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MOBILE ANALYTICS REPORT

Mobile Analytics Report

June 2011

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Bytemobile's Smart Capacity™ platform gives mobile operators more control of existing network resources to manage escalating subscriber demand for capacity due to video and other bandwidth-intensive content and applications.

By deploying the Unison™ Smart Capacity Platform in the mobile network, operators can defer costly network capital expenditures and control operating expenses, while improving revenue growth and profitability. Bytemobile® Smart Capacity solutions have been deployed with over 125 operators in 60 countries, including 8 of the world's top 10 tier-one carriers. Customers include AT&T, Bharti Airtel, China Mobile, China Telecom, H3G, KDDI, KPN, Mobilkom Austria, O2, Orange, Orascom, Sprint Nextel, T-Mobile, Telecom Italia Mobile, Telefónica, TeliaSonera, Vodafone, and Zain.

Smart Capacity Mobile Analytics is used to deliver Bytemobile's quarterly Mobile Analytics Report. The Mobile Analytics Report (formerly known as Mobile Minute Metrics) anonymously sources data traffic in a global cross-section of Bytemobile customers' wireless networks and provides insight into the current state of the mobile ecosystem.

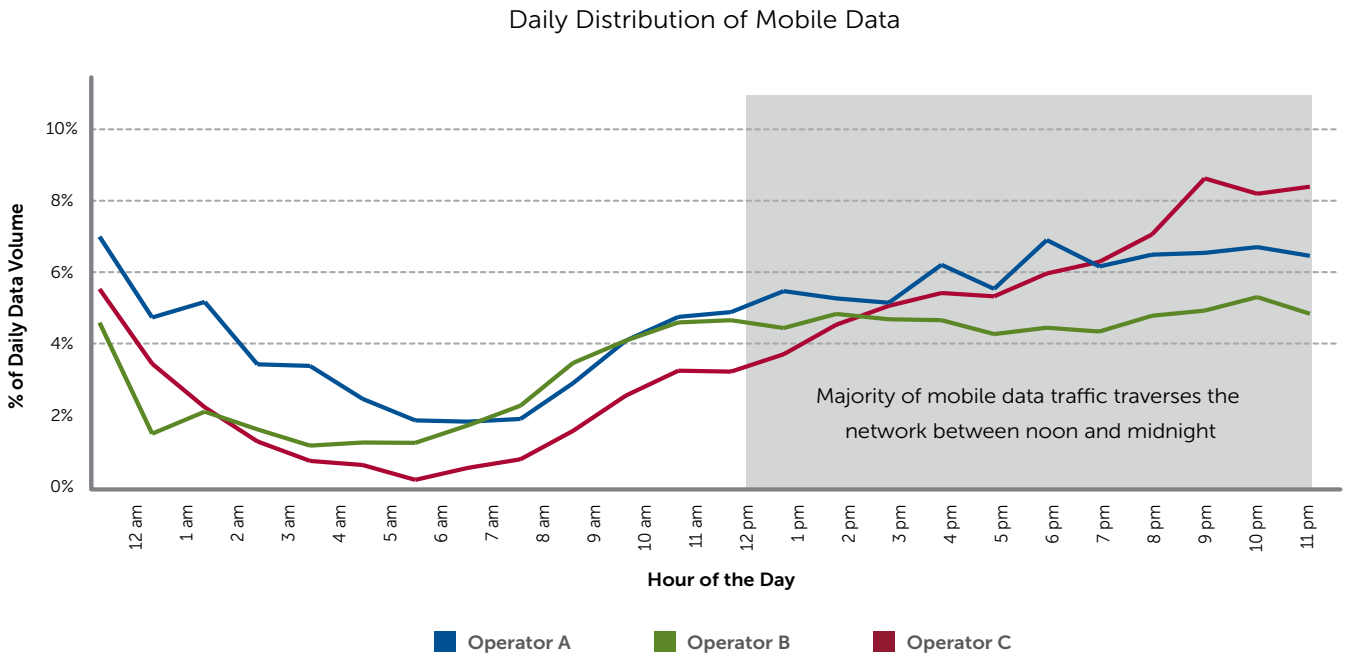
2Q 2011 Highlights

