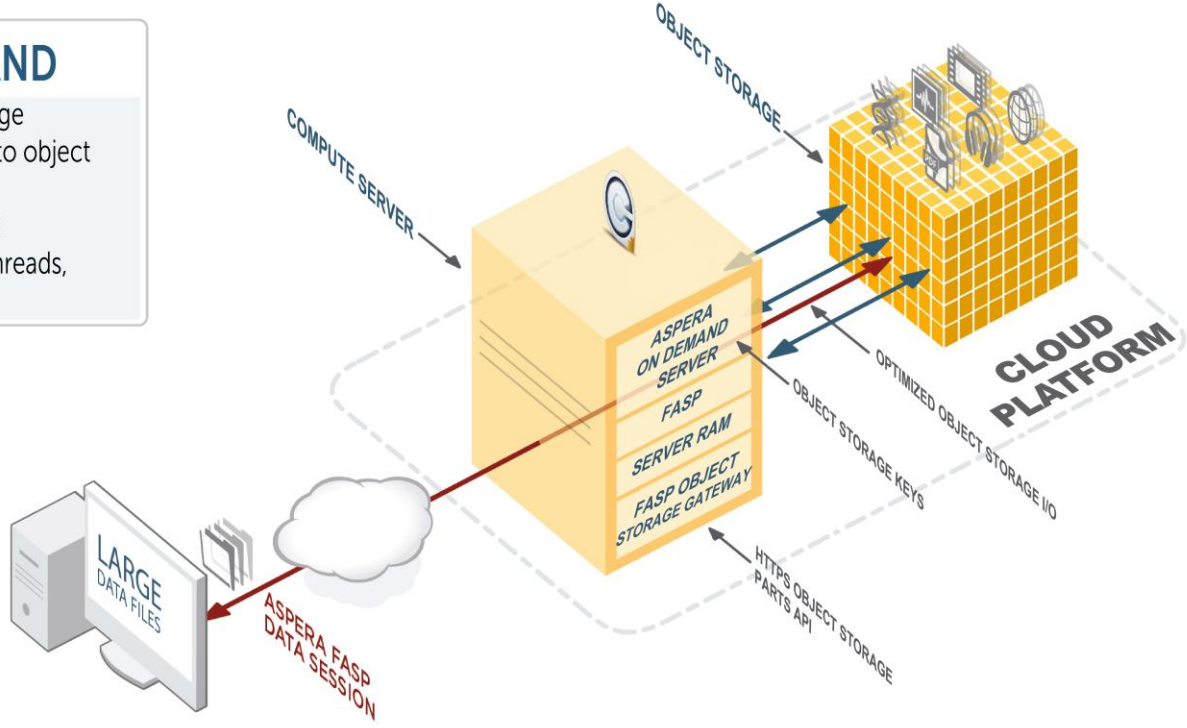
THE SOLUTION

ASPERA ON DEMAND

- Full client-side r/w of object storage
- Synchronous transfer from client to object storage (via Aspera On Demand)
- *fasp*™ transfer speeds end-to-end
- Real-time optimization of HTTP threads, chunk size, interfaced to *fasp*

