# Profiting from Mobile Data Growth

## DELIVERING ON-DEMAND QoS UPGRADES THROUGH APPLICATION ENABLEMENT

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*Enhanced mobile devices and faster transmission speeds are fueling tremendous growth in data usage. However, network providers' revenues are not keeping pace with the increase in traffic. If this trend persists, how can mobile operators enhance profitability, while maintaining a high quality of experience for subscribers? One valuable tactic is to offer on-demand QoS upgrades, which deliver an immediate, short-term boost to network performance, for a specified fee. As explained in the use case that follows, this network solution uses dynamic QoS and traffic policy management capabilities to satisfy subscriber demands in real time — while allocating network resources more efficiently and generating additional revenues.*

## How data growth impacts profit margins

Following the launch of the Apple 3G iPhone in 2008, data traffic exploded on mobile 3G networks. Average monthly data usage has been forecast to grow from 882 Mb per subscriber in 2008 to 6,000 Mb in 2010.[1] With these increases, mobile operators need to continuously scale their networks to support bandwidth-hungry applications and keep customers satisfied. This expansion requires significant capital investment and drives higher operating costs. But revenues are not growing at the same level as traffic,[2] because today's data earnings come mostly from flat-rate monthly plans offering virtually unlimited data usage.

With the current flat-rate pricing, operator gross margins for data services are already becoming unsustainable. For example, consider what could happen if average monthly data usage reaches 6,000 Mb this year, as predicted. On a $30-per-month data plan, a network provider's revenue would be 0.5 cents per megabit, with a network cash cost of 1.0 cents per megabit. In other words, the service would sell at a price below its network cash cost. Clearly, if rapid data growth continues, along with flat-rate pricing, declining gross margins could bring a halt to further network investments — because network providers cannot generate positive returns.

Declining gross margins are unsustainable for any industry. Mobile operators are initially reacting to the decline with simple strategies, such as usage caps and tiered pricing, because their implementation entails low costs and low complexity. But these are stop-gap measures which have a limited effect in combating margin erosion.

## Generating new revenues with dynamic QoS

On-demand QoS upgrades can help mobile operators meet growing demand for exciting new data services, while using network resources more efficiently. This solution can also generate additional revenues from application and content providers (ACPs), as well as from subscribers. Here's how it works:

- *QoS requests from subscribers* – Subscribers can get temporary QoS upgrades from their network provider by paying a specified tariff for a certain period of time, or for a particular application session. For example, the subscriber can use a web portal to buy a higher QoS priority for a specific interactive game session. Through the use of a "turbo boost" button, an immediate QoS upgrade can be purchased.

- *QoS requests from ACPs* – ACPs such as Hulu and Amazon can also request guaranteed bandwidth to upgrade performance when their online services are delivered over mobile networks. For example, Figure 1 illustrates how mobile operators and ACPs can work together to enhance the end-user quality of experience for video streaming. In this case, a mobile subscriber pays a base subscription price for data connectivity, which enables a car navigation service. In addition, the subscriber can order video-streaming sessions from an ACP, which are delivered to the car's backseat passengers. The ACP then pays for guaranteed bandwidth to enhance video quality while passengers watch the movie.

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[1] AT&T, "An Update on iPhone MMS for Our Mobility Customers," Sept. 1, 2009, <http://www.facebook.com/ATT?v=app_10442206389>.
[2] V. Cerf, "What's a Reasonable Approach for Managing Broadband Networks?" Google Public Policy Blog, August 4, 2008

