OpenSignal

Setting a Benchmark:

QoE Metrics in an OTT World

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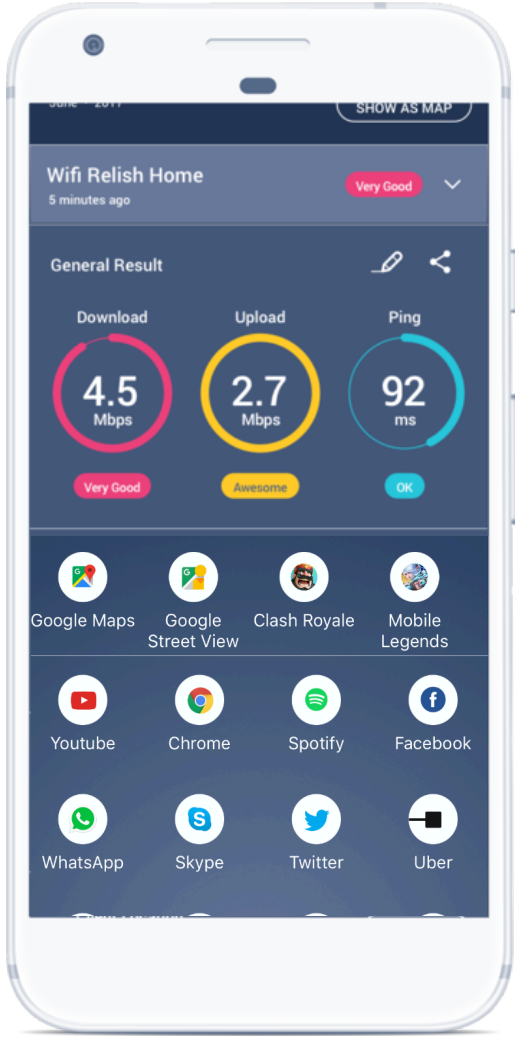
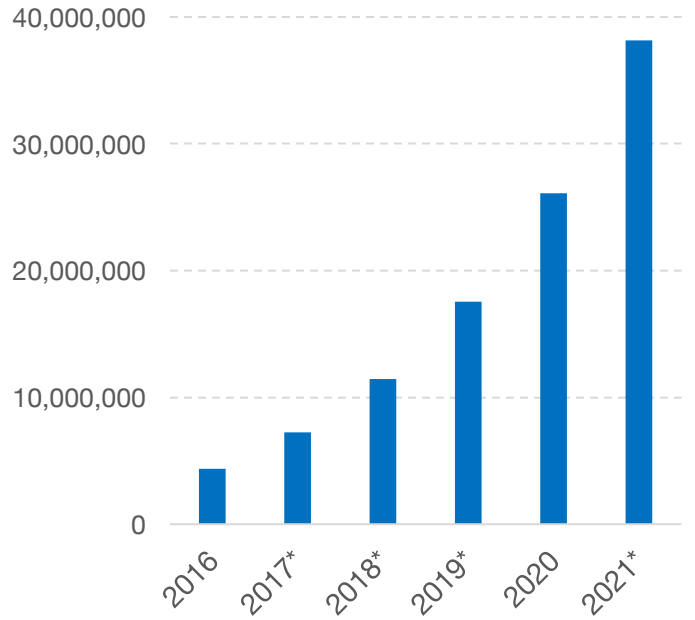
Measuring QoE in a **Rapidly Changing Ecosystem**

- Initial quality metrics were defined around engineering capabilities.
- In a voice-centric & data-limited work, this was ok.
- Now mobile usage has exploded and the variety of applications is accelerating.
- How to measure QoE in such a wide range of user-cases?
- Every use-case requires different QoE metrics !!





Cisco VNI: Forecast Growth in Video Traffic

OpenSignal – The True Network Experience, Globally

#1 Connectivity App

The OpenSignal Network

Definitive Metrics & Insight into True Network Experience

J.P.Morgan GSMA NIC Which? UBS EIU

Recognized as *de-facto* Industry Standard

T··Mobile· SMART AT&T vodafone TELUS Sunrise entel

Tier-1 Operator Adoption in over 20 different countries.

10 million active devices **globally.**

2 billion measurements per day.