Client Software

client
connect plug-in
point-to-point
cargo downloader
mobile apps



amazon web services™

NETFLIX

Performance

EFFECTIVE THROUGHPUT

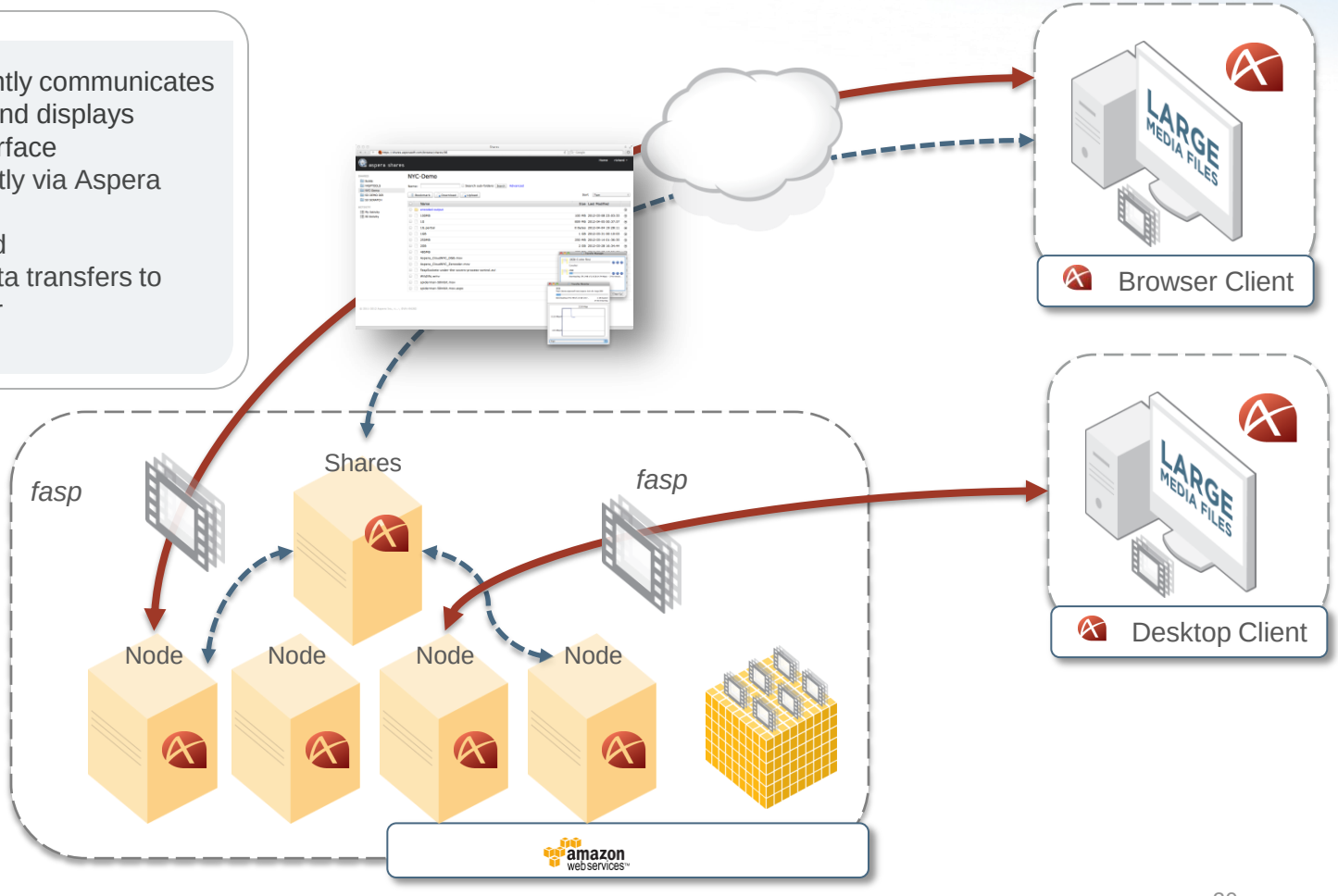
up to 1Gbps
(per server Extra Large Instance)
10TB per 24 hours

USE CASE: CONTENT INGEST

INGEST VIA CLIENT, BROWSER AND CLI TO PUBLIC CLOUD

THE SOLUTION

- Shares Web app transparently communicates with Aspera server Nodes and displays content in a single user interface
- Aspera Client uploads directly via Aspera Transfer Servers
- CLI transfers also supported
- Independent high-speed data transfers to AWS S3 transparent to user



What is next?

- Elastic scale of the infrastructure, on demand

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Innovating on the Cloud

Sony Media Cloud Services

- New cloud-based collaboration and production service platform from Sony built on AWS
- Applications support collection, production and archive of high-value, high-definition content
- Integrated with Aspera *fasp* for high-speed ingest and distribution

MEET Ci.

Ci is the brainchild of Sony's evil media geniuses who, after witnessing the challenges and complexities of today's media marketplace, built an innovative cloud platform with revolutionary production applications to cure the headaches that surround collecting, collaborating, and preparing content for the world once and for all.

