Amazon CloudFront Overview

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Amazon CloudFront and Route 53

Agenda

- Provide a brief introduction to Amazon Web Services
- Present an overview of Amazon CloudFront
- Demo how to set up RTMP Streaming with JW Player on Amazon CloudFront (time permitting)
- Learn how to get started on CloudFront

Amazon's Three Businesses

Consumer (Retail) Business

Tens of millions of active customer accounts

Seven countries: US, UK, Germany, Japan, France, Canada, China

Seller Business

Sell on Amazon websites

Use Amazon technology for your own retail website

Leverage Amazon's massive fulfillment center network

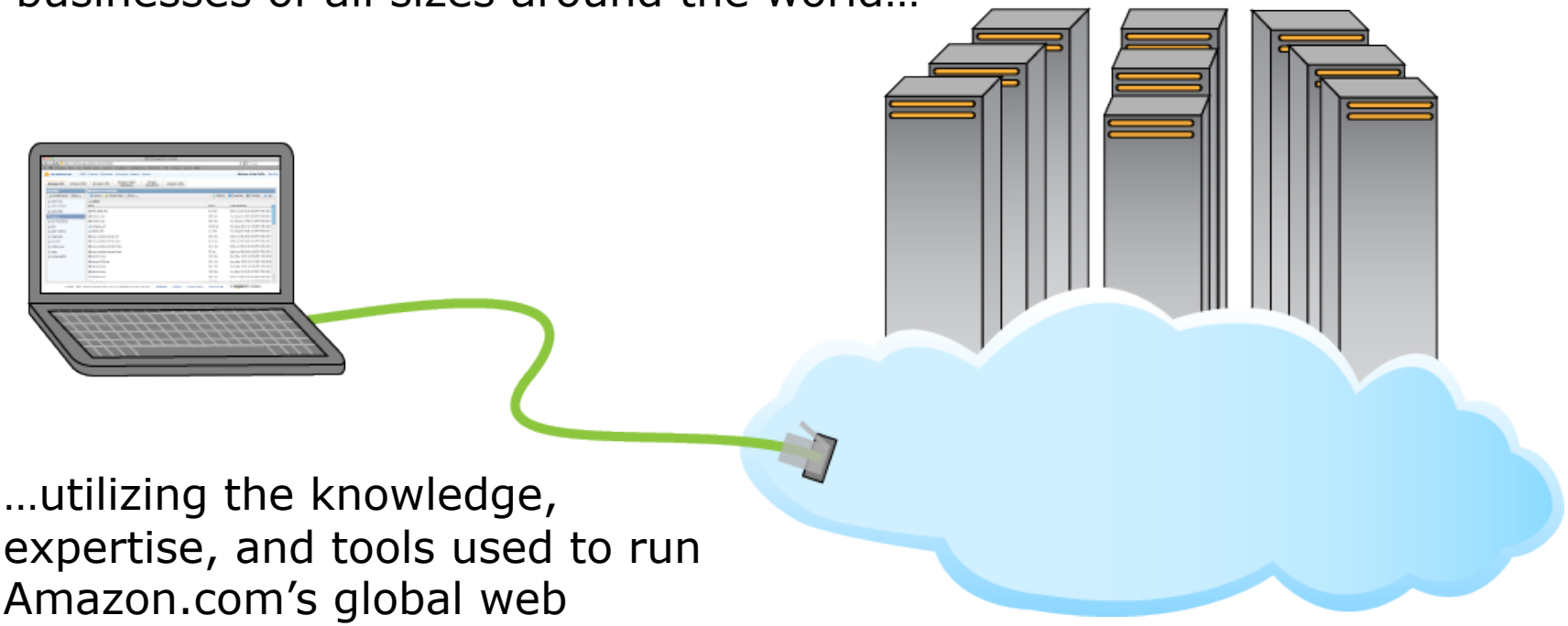
IT Infrastructure Business

Cloud computing infrastructure for hosting web-scale solutions

Hundreds of thousands of registered customers

What is Amazon Web Services?

Amazon Web Services is a cloud computing platform that provides flexible, scalable, and cost-effective technology infrastructure for businesses of all sizes around the world…