Real people, real devices, **real experience.**

OpenSignal: **Real-world On-Device** Experience

OpenSignal Methodology Highlights:

- Captures the *end-user* perspective.
- Results reflect time spent in indoors, outdoors, and everywhere people use their devices.
- Tests run at automated, random times to capture full range of experience.
- Thousands of different device models tested.

…Real people, real devices, **real experience.**

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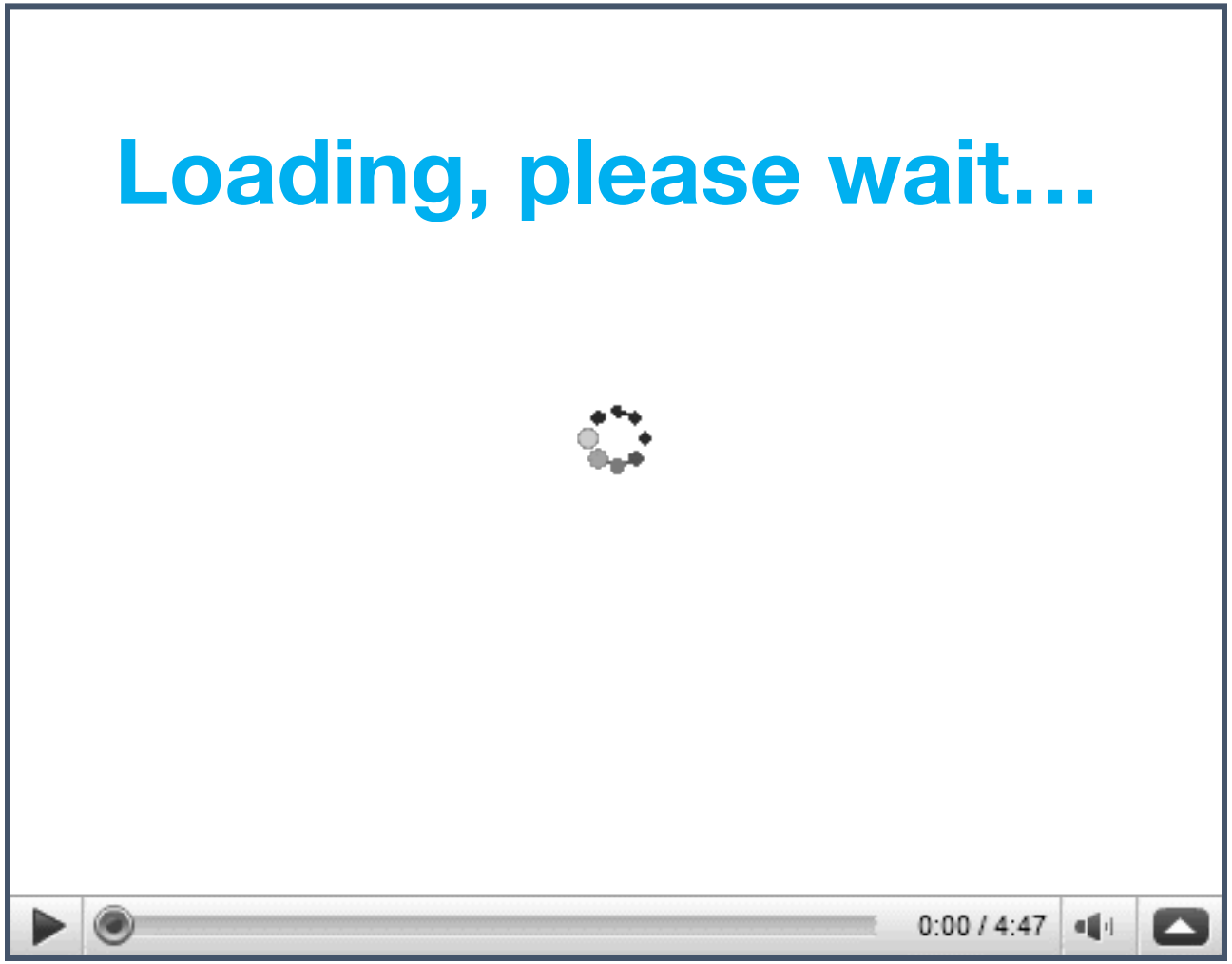
How do we think about QoE for video?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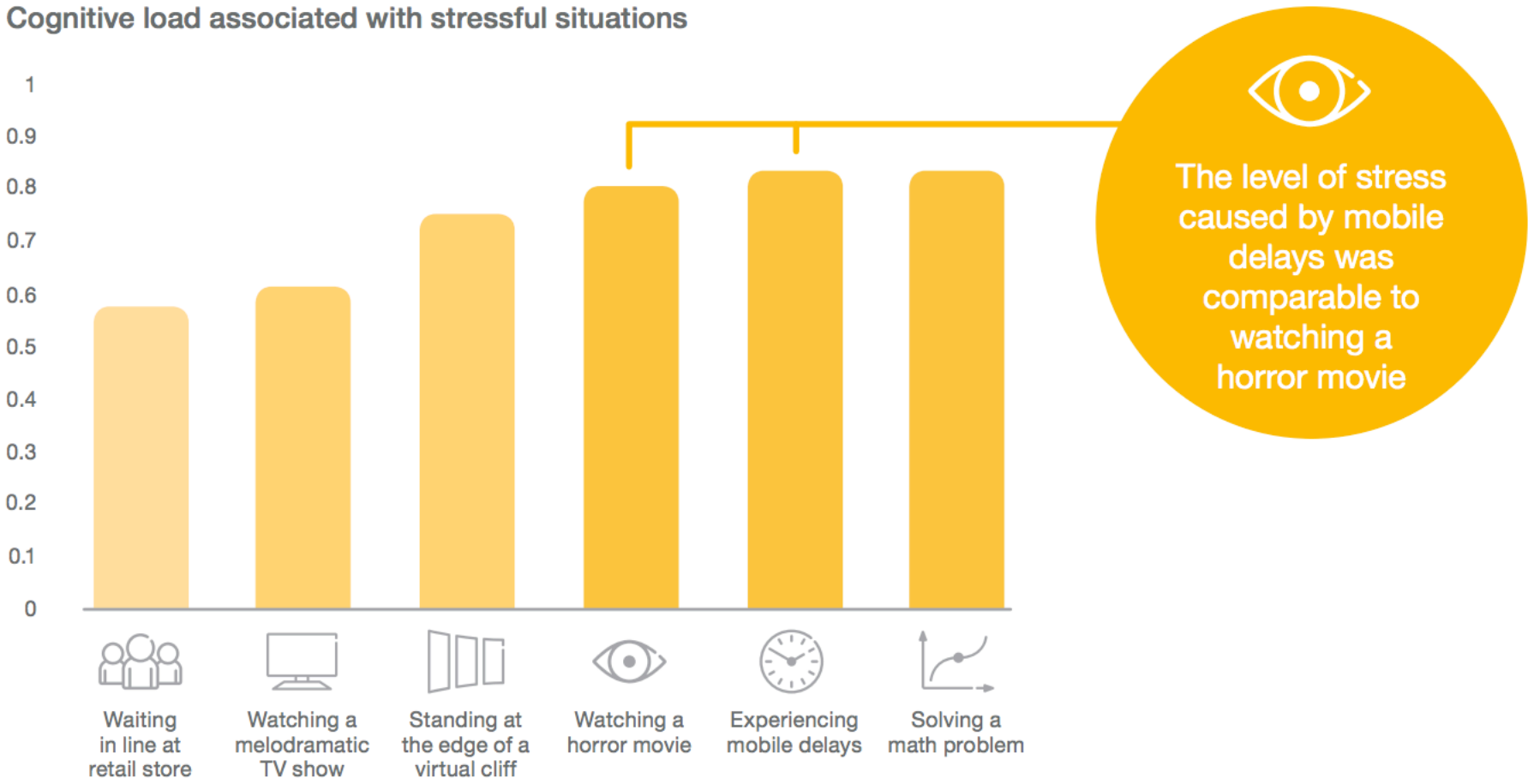
Buffering Horror: As stressful as watching a scary movie