Our on-demand tools are the industry's first innovative production applications created by media professionals, for media professionals to collect, share, create, produce, and archive high-value, high-resolution content more efficiently. With Ci, you can collaborate globally from any location – all with the simplicity, security, scalability, and affordability of the cloud.

www.sonymcs.com

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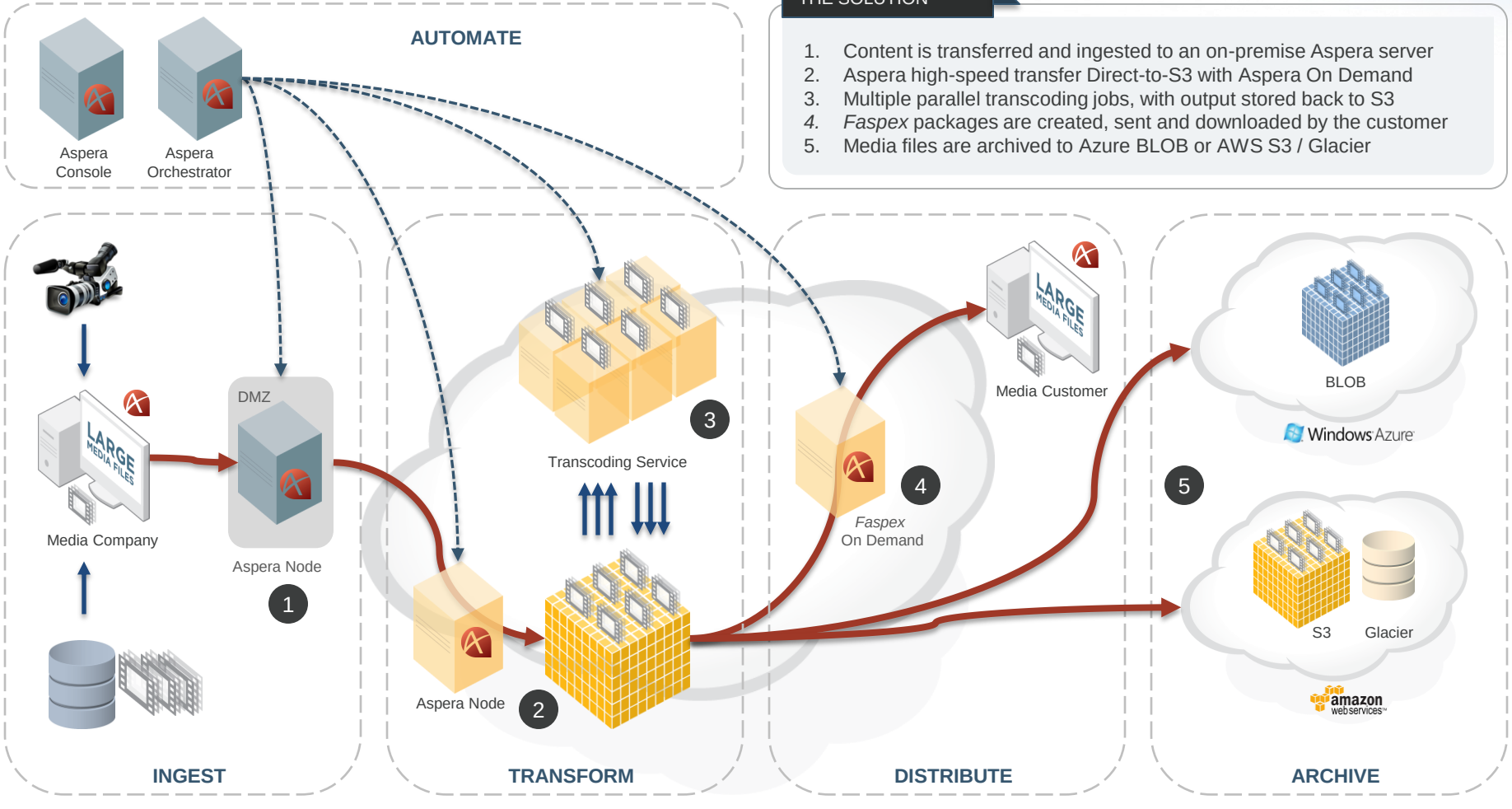
INGEST, TRANSFORM, DELIVER AND ARCHIVE

ACROSS HYBRID ACROSS PUBLIC & PRIVATE CLOUDS

THE SOLUTION

1. Content is transferred and ingested to an on-premise Aspera server
2. Aspera high-speed transfer Direct-to-S3 with Aspera On Demand
3. Multiple parallel transcoding jobs, with output stored back to S3
4. *Faspex* packages are created, sent and downloaded by the customer
5. Media files are archived to Azure BLOB or AWS S3 / Glacier



