Wanted: Smart multimedia content delivery for smartphones

The rising popularity of smartphones is taking a toll on the very thing that makes these devices so appealing in the first place: quality of experience (QoE). More and more people are using smartphones as a platform for high-bandwidth activities like video streaming and downloads. Their insatiable appetite for multimedia content is clogging mobile networks and putting consistent QoE just out of reach. Service providers are scrambling to meet demand and keep data flowing through the mobile network, but each interrupted mobile video stream, dropped connection and slower-than-expected download is putting user patience and loyalty to the test.

Creating satisfied, loyal smartphone users

Some believe that it’s easy to keep smartphone users satisfied. After all, most users just want their devices to deliver multimedia content and applications on demand, without limitations due to mobile network connectivity, coverage or available bandwidth. To win and retain their loyalty, service providers need innovative and sustainable solutions that keep users in constant touch with their favorite content.

In reality, keeping smartphone users satisfied is an incessant and evolving challenge for service providers. Why? Because it means delivering high-quality personalized content without interruptions. It means distributing compelling content — live and on-demand TV, movies, YouTube videos, podcasts and more — across a wide variety of video-friendly mobile devices. And it means offering seamless content delivery services that are automated and easy to use.

Meeting the demand for mobile data

The dramatic growth of smartphone data use has surprised almost everyone. But service providers have little time to react: They must evolve their networks if they hope to meet demand and maintain user loyalty. Many service providers are already rushing to implement 3G network build-out and 4G upgrade strategies. But these strategies take time and money and force users to wait for improvement. Others are trying to reduce traffic using bandwidth caps. This approach can take some of the pressure off mobile networks but it risks alienating early adopters and creating frustration among high-volume consumers.
Two things are clear. First, while smartphone users want long-term solutions that will bring sustainably high QoE, they are impatient for immediate improvement and will move on if they encounter a more promising offer. Second, no single solution can comprehensively address users' growing appetite for mobile multimedia content. The best chance for success will come from an approach that combines multiple strategies.

**Controlled content push: A smart approach to multimedia content delivery**

The growing storage space offered by today's mobile devices is making downloading an increasingly attractive content delivery option for users and service providers. To date, however, downloading has been underexploited as a sustainable solution for delivering mobile multimedia content. Given its clear benefits — most notably an ability to support uninterrupted offline consumption — downloading deserves a closer look as a complement to live streaming and other online delivery technologies.

Controlled content push technology provides a fresh twist on downloading, offering a simple and inexpensive means to deliver content, optimize bandwidth use and maximize QoE. Combined with multimedia services, this technology can "push" personalized content — such as TV shows, Video on Demand (VoD) assets or PVR content — to user devices over the air. Users can then consume the content at their convenience without interruption and without concern for connectivity, network congestion or complex sideloading procedures. In exchange, they get the best possible QoE and the consistency and quality of TV viewing on their mobile devices — even when they go beyond mobile network coverage.

With content push capabilities, users have greater flexibility and control over the content delivery process. Downloads can be scheduled for specific off-peak hours or proceed whenever bandwidth is available. This means that users can choose their favorite content and know that it will always be available whenever and wherever they want it.

Content push technology can also be configured so that it automatically selects the most cost-efficient network technology available at a given moment, for example, Wi-Fi® or femtocell instead of 3G. Users can receive content when they're on the move without having to worry about future bill shock.

**Pushing mobile multimedia in new directions**

The content push concept can be applied to bring offline, on-demand consumption capabilities to many different multimedia applications. For example, it can be used to deliver PVR content and TV shows overnight to provide entertainment for a user's daily subway commutes. Or it can work before a vacation or business trip, delivering content free from roaming charges.

More advanced applications are also within reach. These include datacasting, where subscription content is automatically delivered the moment it becomes available; predictive push, where popular VoD content is delivered to users based on their profile information; and network PVR, where
recorded TV content is automatically pushed to a mobile device as soon as recording is complete. Each of these applications can enhance QoE and create satisfied, loyal users.

**Taking multimedia content beyond the mobile network**

Smartphone users and service providers clearly need new and sustainable solutions that will facilitate multimedia consumption without driving networks — or user patience — to the brink. By adding smart content push solutions that support offline consumption, service providers can give users the premium multimedia content and QoE they demand while easing the pressure on their own mobile networks.

**Learn more**

Alcatel-Lucent offers a comprehensive portfolio of multimedia solutions that can complement and enhance your mobile, multimedia and multi-screen services. These solutions include Mobile Smartloading, an innovation that pushes multimedia content to smartphones to enable offline consumption and ease peak-time pressure on mobile networks.

In addition, Alcatel-Lucent has experienced integration specialists who can help you at every stage of your multimedia project lifecycle, from consulting and design through solution integration, deployment, operation and maintenance.

To learn more about Mobile Smartloading and other innovative multimedia solutions from Alcatel-Lucent, visit [http://www2.alcatel-lucent.com/multimedia/msl.php](http://www2.alcatel-lucent.com/multimedia/msl.php).