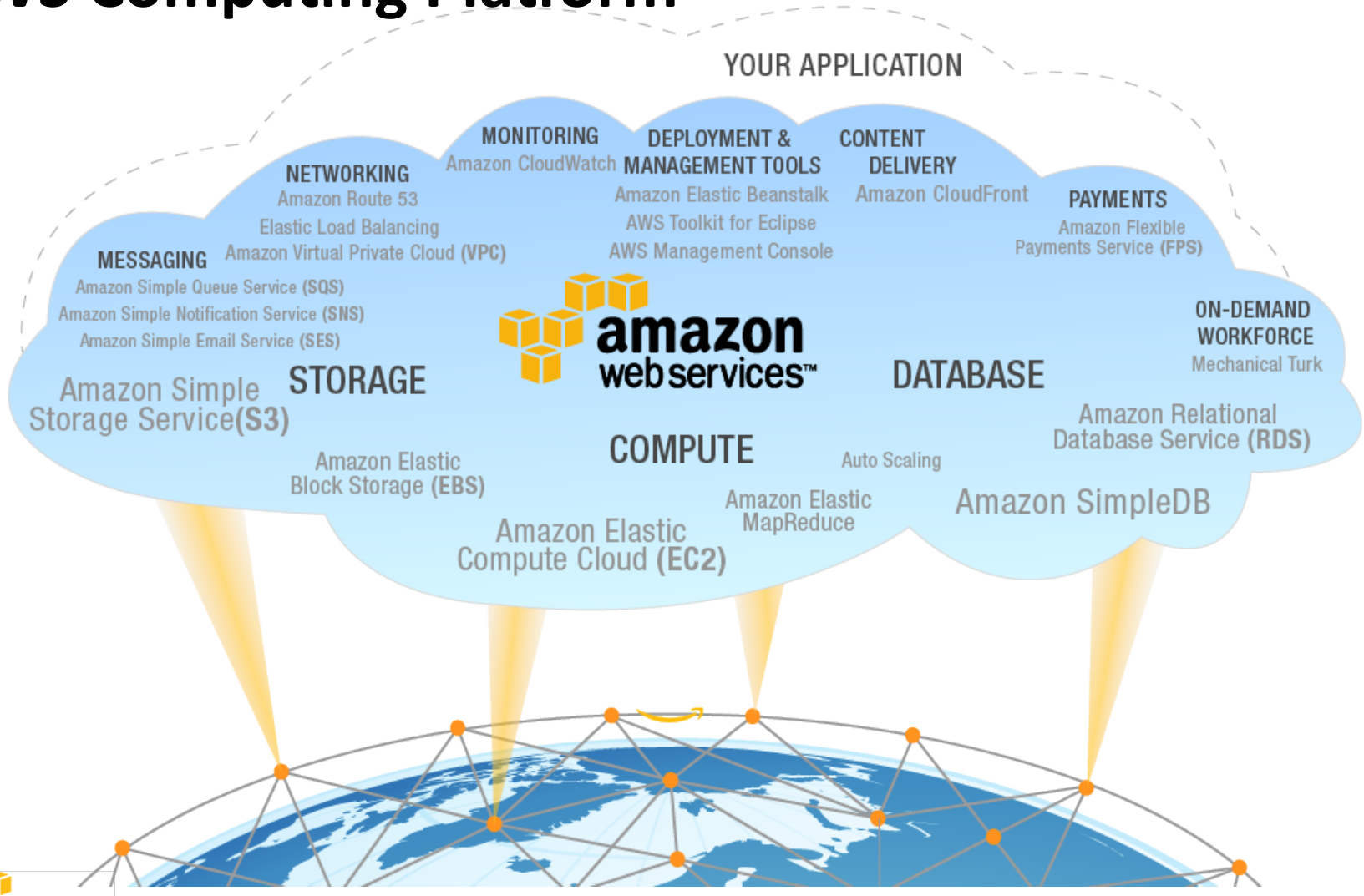


…utilizing the knowledge, expertise, and tools used to run Amazon.com's global web properties for over a decade.

Attributes of Cloud Computing

- No capital expenditure
- Pay as you go and pay only for what you use
- True elastic capacity; Scale up and down
- Improves time to market
- Focus your engineering resources on what differentiates your business vs. the infrastructure required to run it

AWS Computing Platform



AWS's global presence.

Overview of Amazon CloudFront

Key features for CloudFront.

Amazon CloudFront

- RTMP (Flash) and HTTP Adaptive Bitrate Streaming for Live and VOD
- HTTP/HTTPS File Delivery
- Private Content
- Programmatic Invalidation
- Industry-compliant, detailed Access Logs
- AWS Management Console
- Full control via APIs

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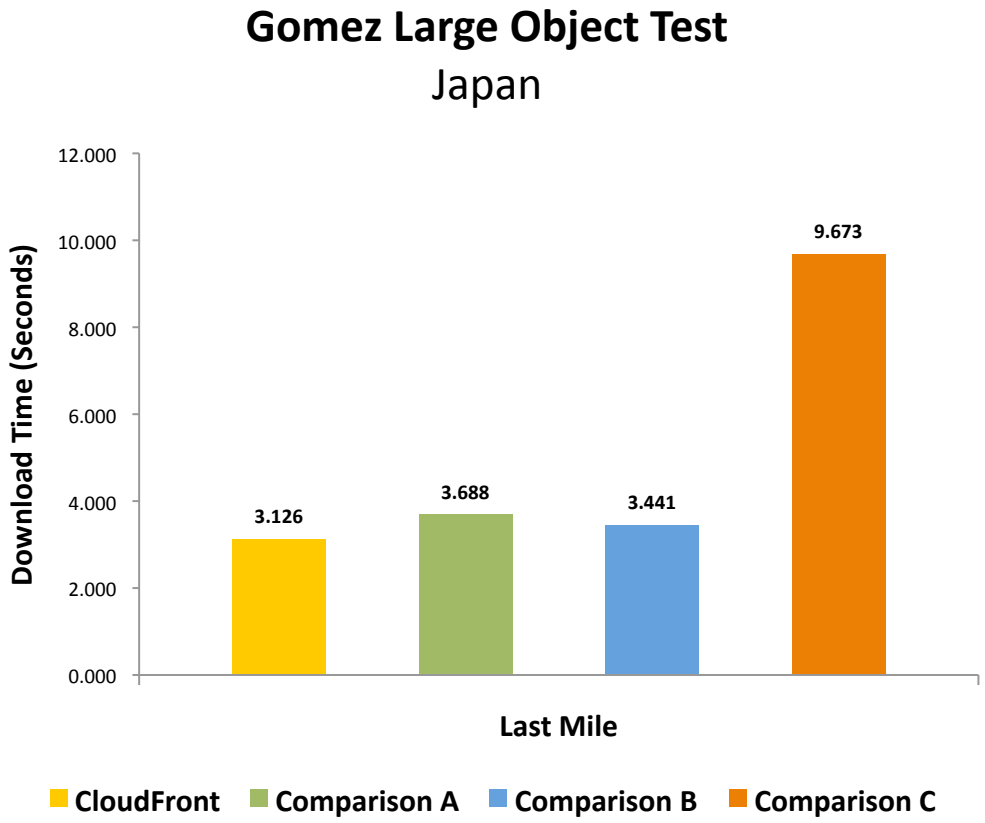
Overview of Amazon CloudFront

Great performance to a global audience.

- Amazon is a metrics driven company.
- We focus on metrics that capture the end user experience: the "last mile," not internet "backbone" data centers.
- Your customers do not live in data centers.

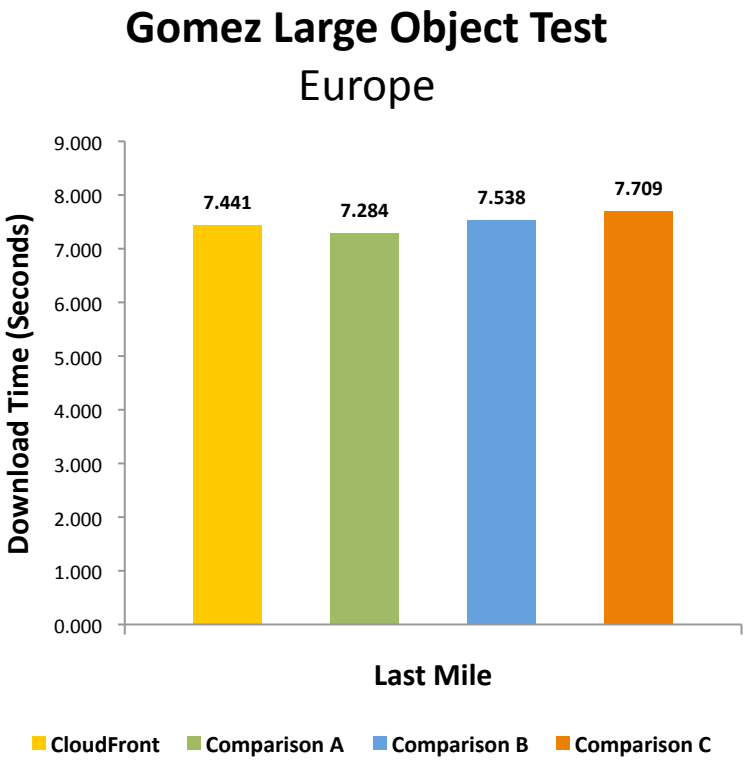


Last mile data based on 7,907 observations taken between 17-SEP-2011 and 1-Oct-2011