Continued aggressive growth in mobile data – fueled by video and application usage over faster networks and more powerful, user-friendly devices in the hands of billions of people – has escalated the traffic management challenge for carriers. Bytemobile has analyzed data trends across its customers' wireless networks, inclusive of Android devices, iPhone/iPad and laptop data usage. The second-quarter 2011 report provides insights into the profile of the mobile data network, application traffic patterns and subscriber quality of experience (QoE) on operators' networks.

Network Traffic Patterns and End-User QoE

- Wireless networks need to support video demand not only during peak traffic hours, but at all hours of the day.
- Video generates 40 – 60% of total mobile data traffic on wireless networks.
- Laptops, iPhones/iPads and Android devices consume the majority of mobile video today. Half of the total data traffic that is generated by these devices is from video.
- On average, users are requesting high-resolution videos 29% of the time; however, that percentage of videos is responsible for 45% of total traffic on the network.
- Subscribers that access the YouTube website via a mobile browser are served higher resolution videos than subscribers accessing the same videos through the pre-installed YouTube application, regardless of the network or device type.
- Dependent on network conditions and time of day, mobile videos stall between 5 and 40% of the time. Video optimization technology reduces stalling by 30 – 50%.
- Subscribers on wireless networks optimized for video consume double the mobile video content than those on un-optimized networks.

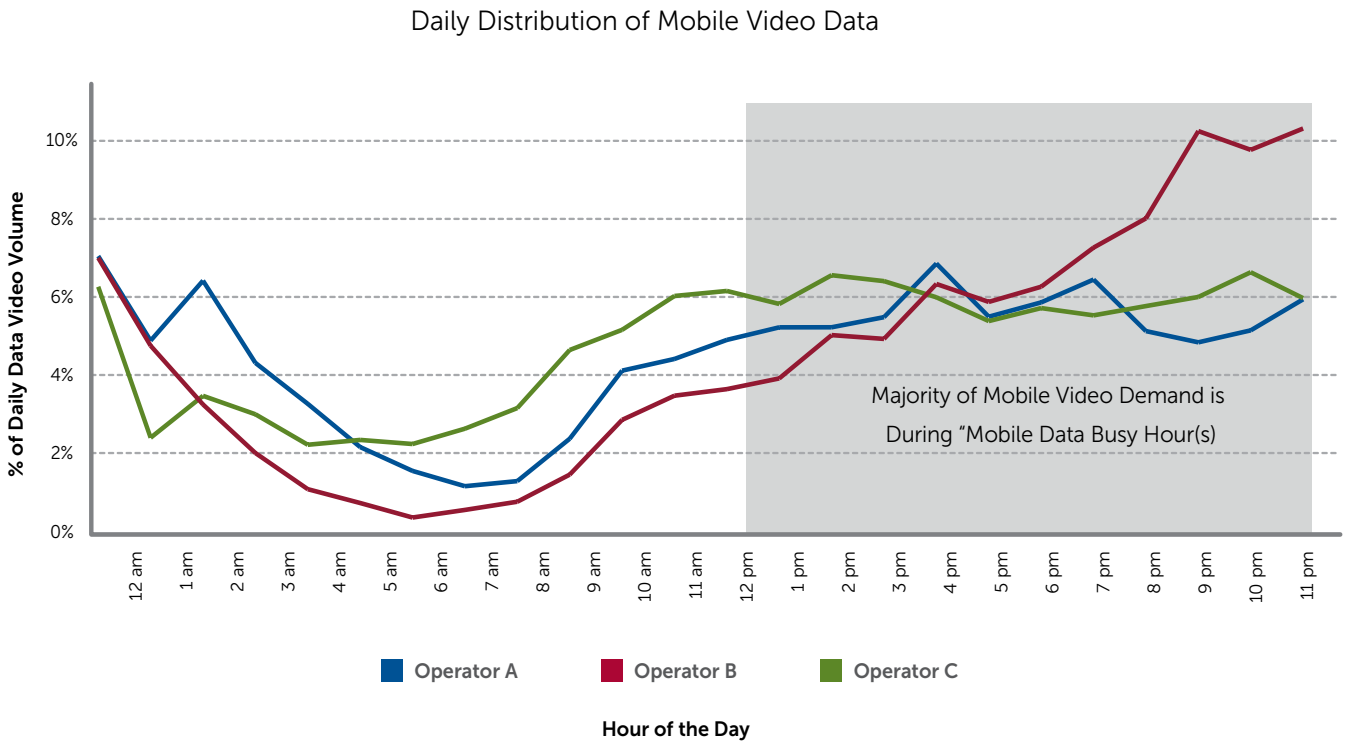
Mobile Data Generates 12-Hour Usage Peak