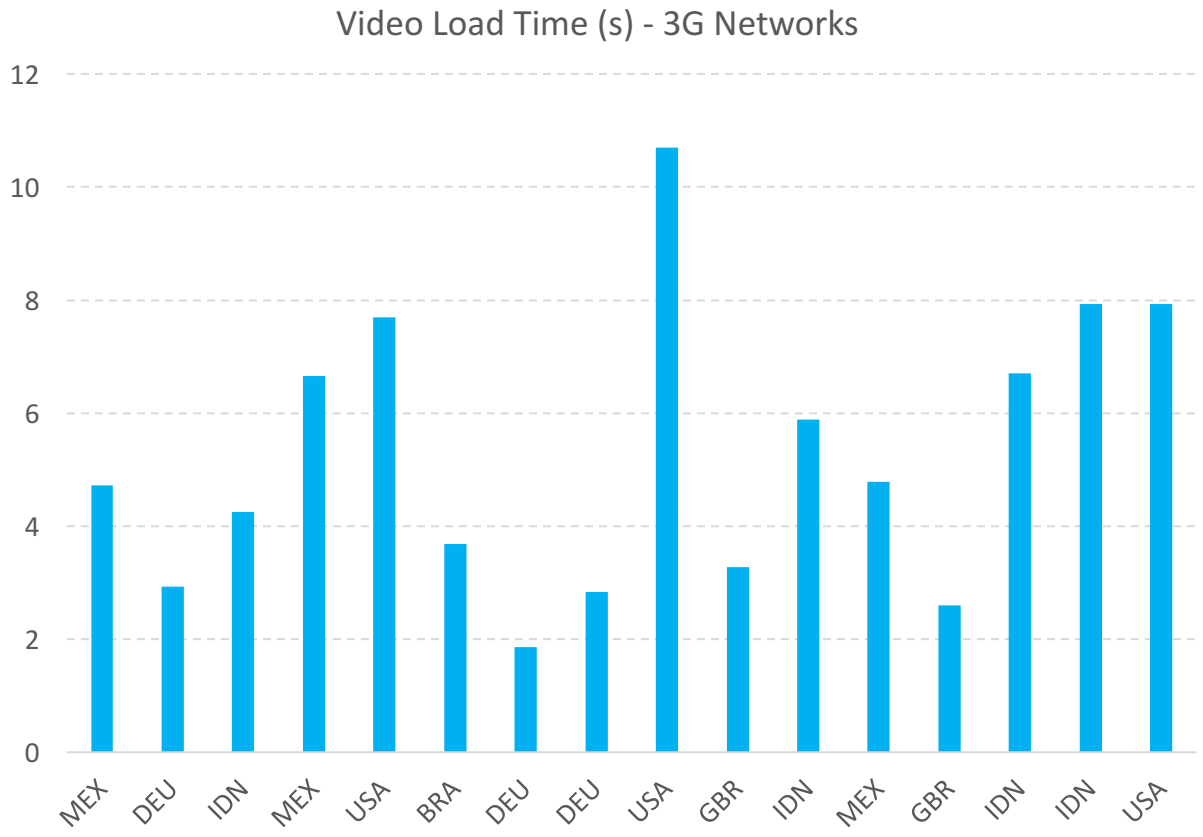


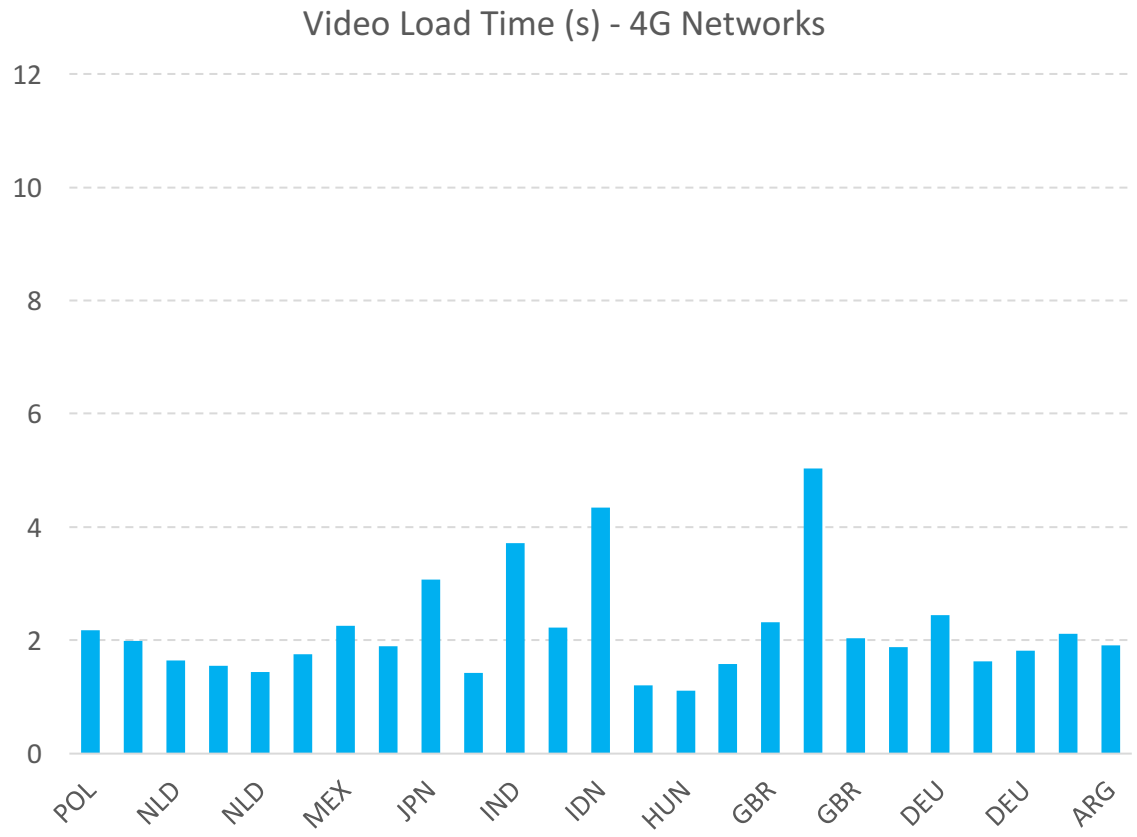
Source: Ericsson ConsumerLab, Neurons Inc., 2015

Real-world Video Experience

- The following contains initial results from new real-world video testing from the OpenSignal network.