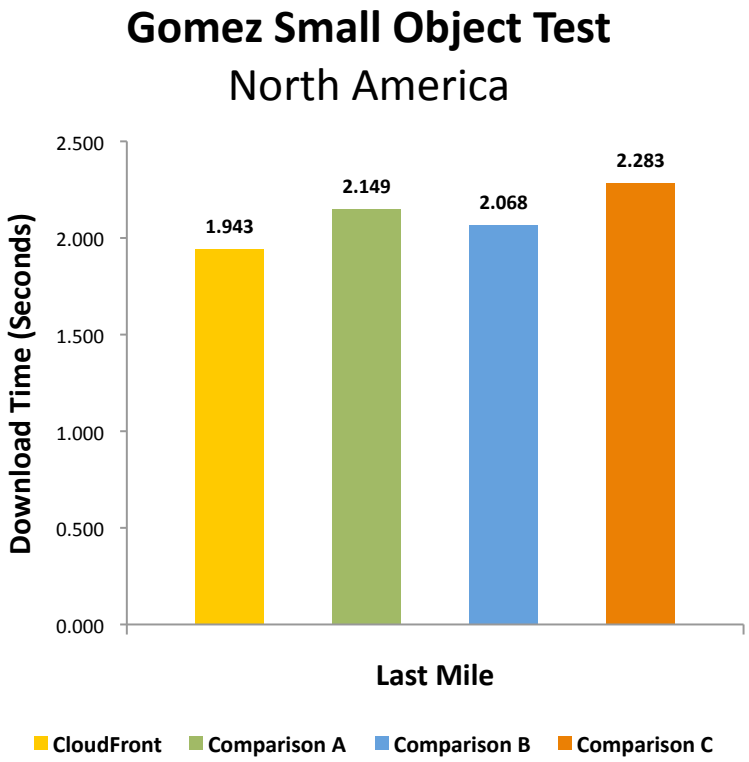
**The Gomez tests were designed and conducted by Amazon using the Compuware Corporation performance network. The test results have not been reviewed, approved or endorsed by Compuware Corporation*

Overview of Amazon CloudFront

Great performance to a global audience.



Last mile data based on 65,907 observations taken between 17-SEP-2011 and 01-OCT-2011

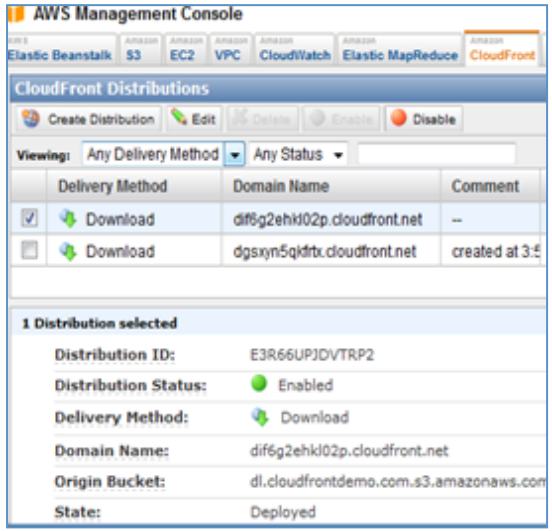


Last mile data based on 88,871 observations taken between 17-SEP-2011 and 01-Oct-2011

**The Gomez tests were designed and conducted by Amazon using the Compuware Corporation performance network. The test results have not been reviewed, approved or endorsed by Compuware Corporation*

Easy to configure and manage solutions.

- Self service signup and configuration – anytime, from anywhere
- AWS Management Console to create and manage CloudFront distributions
- Programmatic APIs for integration into your own systems and workflow



Overview of Amazon CloudFront

Access controls and authentication

- Private Content Feature authenticate users with signed URLS
  - Uses policy-driven access controls for control and flexibility
  - Restrict on resource or path, time, source IP
  - Signatures generated using asymmetric encryption
- SSL delivery and RTMPE streaming encrypt bytes on the wire
- Origin Access Identities secure your content in Amazon S3
- Identify and Access Management (IAM) to control who can configure your CloudFront distributions

Overview of Amazon CloudFront

Scalability for unpredictable spikes.

- Operating reliability at scale is in our DNA.
- Self-service signup and configuration gives lets you set up new distributions when you need it.
- On demand scalability: Access to our entire global network of locations
- Designed for Capacity: Ensures customer success with a guaranteed SLA and continuous investment and updates to servers/services

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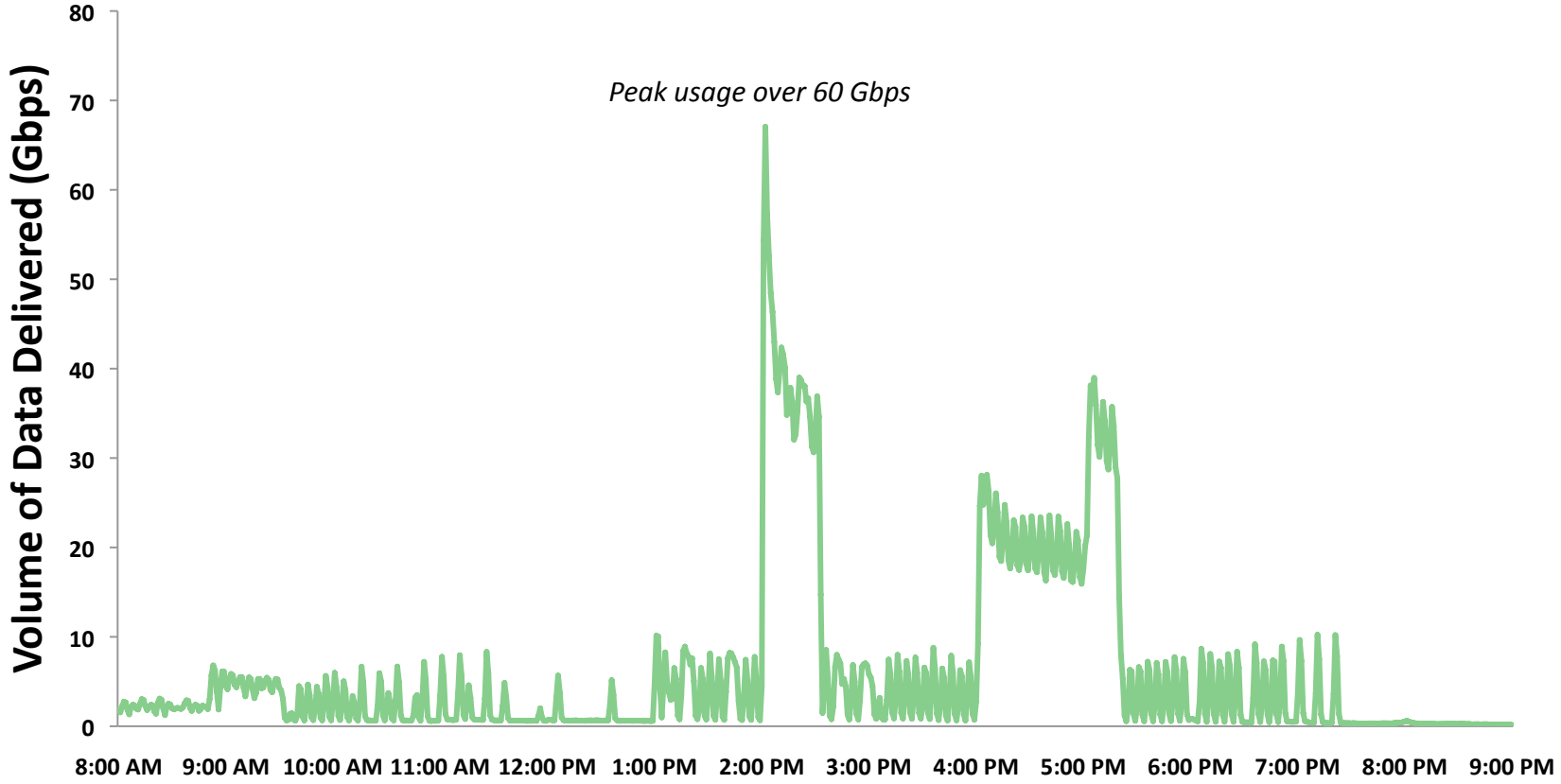
Scale on Demand