Findings:

- The majority of mobile data traffic traverses the network between noon and midnight.
- However, mobile networks are under constant strain for the majority of the day.

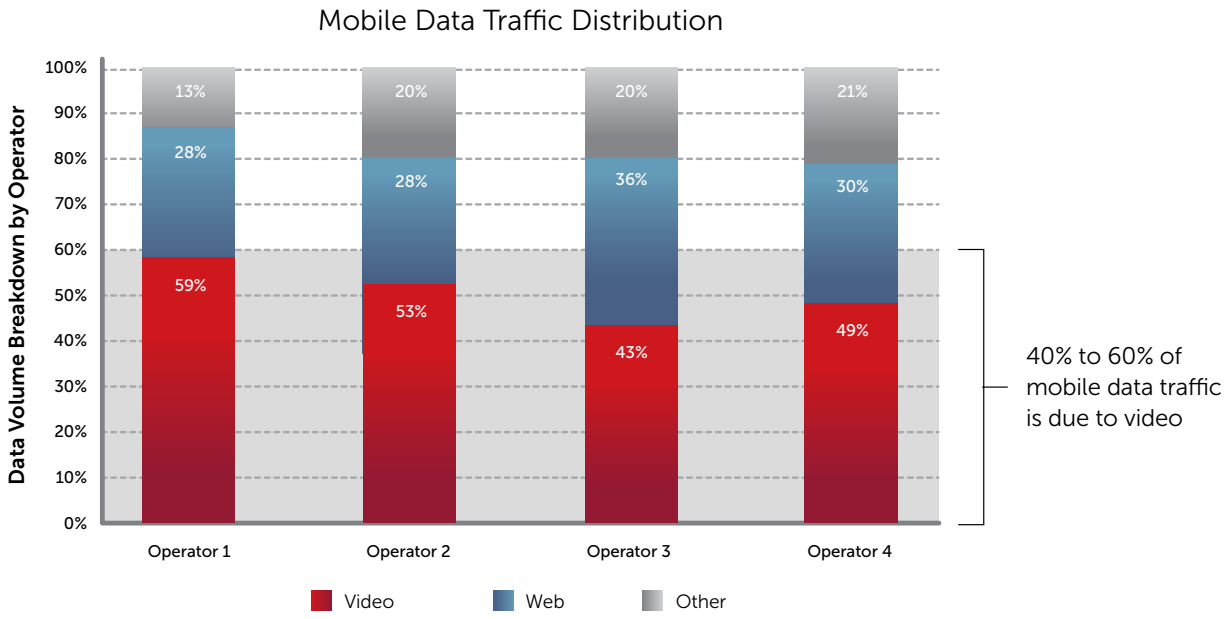
Subscribers Demand Video All Day



Findings:

- Subscribers consume mobile video at all hours of the day.
- Mobile video usage parallels network "busy hours".
- Wireless networks need to support video demand not only during peak traffic hours, but at all hours of the day.

