MBA - 2015

Working in open collaboration, to
build a transparent measurement collection and reporting methodology, and to publish a freely available dataset of US consumer broadband performance, since 2010.

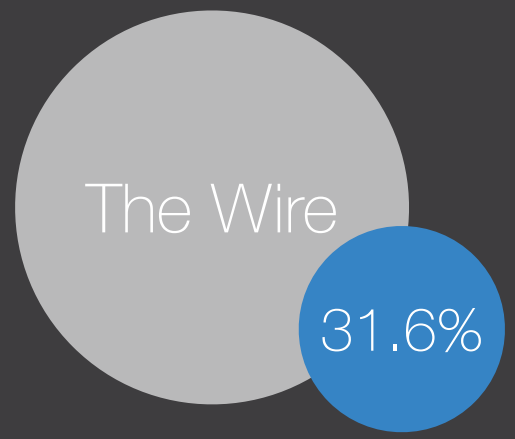
8 APRIL , 2015 | WASHINGTON D. C.

Agenda

1. Overview
2. Project Objective
3. Selected Services (beta)
4. Timeline
5. Review of Technical Methodology
6. Joint Opportunities
7. Questions

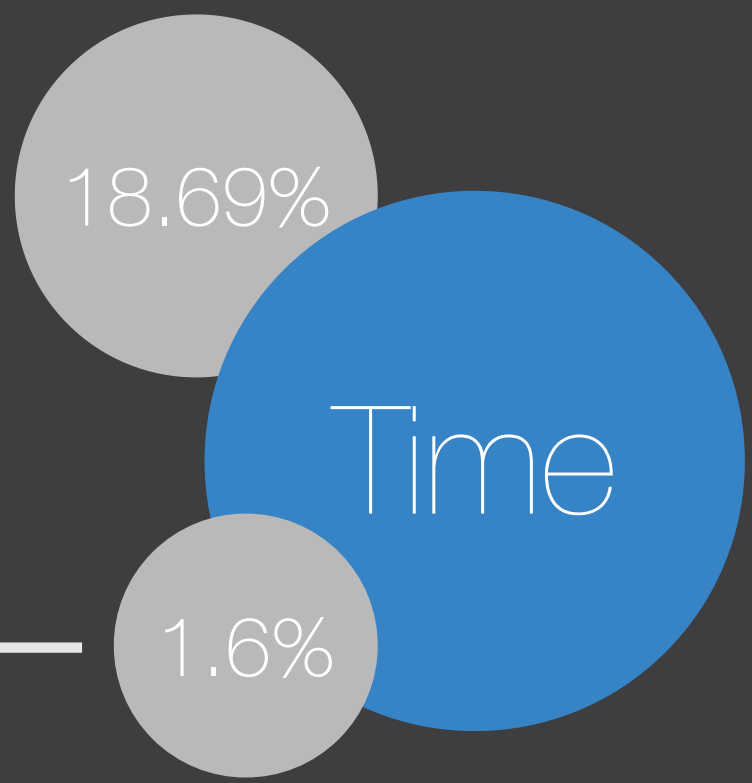
Overview

"it's a safe bet that the two (Netflix & YouTube) will soon account for more than half of all the bandwidth we use."
The Wire: http://www.thewire.com/technology/2013/05/netflix-youtube-traffic/65210/



"Netflix accounted for 31.6% of downstream traffic on fixed networks in September during "primetime" internet hours – 9pm to 12am."
Guardian Newspaper via Sandvine Global Internet Phenomena Report 2014

YouTube second heaviest source of peak download traffic.
Sandvine Global Internet Phenomena Report 2014



"Netflix's share of the streaming video pie keeps rising, as the service now accounts for more than 34 percent of peak wired download traffic in North America."
Time Magazine 2014

Amazon's share of peak downstream traffic.
Sandvine Global Internet Phenomena Report 2014

Source: http://online.wsj.com/news/articles/SB10001424052702304908304579561802483718502