Overview of Amazon CloudFront

Low-overhead, cost-effective solutions

- Low cost: reduced CloudFront pricing four times in last 3 years
- Pay-as-you-go pricing with or without commitments making it affordable to distribute streaming media
- Tiered pricing, rates go down as volume increases
- Reserved CloudFront Capacity pricing reduces rates with a longer term commitment

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Reporting and analytics

Amazon CloudFront Log Analyzer for Elastic MapReduce

- Generate usage reports containing total traffic volume, object popularity, a break down of traffic by client IPs and edge location.
- Reports are formatted as tab delimited text files, and delivered to the Amazon S3 bucket that you specify.

Standard W3C format creates partner ecosystem solutions

- For instance, S3stat automatically tracks your CloudFront and S3 Usage Statistics through graphical reports generated on a nightly basis.
- Identify performance bottlenecks caused by slow loading content.

Overview of Amazon CloudFront

Reliable delivery to wide range of clients.

- Multiple delivery protocols for different platforms and devices
  - Adobe RTMP
  - HTTP Streaming for iOS
  - Microsoft Silverlight
- Options for live and on-demand video
  - Full control over origin for live streaming
- Reliability backed by CloudFront Service Level Agreement

Overview of Amazon CloudFront

RTMP Streaming on Amazon CloudFront

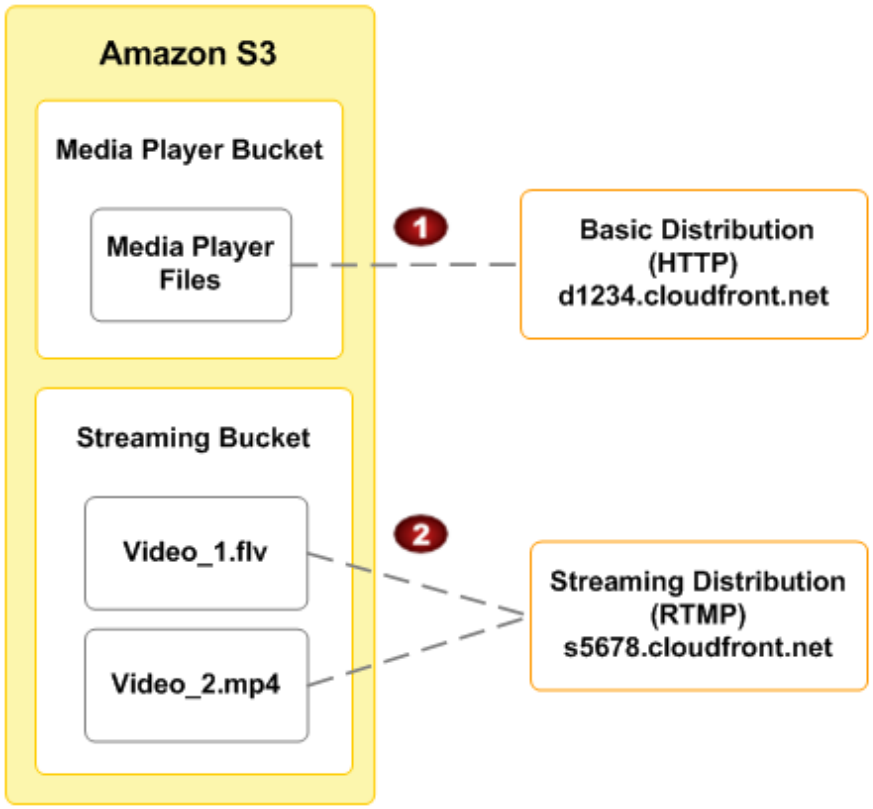
CloudFront Streaming

Benefits:

- No server hardware infrastructure to set up or maintain
- No up-front investment in software licenses or cost for future software upgrades
- No long-term commitment
- Global delivery using CloudFront
- Pay for what you use (data transfer)
- Ensure great experience as number of end users grows.
- Easy to get started with self service management console
- CloudFront supports the following variants of the RTMP protocol: RTMP, RTMPT, RTMPE, & RTMPTE

RTMP Streaming on Amazon CloudFront

Streaming Server and Media Player



- Media player files can be hosted in S3 or custom origin and delivered using CloudFront http:// distribution
- Host your video files in S3 and create a streaming distribution to stream the video

RTMP Streaming with Amazon CloudFront

Simple 5 step process

1. Download Media Player files
2. Upload the video and media player files to S3 (media player can use a custom origin). Make the files (not the bucket) publicly readable.
3. Create distributions. Create the streaming and downloadable distributions (if using S3 for your media player files)
4. Configure your media player with the correct path to the file. How you configure the media depends on which media player you're using and how you're using it.
5. Create the HTML page for your video.

Step by Step Instructions: http://docs.amazonwebservices.com/AmazonCloudFront/latest/DeveloperGuide/index.html?RTMPStreaming.html

DEMO

Getting Started.

- Simply sign up for CloudFront at http://aws.amazon.com/cloudfront
- Amazon S3 or your own custom origin for storing the objects
- Create a streaming or download distribution using CloudFront
- Place the CloudFront URL on your site

THANK YOU!

Case Studies

Example: IMDB

IMDB uses Amazon CloudFront to distribute content globally. IMDb uses Amazon CloudFront to stream the latest movie trailers and also for search data for the IMDb magic search feature.