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File transfer challenges volume

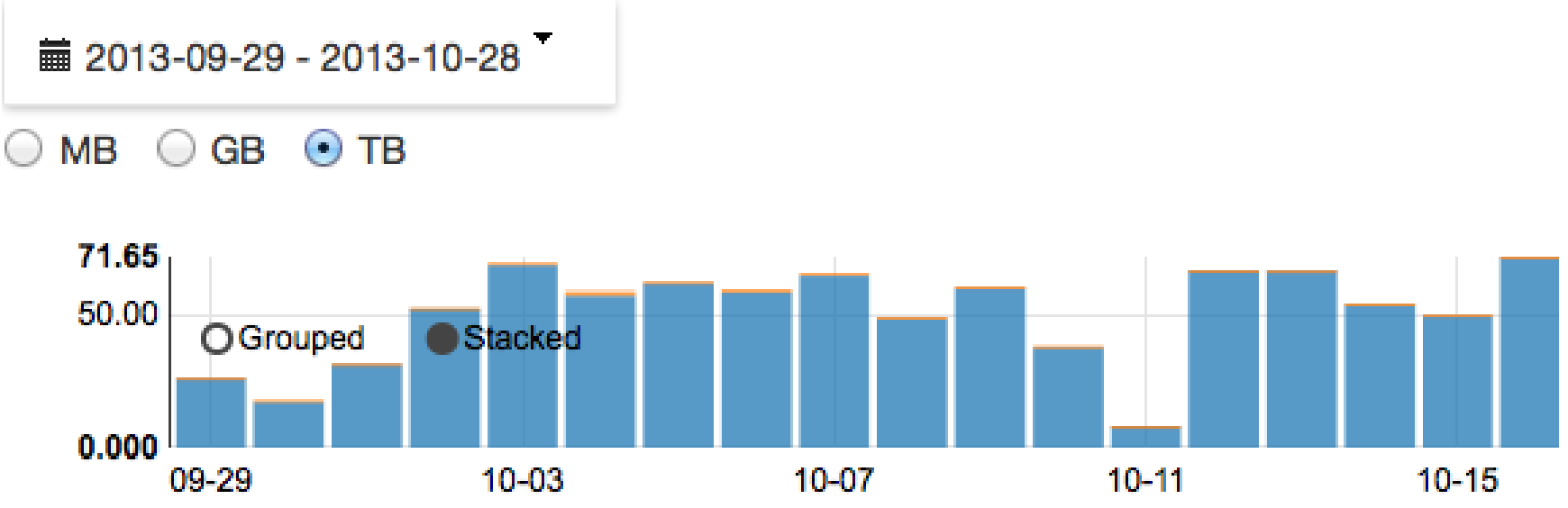
100 TB per month

20 TB up & down in 48 hours

3 PB data

2 Gbps aggregate upload

Overall usages



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