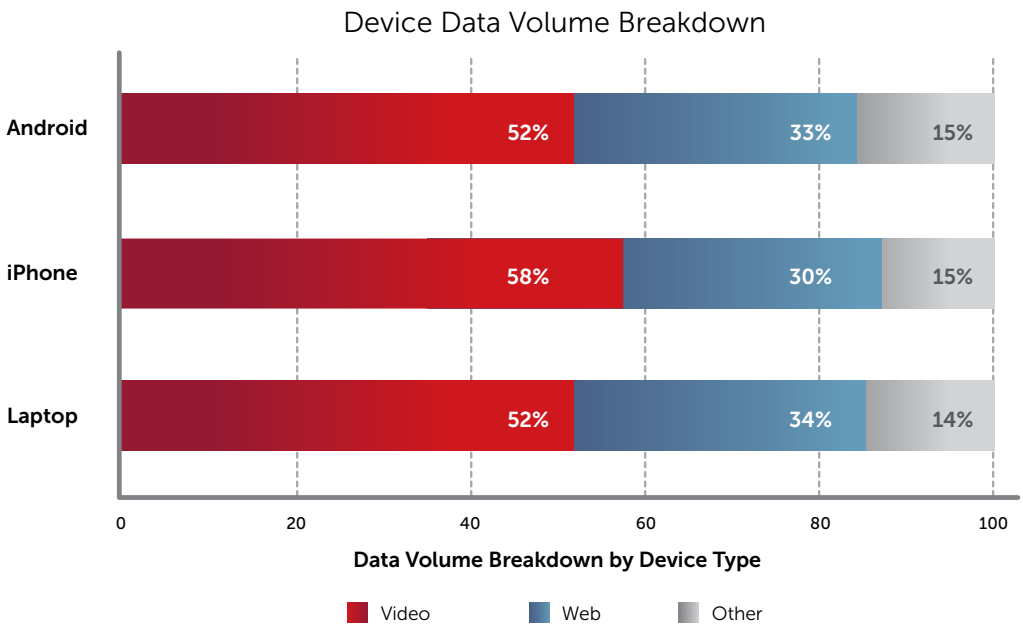
Mobile Video Drives Majority of Total Network Traffic



Findings:

- Today, mobile video generates 40 – 60% of total mobile data traffic on wireless networks.
- Subscriber demand for video is the main driver of mobile data traffic.