“CloudFront makes this experience the fastest possible by distributing the content physically close to our worldwide user base.

By hosting our search and video files on Amazon CloudFront, we have zero servers to maintain, which makes our reliability sky-high. Amazon CloudFront gives us ultrafast, scalable, and reliable search all over the world"

Example: PBS

PBS Interactive says it has experienced fifty percent fewer errors in its video streaming performance using CloudFront compared to its previous CDN.

"We are extremely pleased with the performance and ease of use that CloudFront offers for streaming videos to different devices. With fewer errors, CloudFront delivers a great experience to our viewers, and that's very important for the success of our business…..using Amazon CloudFront is so simple and reliable that the team doesn't have to think about it. It all just works, freeing us to focus on building cool applications."

Example: Mediafly.

Mediafly uses CloudFront to provide security for downloads as well as to handle traffic spikes.

“Migrating to AWS was a strategic decision for Mediafly, one that we didn’t take lightly. It has turned out to be one of the best decisions we have made as an organization. Our latest integration with CloudFront furthers that belief. We are able to offer advanced security while handling traffic spikes and scaling with ease."

Example: vid.ly

Vid.ly uses access logs from CloudFront to build usage reports for customers.

"The CloudFront access logs have been extremely valuable for Vid.ly, our new universal video delivery platform. We analyze these logs daily to build specific usage reports for our customers so they can see how many times each of their Vid.ly videos have been played

DEMO BACKUP

Demo – Step 1

Configuring Amazon CloudFront Streaming Using JW Player

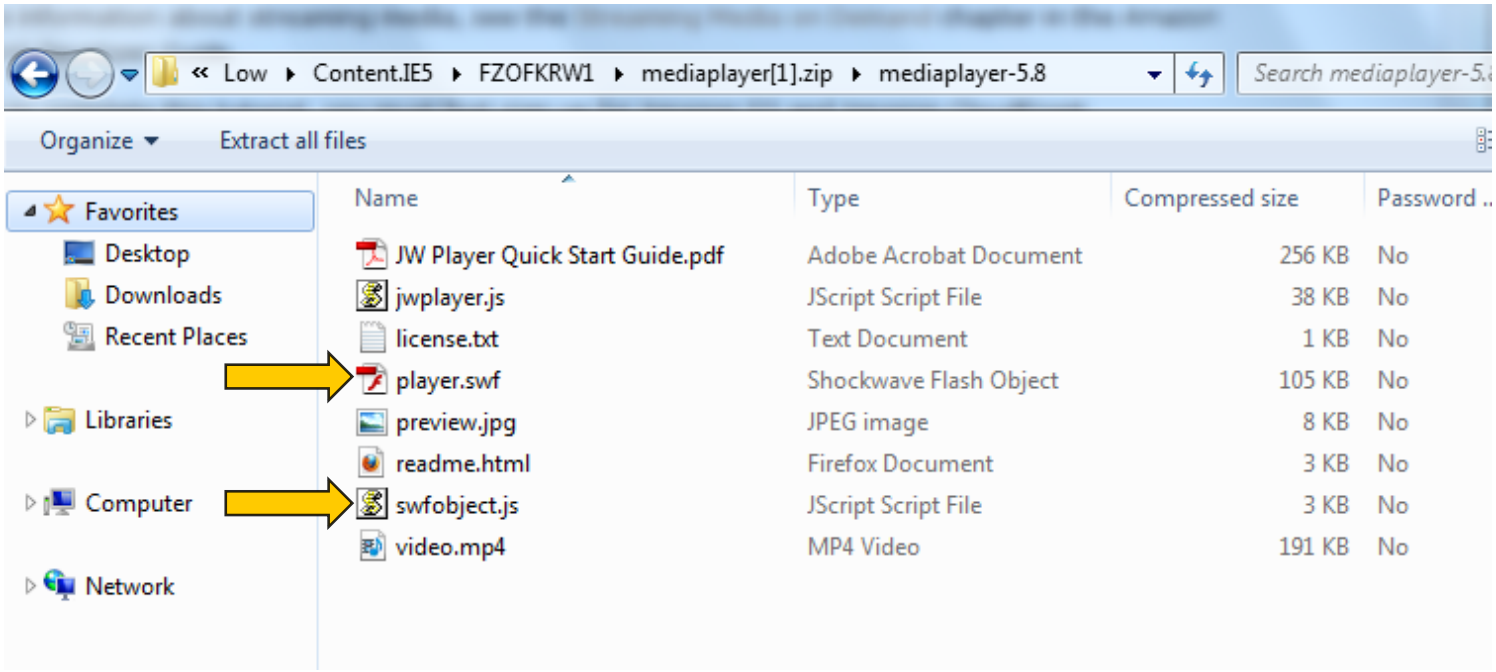
Step 1. Download JW Player Files

Go to http://www.longtailvideo.com/players/jw-flv-player/ to download the JW PLAYER. You'll receive a compressed folder in which you will find two items that you will need:

1. player.swf
2. swfobject.js

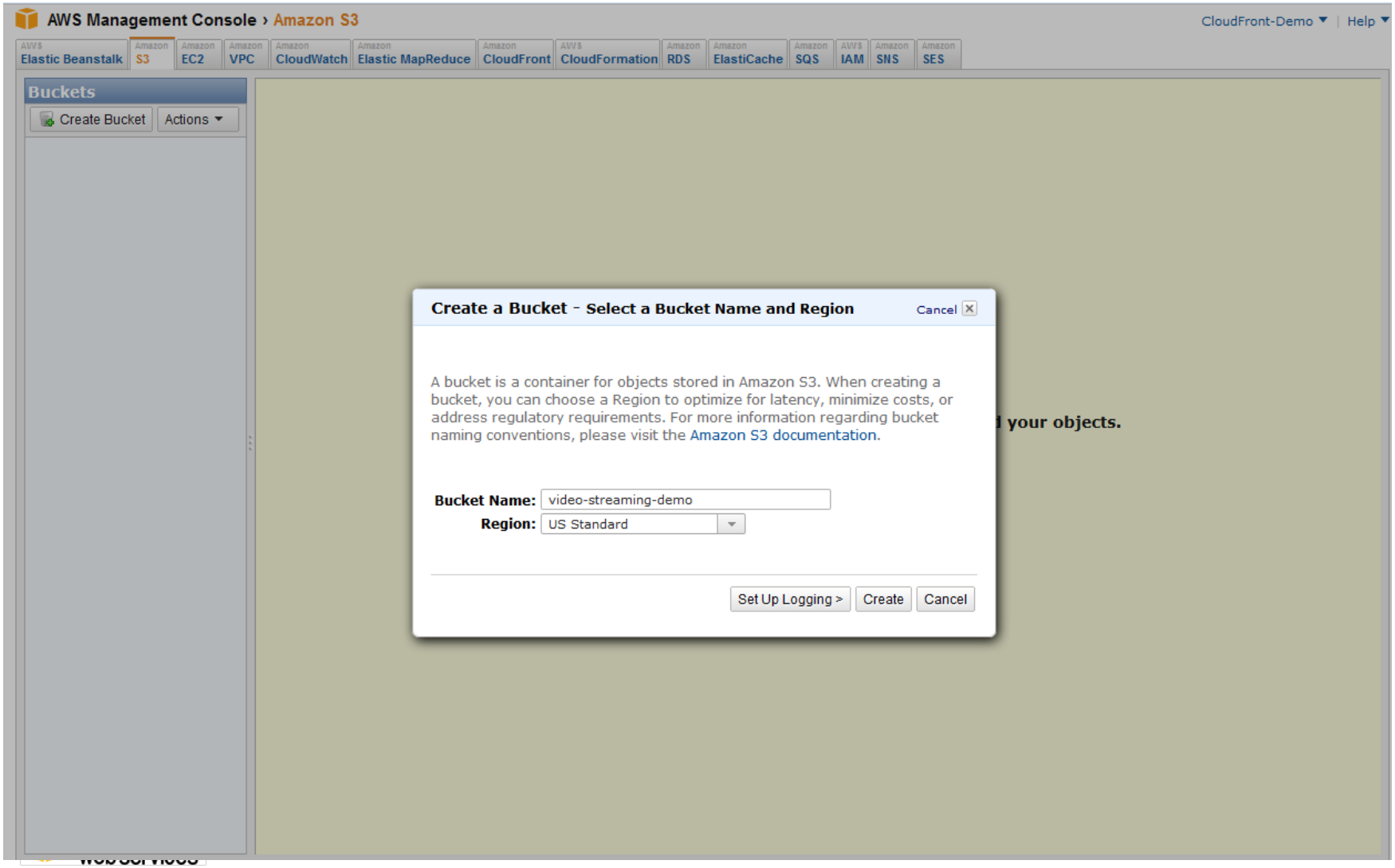
Demo: Step 1

Two files from JW Player will be uploaded to S3



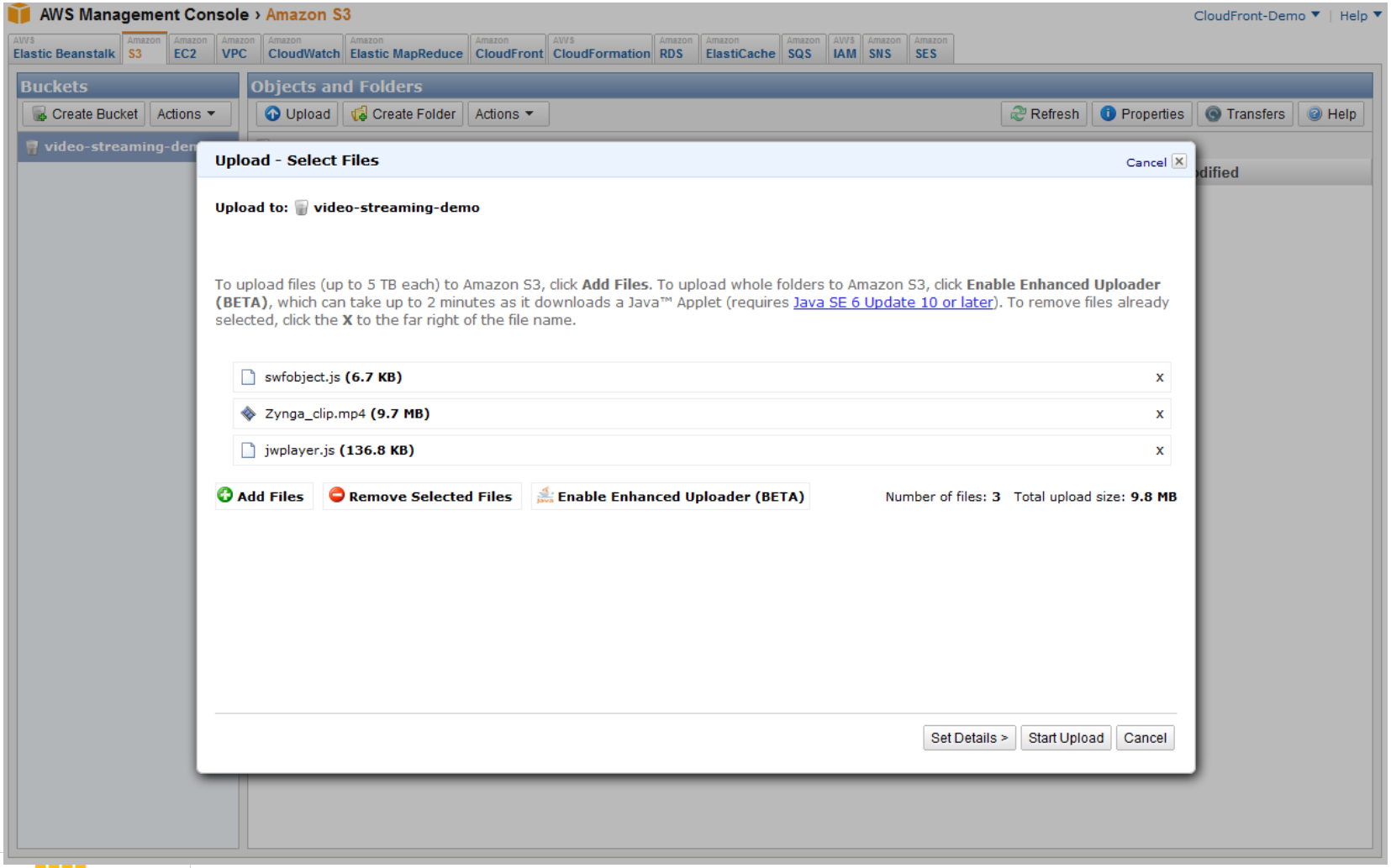
Demo: Step 2

Create an S3 Bucket



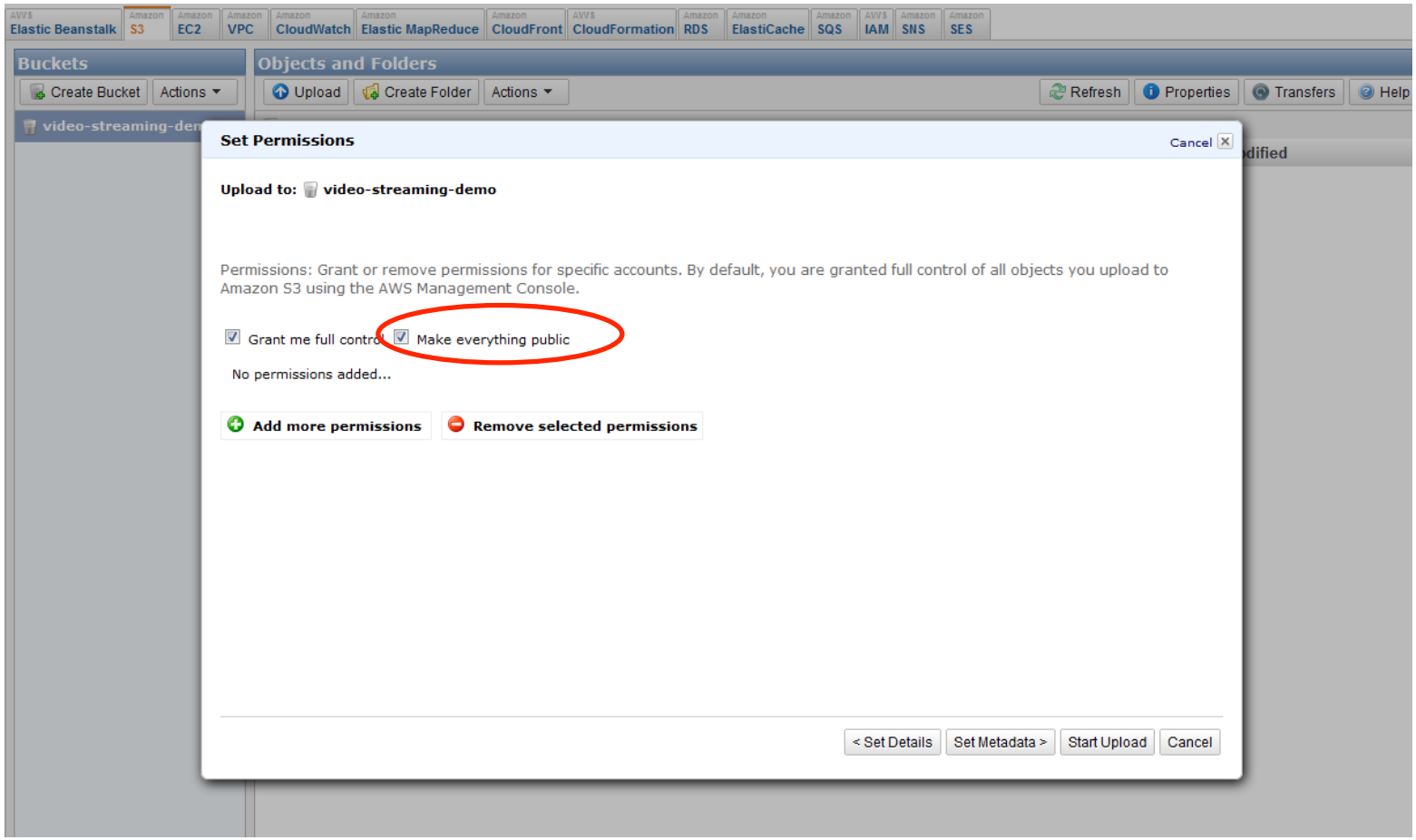
Demo: Step 2

Upload JW Player and MP4 File to S3 Bucket



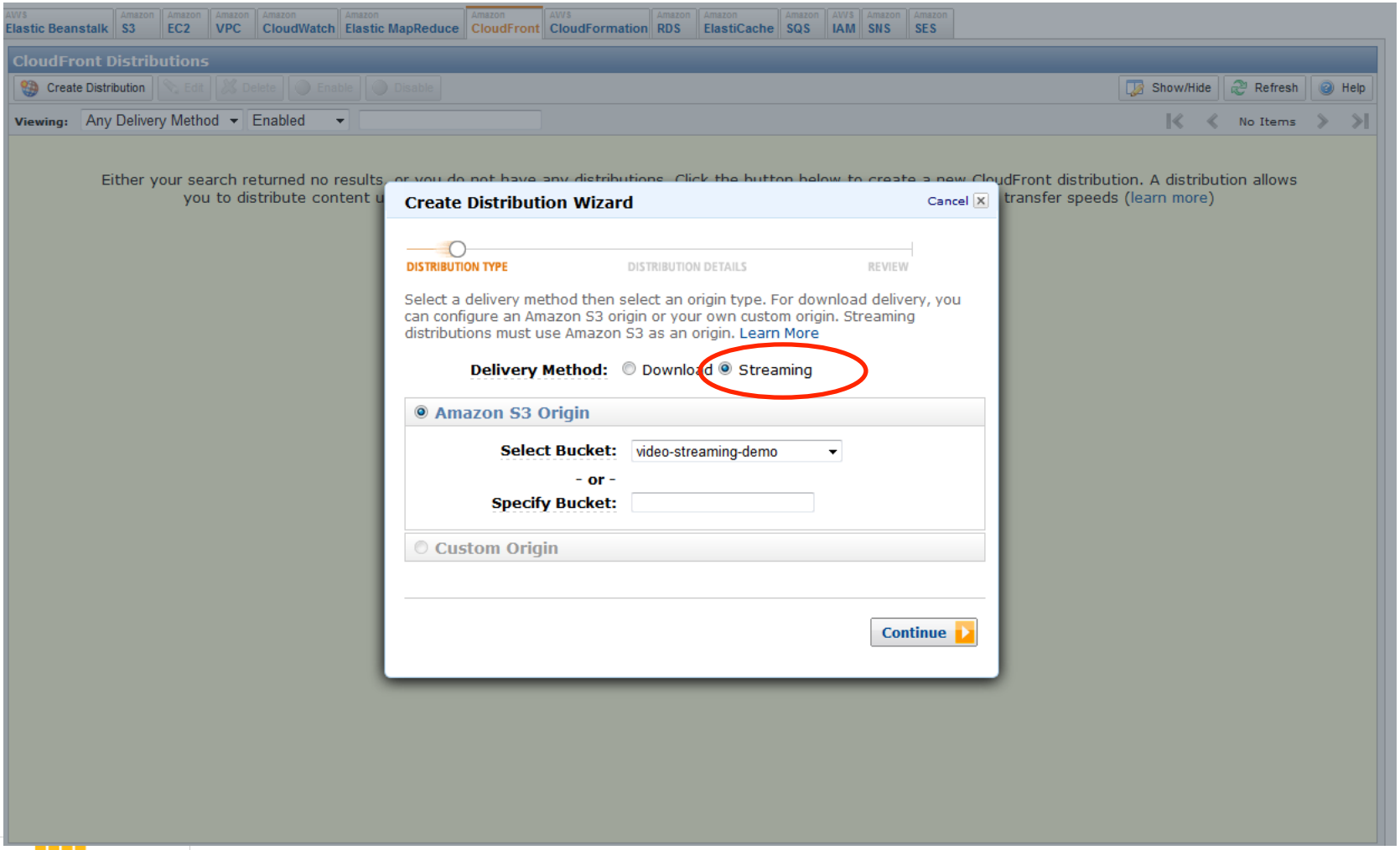
Demo: Step 2

Set Permissions on Files as Public



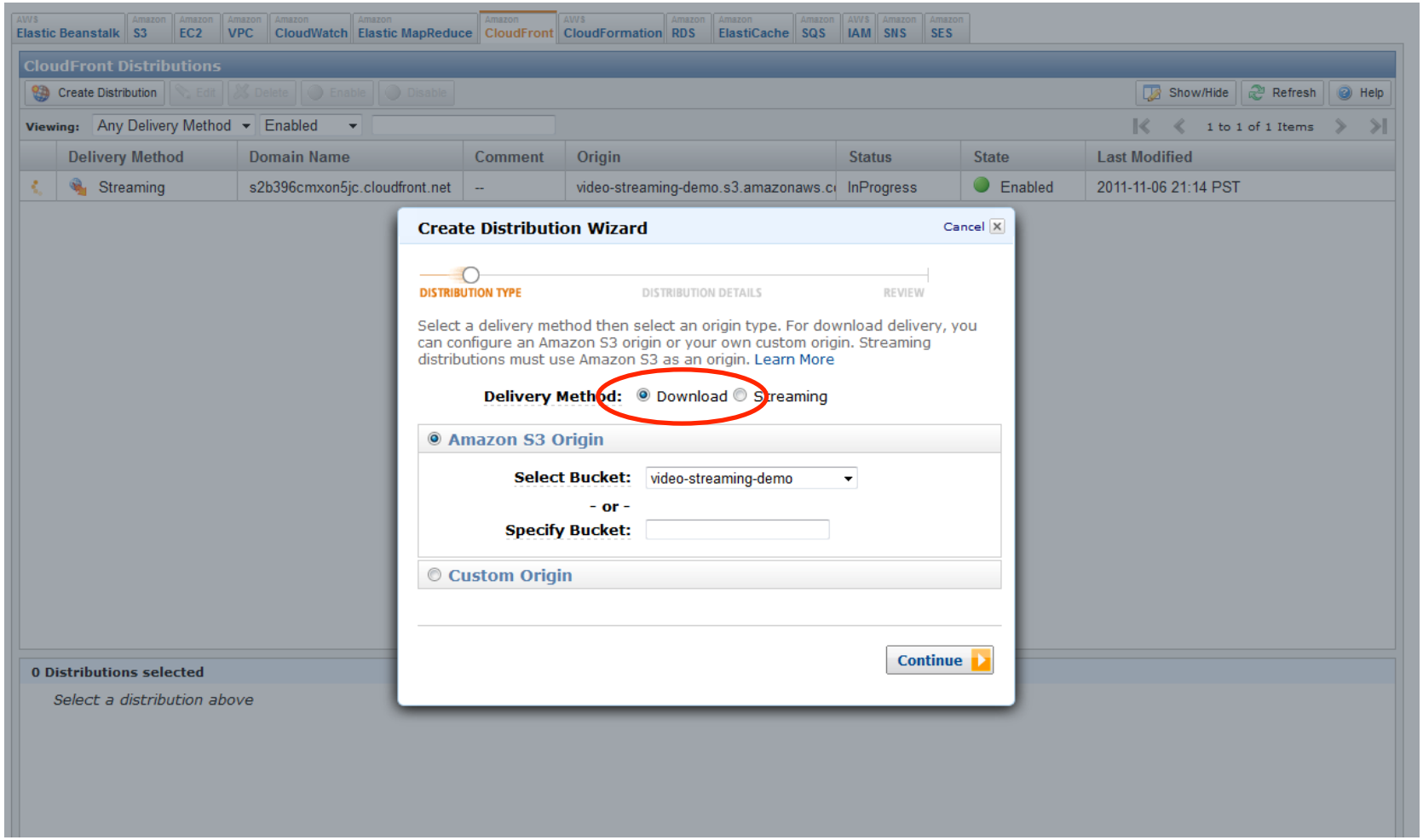
Demo: Step 3

Create Streaming Distribution



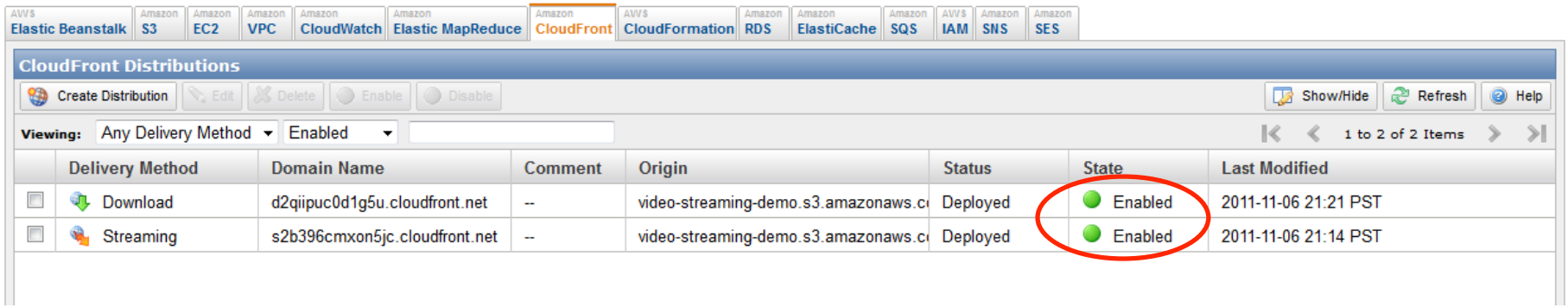