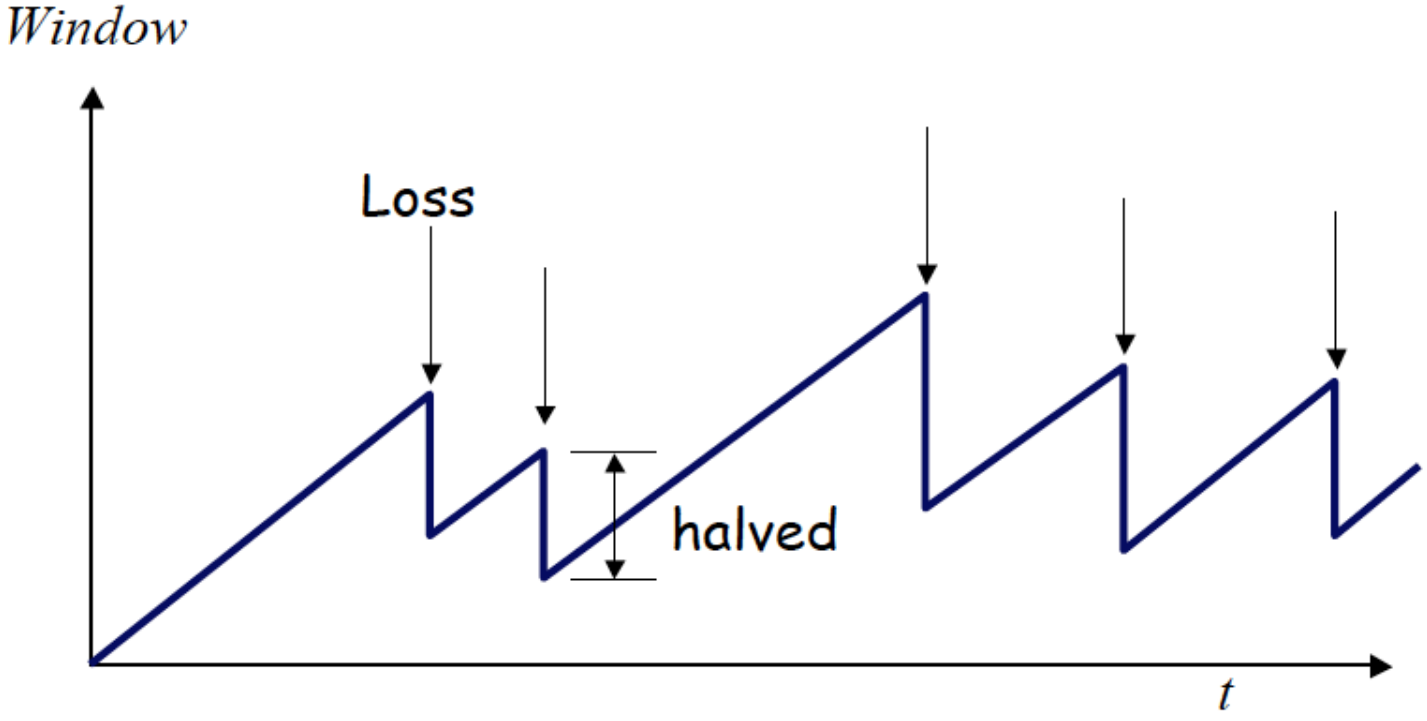
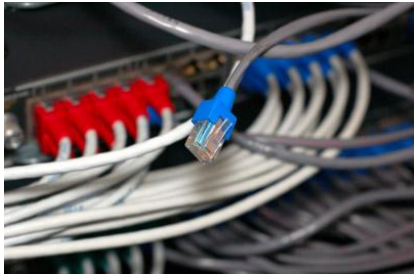
File transfer challenges
Speed and Control

The TCP problem…



The infrastructure bottleneck…



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File transfer challenges
The eco-system