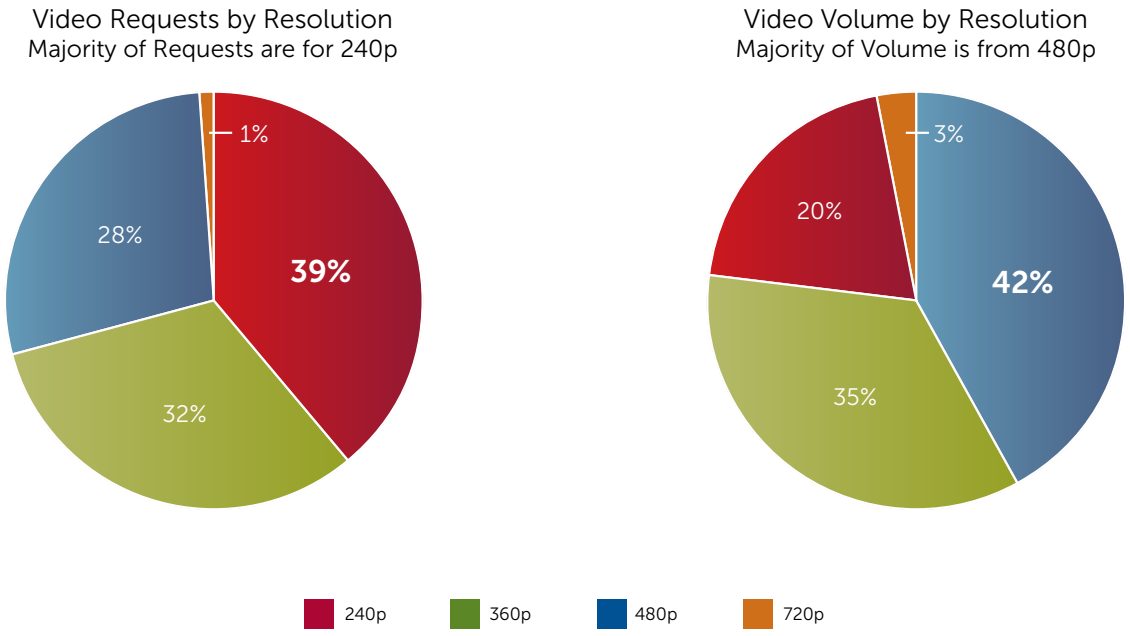
Mobile Video Traffic by Device



Findings:

- When it comes to mobile video, touch-screen smartphone usage mimics laptop usage.
- The majority of data traffic generated by laptops, iPhones/iPads and Android devices today is from video.
- Even a slight increase in smartphone and tablet penetration will significantly increase the video load on wireless networks.

A Little High-Resolution Goes a Long Way

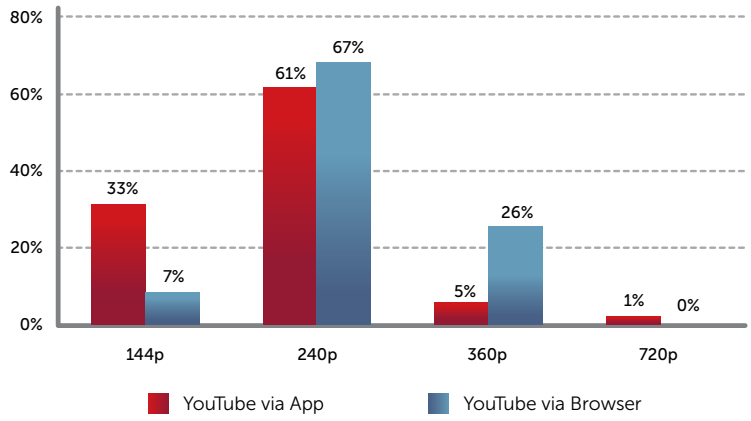


Findings:

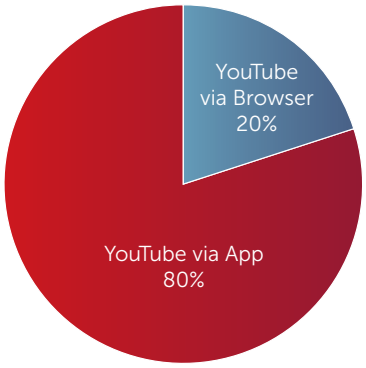
- On average, users are requesting high-resolution videos 29% of the time; however, that percentage of videos is responsible for 45% of total traffic on the network.
- Higher-resolution videos drive a disproportionate percentage of overall network traffic.

Mobile Apps vs. Mobile Internet

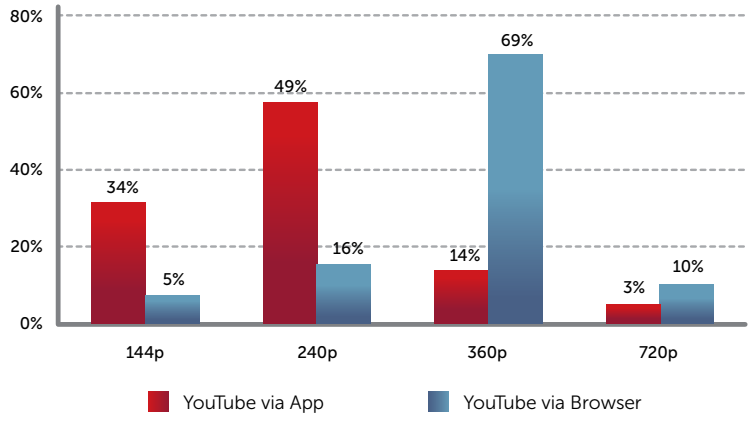
Video Resolution Differs by iPhone Access Method