**Figure 1. QoS upgrade for video streaming**
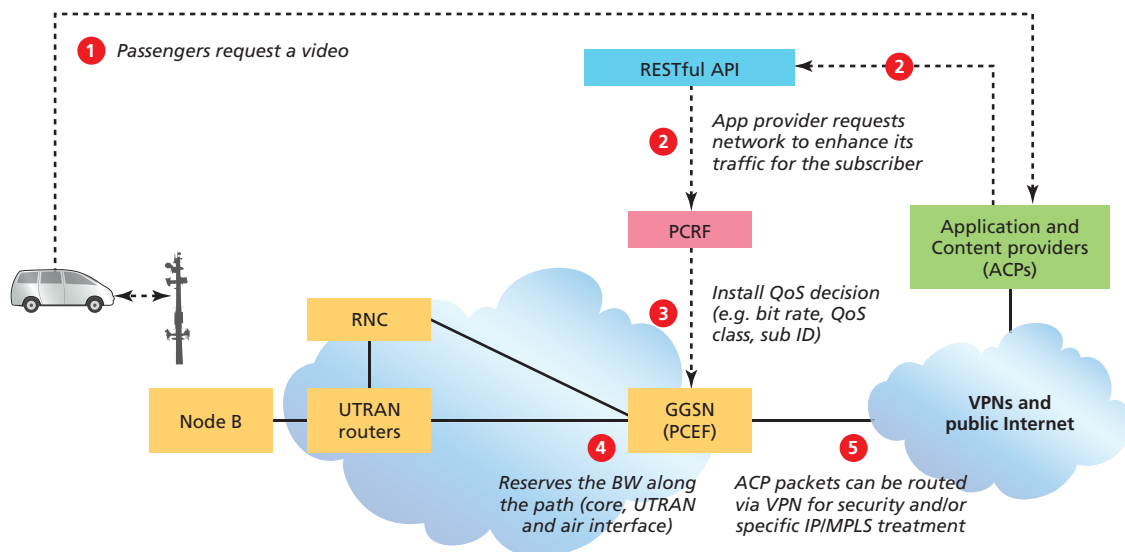


To enable higher QoS, the ACP uses an open interface to the network, leveraging a business agreement with the network provider. In this agreement, the video-streaming company is willing to share revenues, as shown in Figure 2, because higher quality video gives the ACP a competitive advantage for growing its target market. However, other business models can also be used, where the end user pays the network provider directly for a higher QoS.

**Figure 2. ACP and network provider (NP) potential new business models**

**ACP and network provider (NP) share end user (EU) revenue**
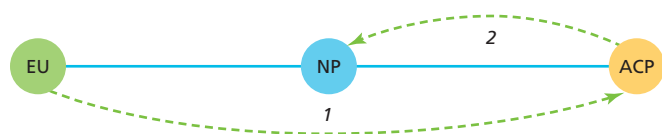


**ACP and NP share end user (EU) revenue where NP also provides billing capability**



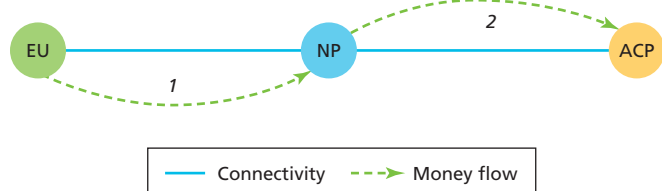## Using the principles of Application Enablement

This on-demand QoS solution is based on the principles of Application Enablement, an industry vision that offers more effective ways to counteract the increasing gap between revenues and traffic growth. Application Enablement facilitates sustainable new business models, such as the revenue-sharing agreement described in Figure 2. It also defines an efficient High Leverage Network™ architecture that can provide low-cost transport for a wide range of new personalized multimedia services.

### Application Enablement

*To address declining margins and increasing service delivery costs, this industry vision seeks to create sustainable business that allow trusted network capabilities to be combined with the creativity of the Web — giving end users and enterprises a richer and more trusted experience of applications and content. With this approach, network capabilities — such as quality, security, reliability, billing, privacy, user context and the trusted relationship network providers have with their subscribers — are integrated with key Web capabilities, such as speed and innovation. New revenue through new business models can result when opening these capabilities to a community of creative developers, in a managed and controlled way. This new revenue can help fund future network and web investments.*

This High Leverage Network architecture supports on-demand QoS solutions by incorporating mechanisms for dynamic traffic management and charging. With these advanced tools, network providers can rapidly allocate network resources to specific subscribers and applications. That means they can now generate additional revenue in return for providing extra bandwidth, while using this network resource more efficiently.

With its longer term view of today's mobile data trends, Application Enablement offers increased profitability while meeting subscriber demands. Short-term QoS upgrades can be provided for a wide range of applications, including video on demand, IPTV, online gaming and Internet-based applications, such as video streaming, cloud computing or other business-related applications. In addition, the dynamic traffic management methods used for on-demand QoS can support a broad spectrum of other personalized services in the years ahead.

To learn more about Application Enablement, please visit www.alcatel-lucent.com/application_enablement.

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