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ASPERA TECHNOLOGY PARTNERS

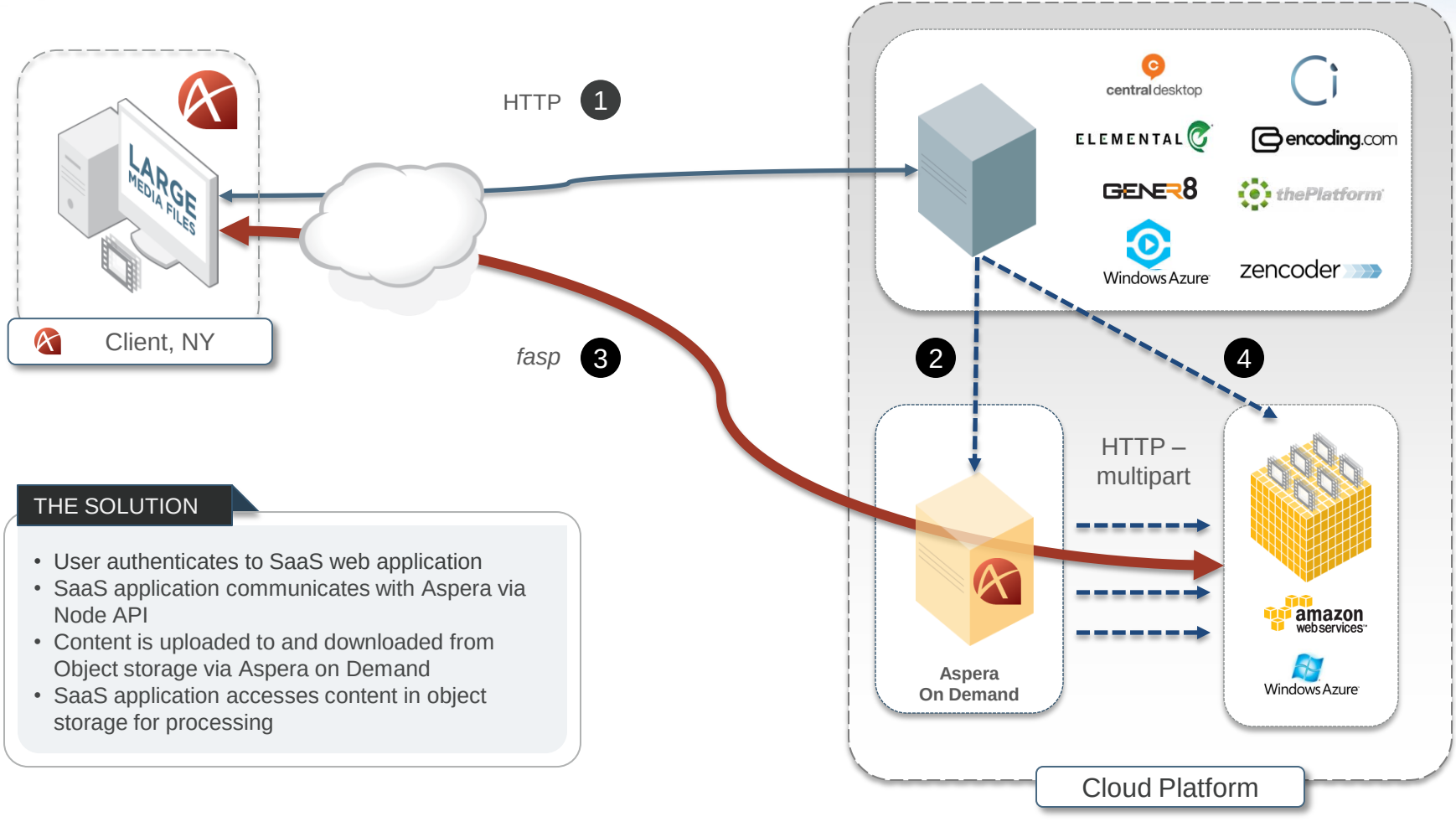
CLOUD

MEDIA

SERVICE AND TECHNOLOGY

STORAGE

TRANSFER SERVER INTEGRATED WITH CLOUD SERVICES



THE SOLUTION

- User authenticates to SaaS web application
- SaaS application communicates with Aspera via Node API
- Content is uploaded to and downloaded from Object storage via Aspera on Demand
- SaaS application accesses content in object storage for processing

Tomorrows
File transfer challenges

ASPERA ON DEMAND: AUTO-SCALING PLATFORM

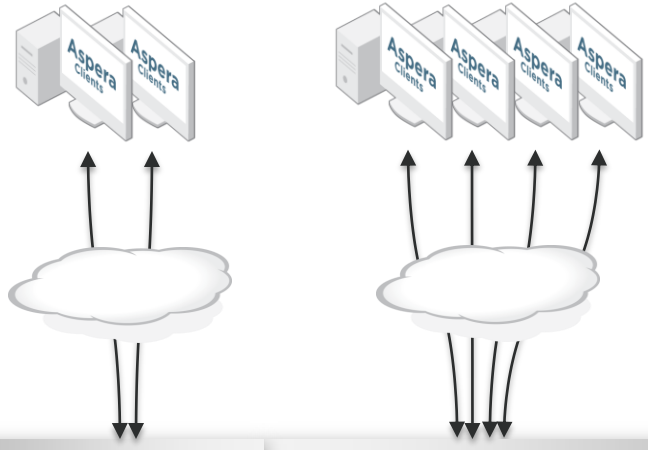
Management and Reporting

Console
- Collect / aggregate transfer data
- Transfer activity / reporting (UI, API)

Shares
- User management
- Storage access control

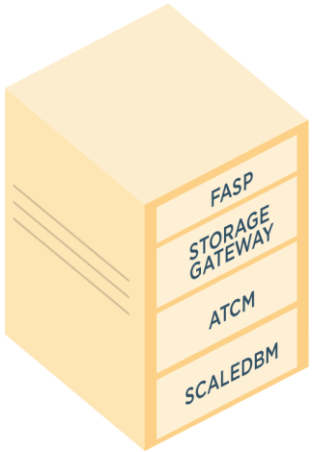
Existing client transfers

New Clients connect to “available” pool



KEY COMPONENTS

- Cluster Manager for Auto-scale and Scaled DB
- Console Management UI + Reporting API
- Enhanced Client for Shares Authorizations
- Unified Access to Files/Directories (Browser, GUI, Commend Line, SDK)