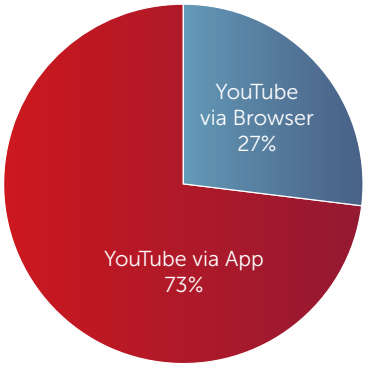
Majority of iPhone Subscribers Access YouTube via App



Video Resolution Differs by iPad Access Method



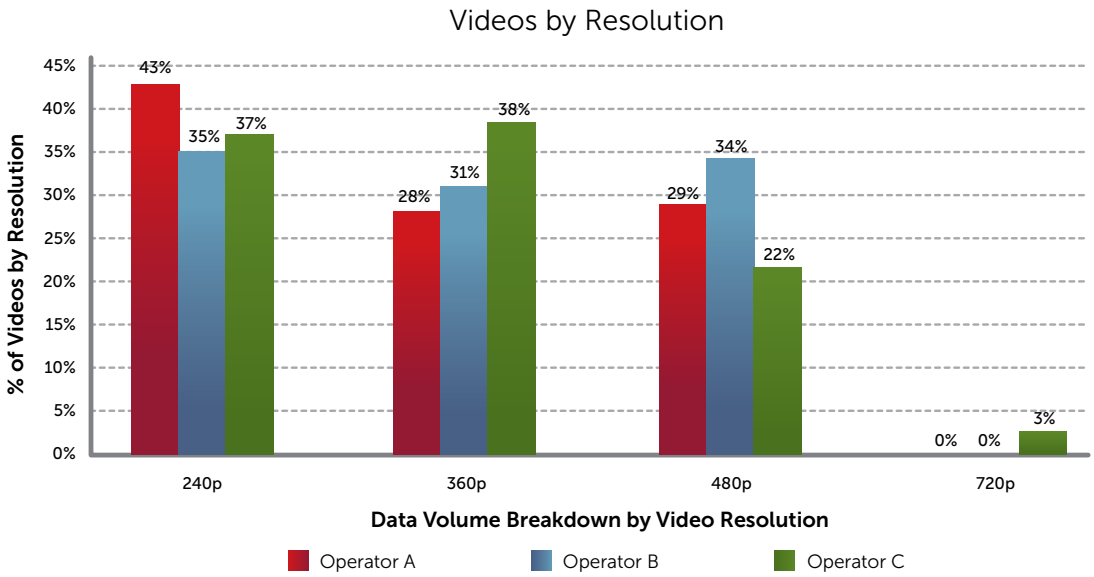
Majority of iPad Subscribers Access YouTube via App



Findings:

- Subscribers that access the YouTube website via a mobile browser are served higher resolution videos than the same subscribers with the same devices accessing videos through the pre-installed YouTube application.
- iPad subscribers typically watch higher-resolution video and use the pre-installed YouTube application less frequently than iPhone subscribers.
- Mobile application selection impacts the quality of the user experience.