- Tests all run from end user devices under conditions of normal use.
- Tests run on YouTube to reflect real usage.

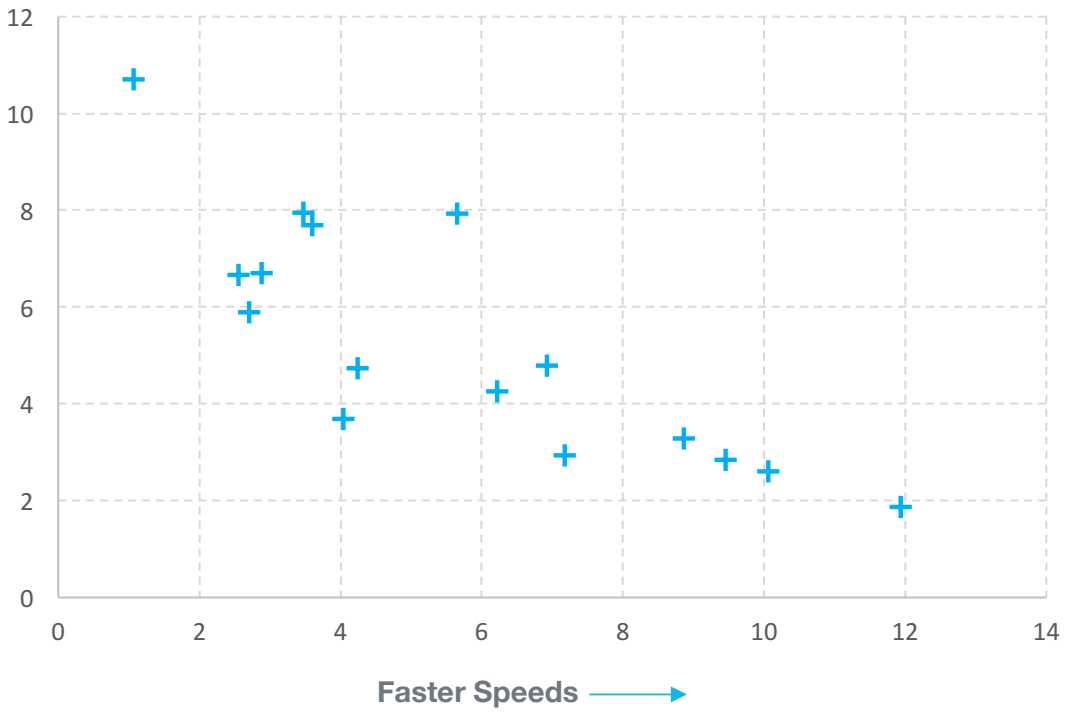
Real World, Measured Av Video Load Times