Cluster Manager
- Monitor cluster nodes
- Determine eligibility for transfer scale up / down
- Create / remove db with replicas
- Add / remove node

Utilization > high w/m

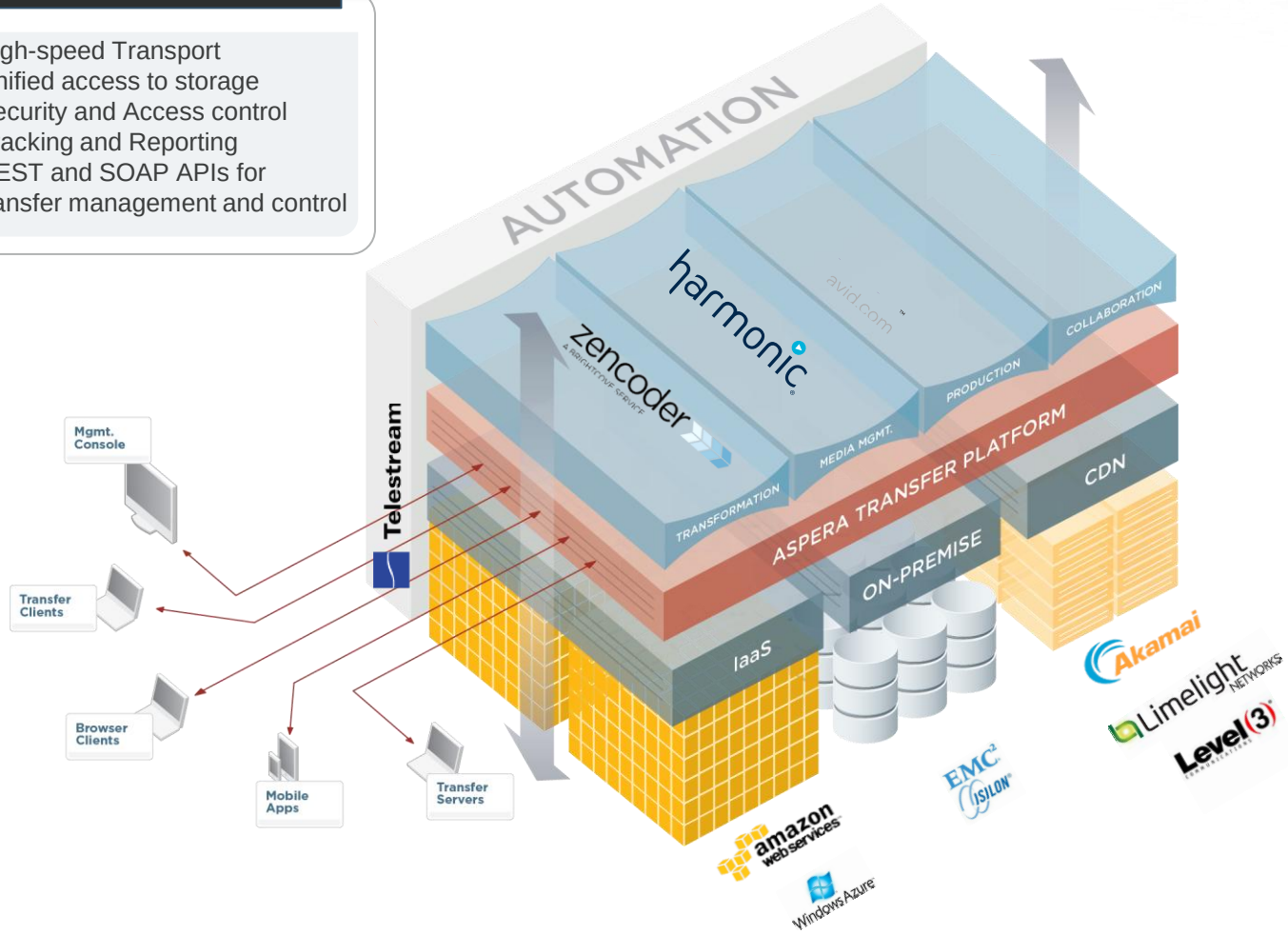
Available Pool

Scaling Parameters
- Min/max number of t/s
- Utilization low/high watermark
- Min number of t/s in “available” pool
- Min number of idle t/s in ”available” pool