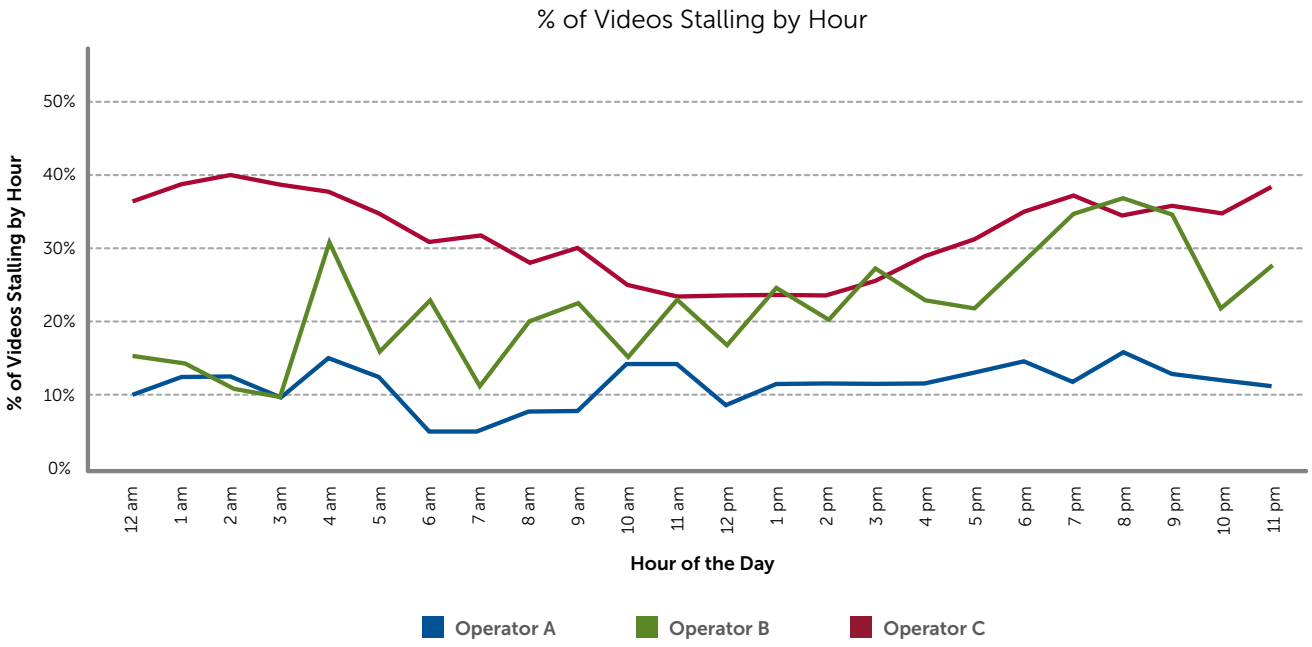
Measuring QoE by Video Resolution Quality