Demo: Step 3

Create Download Distribution for Player



Demo: Step 3

Ensure Distributions Deployed



Demo: Step 4

Create an HTML Page for Your Video

<!-- THIS IS A BASIC HTML FILE TO PLAY MP4's USING JW PLAYER The following code is from longtailvideo.com's 'Setup Wizard', found at http://www.longtailvideo.com/support/jw-player-setup-wizard --> <HTML> <HEAD> <TITLE> Streaming Video with JW Player </TITLE> </HEAD> <BODY> <!-- Put a header above your video, if you like --> <H1>This is my header</H1>

<script type='text/javascript' src='http://s3.amazonaws.com/YOUR_BUCKET/swfobject.js'></script> This text will be replaced

<script type='text/javascript'> var so = new SWFObject('http://s3.amazonaws.com/YOUR_BUCKET/player.swf','mpl','470','290','9'); so.addParam('allowfullscreen','true'); so.addParam('allowscriptaccess','always'); so.addParam('wmode','opaque');

so.addVariable('file','mp4:YOUR_VIDEO_FILE

so.addVariable('streamer','rtmp://YOUR_CLOUDFRONT_STREAMING_DISTRIBUTION.cloudfront.net/cfx/st/'); so.write('mediaspace'); </script> </BODY> </HTML>

Demo: Step 5

Test HTML