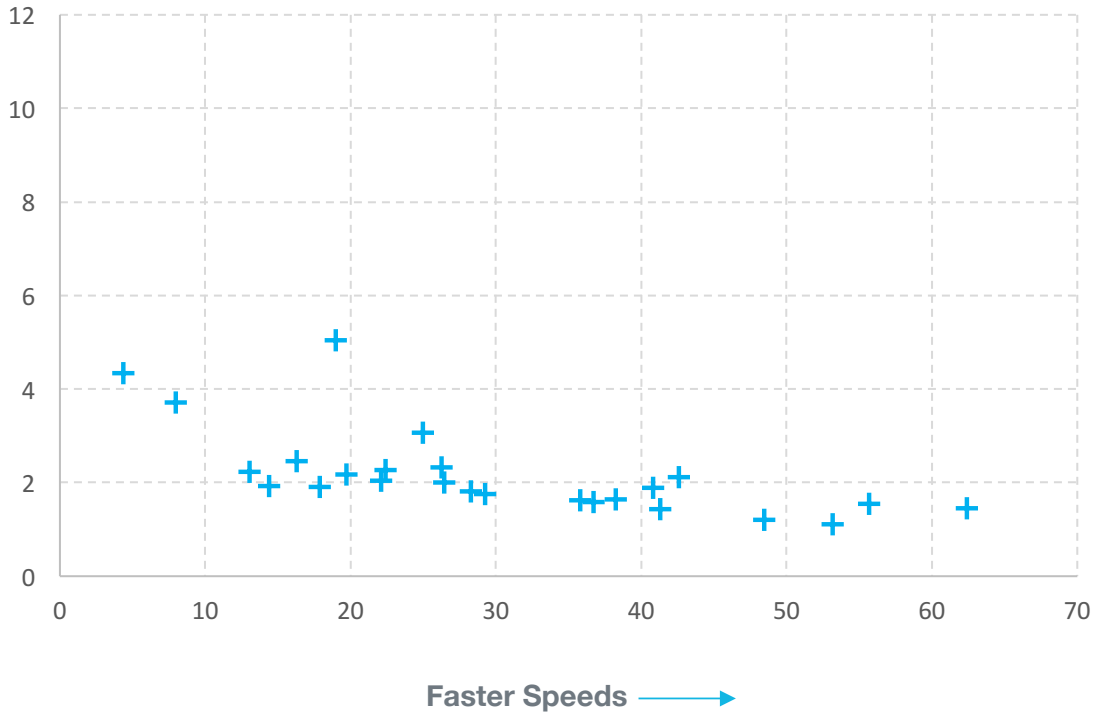


Download Speed: Impact on Load Times

Speed Vs Load Time (3G)