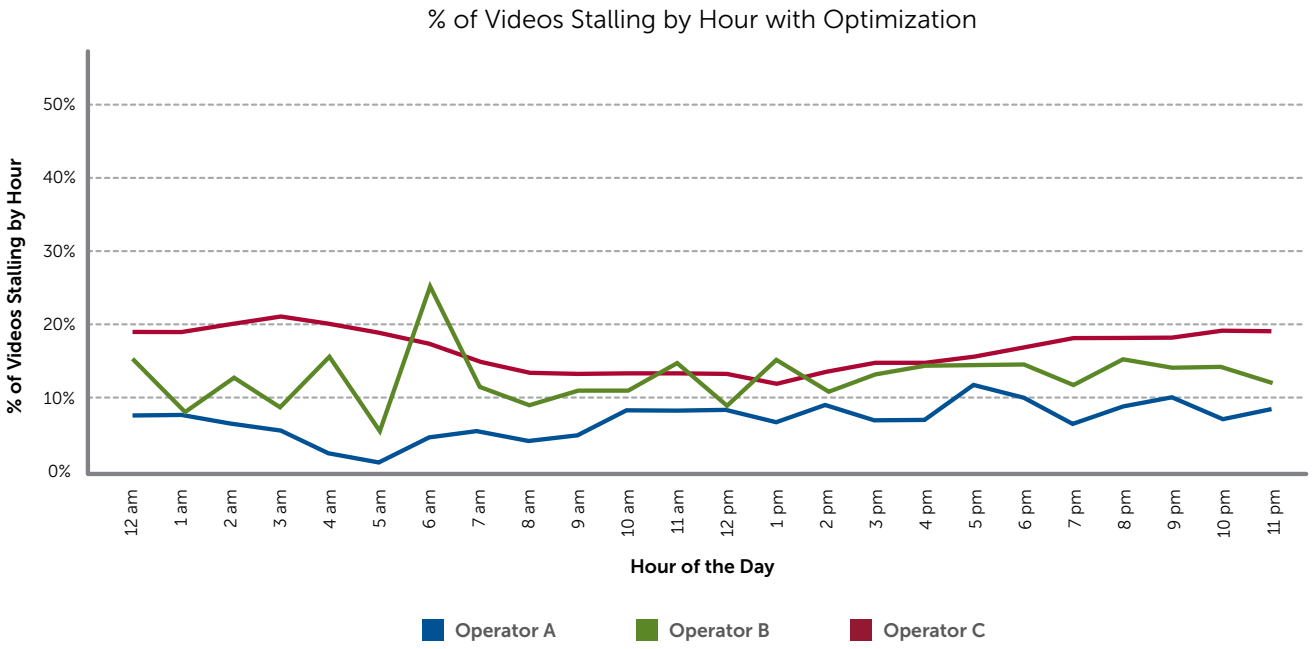


Findings:

- Wireless networks that are able to support higher-resolution videos deliver a better QoE to users.
- In creating a resolution profile, network operators can generate a mobile data QoE score for their customer base.

Measuring QoE by Stalling

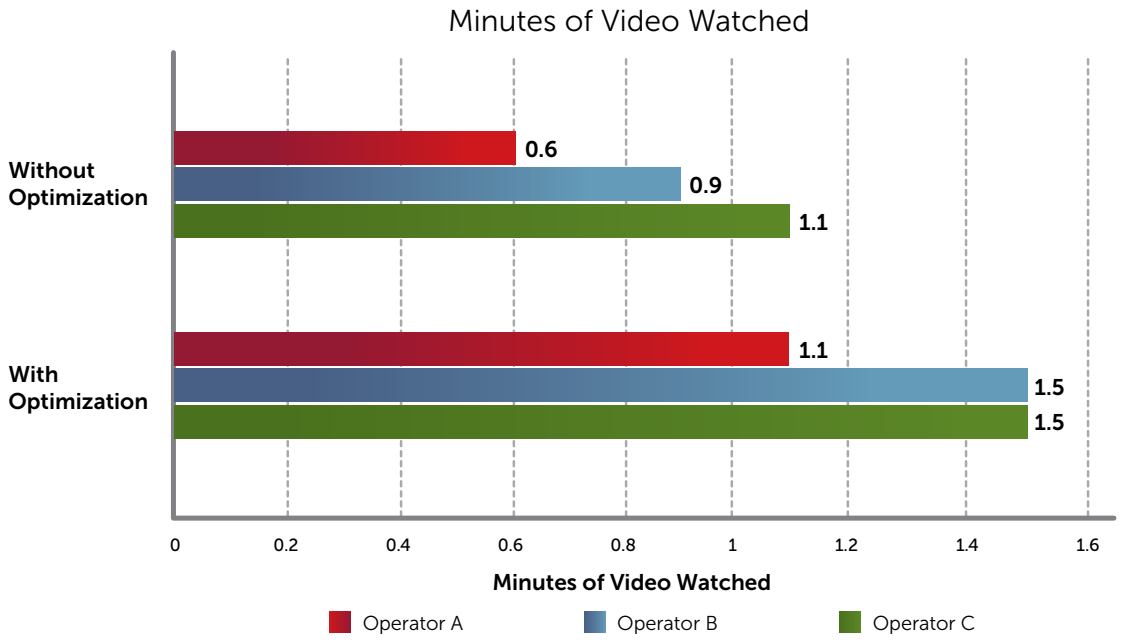




Findings:

- Depending on network conditions and time of day, mobile videos stall between 5 and 40% of the time.
- Video optimization technology reduces stalling by 30 – 50%.
- Wireless networks with less stalling deliver a better mobile video experience.

QoE Drives Video Viewing Time



Findings:

- Subscribers on wireless networks optimized for video consume double the mobile video content than those on un-optimized networks.
- The better the mobile video experience, the longer subscribers will consume video.

For more information, please contact media@bytemobile.com or visit www.bytemobile.com