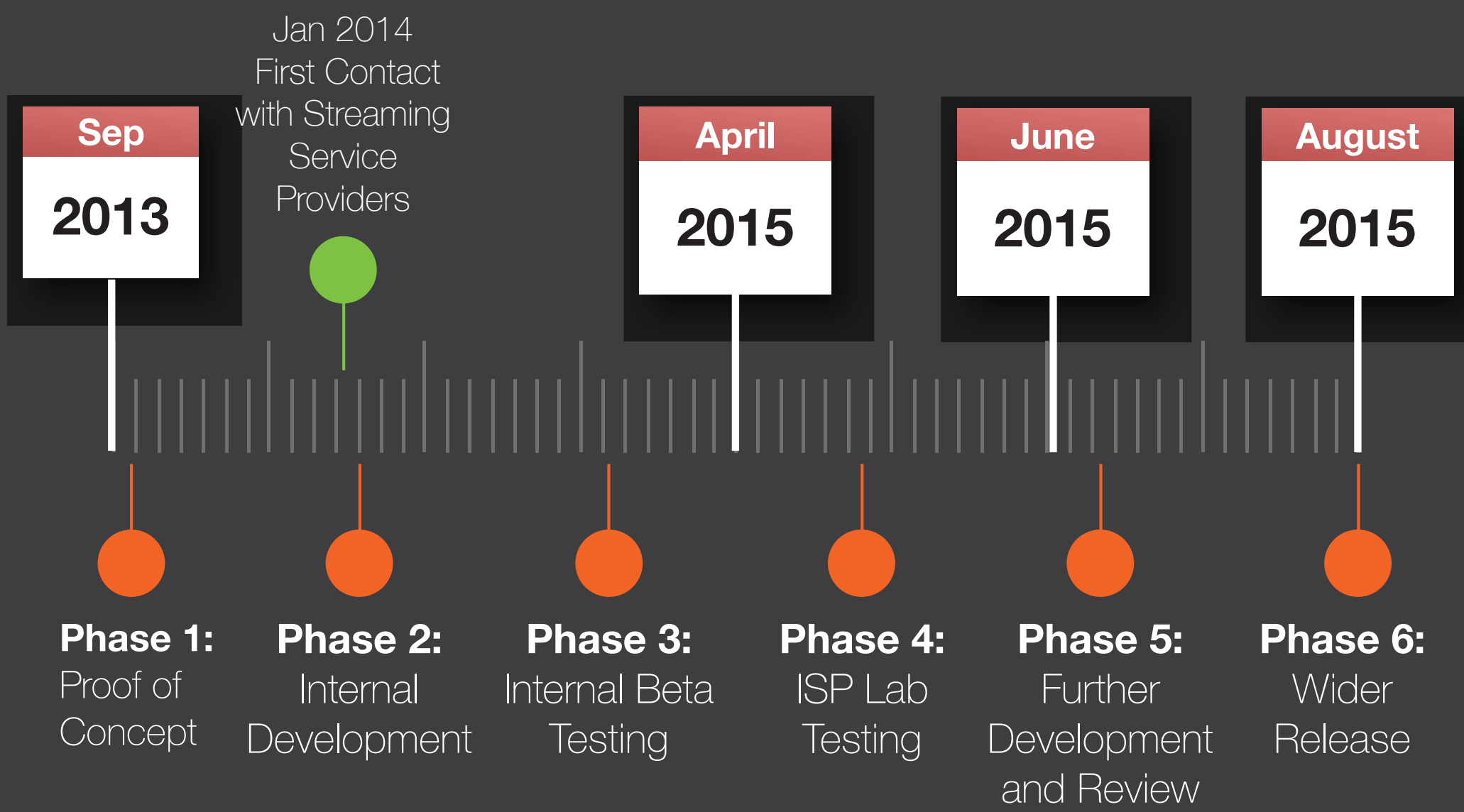
Project Objective

Create a working group whose purpose is to develop a common methodology for measuring video streaming performance to allow for a comparative measurement and analysis of available services.

Selected Services (beta)

- Services so far selected based on popularity
- Includes free and subscription platforms
- Working to establish collaborative relationships with service providers
- Intention to add more streaming services
- Requesting the participation of ISPs in a joint effort

Timeline


Sep
2013
Jan 2014
First Contact
with Streaming
Service
Providers
April
2015
June
2015
August
2015
Phase 1:
Proof of
Concept
Phase 2:
Internal
Development
Phase 3:
Internal Beta
Testing
Phase 4:
ISP Lab
Testing
Phase 5:
Further
Development
and Review
Phase 6:
Wider
Release

Review of Technical Methodology

YouTube Methodology

- Streams real videos from YouTube
- Uses the real YouTube servers (including Google Global Cache, if installed by the ISP)
- Tests most popular videos
- Decodes videos on the probes - it's not just a speed test.

Netflix Methodology

- Streams synthetic content from Netflix
- Uses the real Netflix ‘Open Connect Appliances’ (these may be inside the ISP network)
- Downloads content at full-rate for 20 seconds. A ‘bitrate reliably streamed’ metric can be derived from analysis of this transfer
- Developed in collaboration with Netflix

Data Points

"Bitrate Reliably Streamed"

What's the best quality video we can stream without rebuffering?

"Startup delay"

How long does it take for a video to start playing?

"TCP Connect Time"

How long does it take to connect to the server?

"Download Throughput"

How fast can we receive data from the server?

Beta Phase Observations

1

Early rollout showed **peak-hour congestion** issues in certain areas for both YouTube and Netflix.

2

Interestingly, many tests operate over **IPv6** rather than IPv4, again for **both YouTube and Netflix**.

3

Tests now report the **maximum available bitrate** of the video as well, so it is possible to present the bitrate reliably streamed as a percentage.

Phase 4
Opportunity for Collaboration

Joint Opportunities

- ✓ 3 month 'Testing Period'
  2 Whiteboxes to be sent (on request) to ISPs
  Duration of Testing: 1 Month (proposed)
  Period after testing to review and discuss results
  Second 'Testing Period' to begin after review of results
- ✓ Suggestions for additional services
  Video on Demand
  Video Streaming Providers
  Additional services to be added asap

Sam Knows