ASPERA TRANSFER PLATFORM

ASPERA TRANSFER PLATFORM

- High-speed Transport
- Unified access to storage
- Security and Access control
- Tracking and Reporting
- REST and SOAP APIs for transfer management and control



ECOSYSTEM

Automation
- Aspera Orchestrator
- Telestream Vantage

Transformation
- Brightcove/Zencoder
- Elemental
- encoding.com
- Sony CI
- thePlatform
- Windows Azure

Media Management
- Media Beacon
- Sony
- Vidisione

Production
- Avid
- EVS

Sharing / Collaboration
- Aspera Shares
- Aspera *faspex*

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HIGH-SPEED TRANSFER DIRECT-TO-CLOUD

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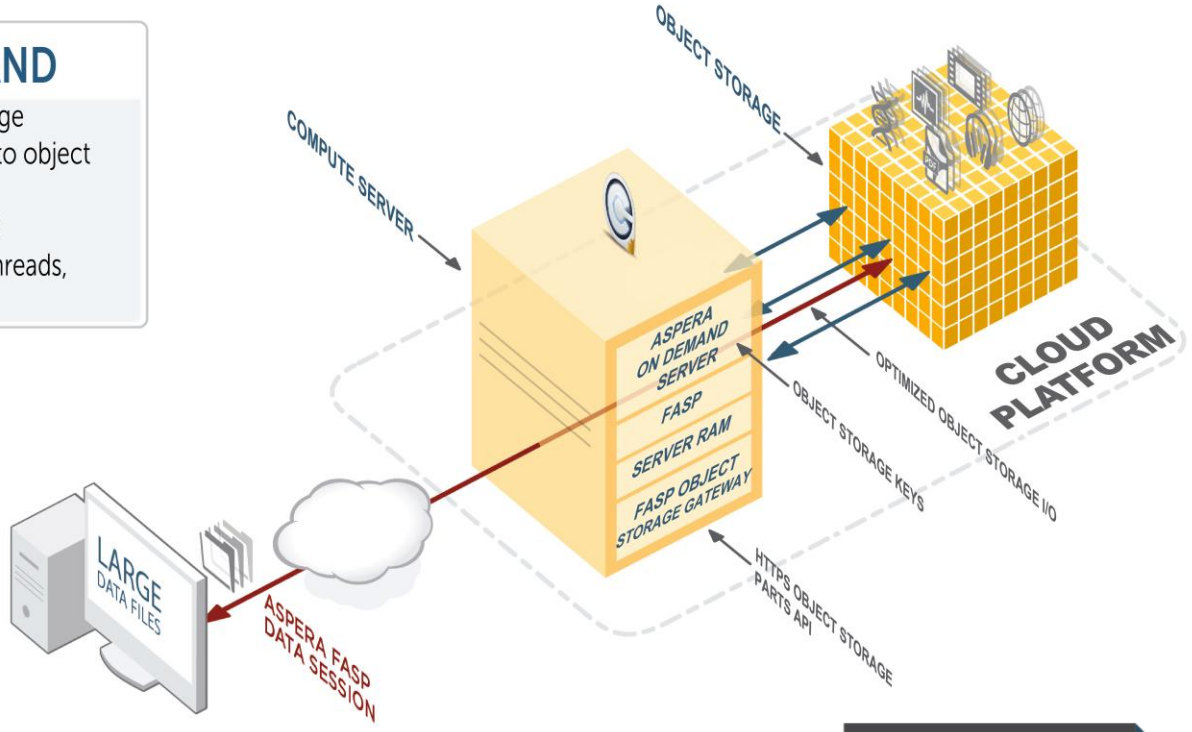

amazon web services™
Windows Azure
Akamai

Road Map

BT
openstack
hp Cloud
rackspace the open cloud company
Google

Performance

EFFECTIVE THROUGHPUT

up to 1Gbps
(per server Extra Large Instance)
10TB per 24 hours

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THANK YOU FOR JOINING!

FOR MORE INFORMATION ON ANY ASPERA PRODUCT, PLEASE CONTACT:

sales@asperasoft.com