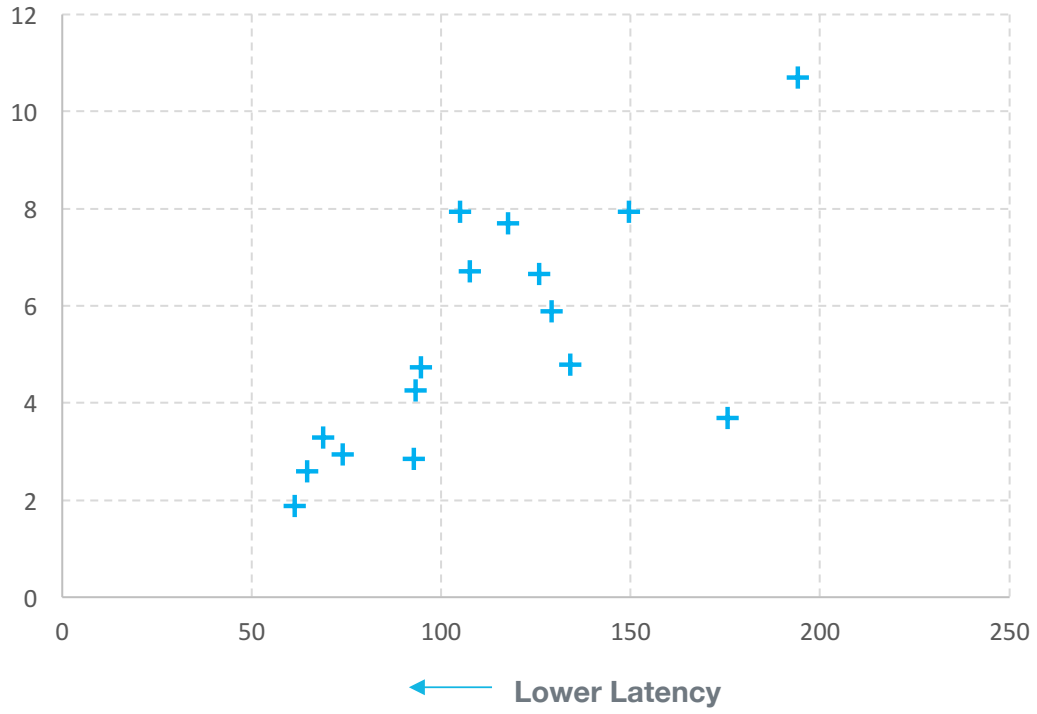


Speed Vs Video Load Time (4G)

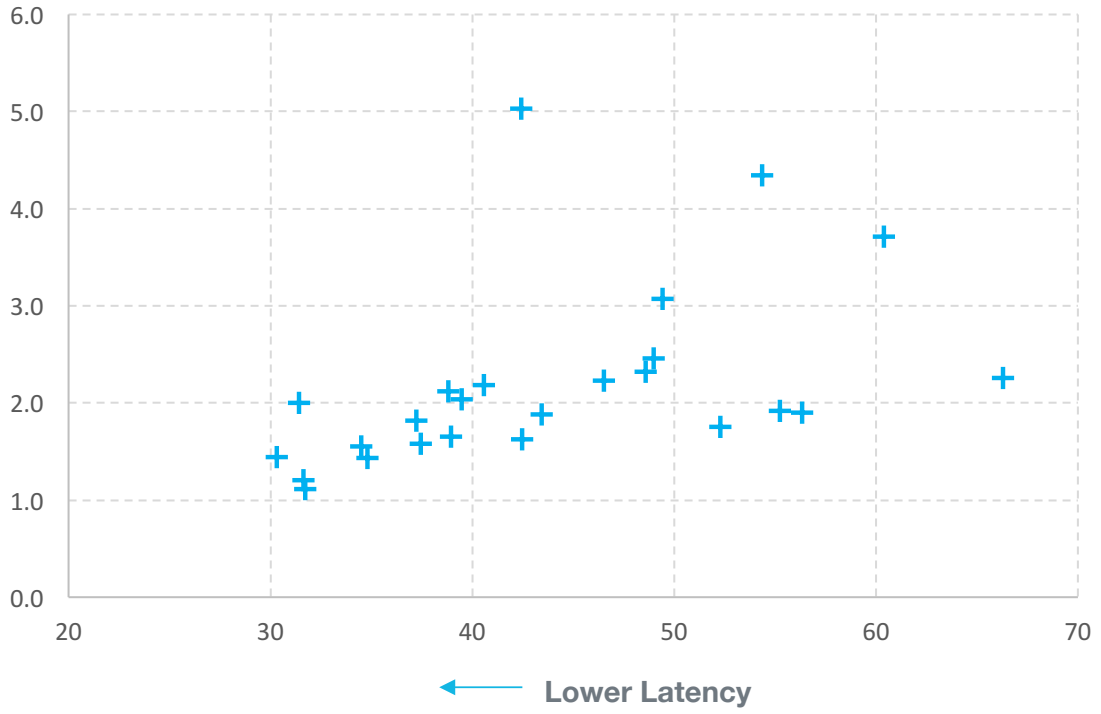


Latency: Impact on Load Times

Latency Vs Load Time (3G)



Latency Vs Load Time (4G)



QoE Metrics in a **Video-centric world**

- We should define QoE metrics for OTT services *as* people experience them.
- *User & application*-centric, not *engineering*-centric.
- Viewing things through the lens of user experience can inform where we need to put focus.
- As we look towards a 5G future, perhaps more focus should be on ubiquitous coverage, lower latency etc.
- Driving better latency is the ‘gift that keeps on giving’ when it comes to video experience. Edge computing & intelligent caching could have powerful impact for video.

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Any Questions?

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