BUILDING A PROFITABLE DATA FUTURE

Monetizing Data Traffic

MARKET INTRODUCTION

Driven by an upsurge in smartphone usage, increased mobile-broadband penetration and enormous growth in video consumption, global mobile-data traffic has tripled over the past three to four years. Global data-traffic volumes are expected to increase six-to-sevenfold by 2015. While only a few operators are currently reporting more revenues from data services than from voice, this is likely to change over the next few years as the transition from a voice-centric universe to one in which voice is just another application on the networks gathers pace. This major growth in data traffic certainly means that mobile operators' revenues will increase.
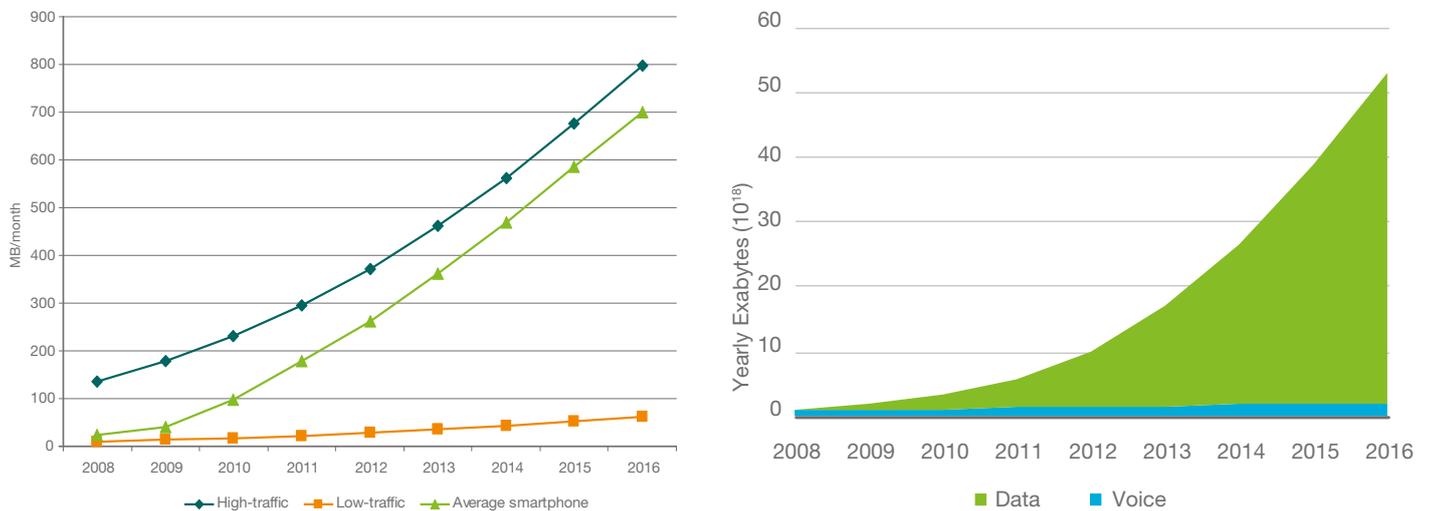

Figure 1: Mobile Data Traffic Growth. Source: Ericsson Measurement & Analysis

Trends

However, this growth in data significantly increases operators' infrastructure-related capex and opex because the cost of transporting exabytes of data on their networks is increasing manifold and not necessarily in proportion to the revenue generated by the increased data usage. It's worth pointing out that we are still in the early days of the data explosion – a recent Nielsen survey in the US reported that only about 10 percent of users watch videos on their phones. So it remains to be seen how networks would behave if more users began to consume video. Moreover, increased data usage is resulting in more competition from over-the-top and internet players, who are in many ways imposing a cost on the operator network by driving the consumption of their content.
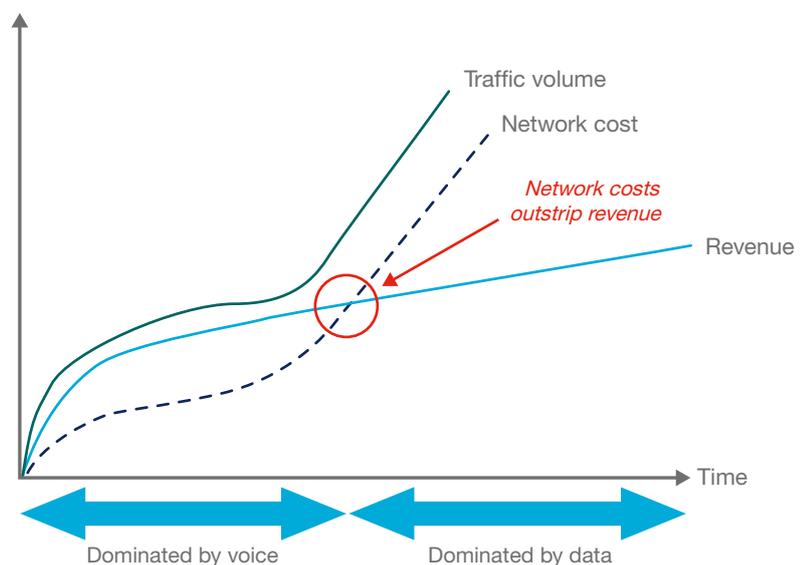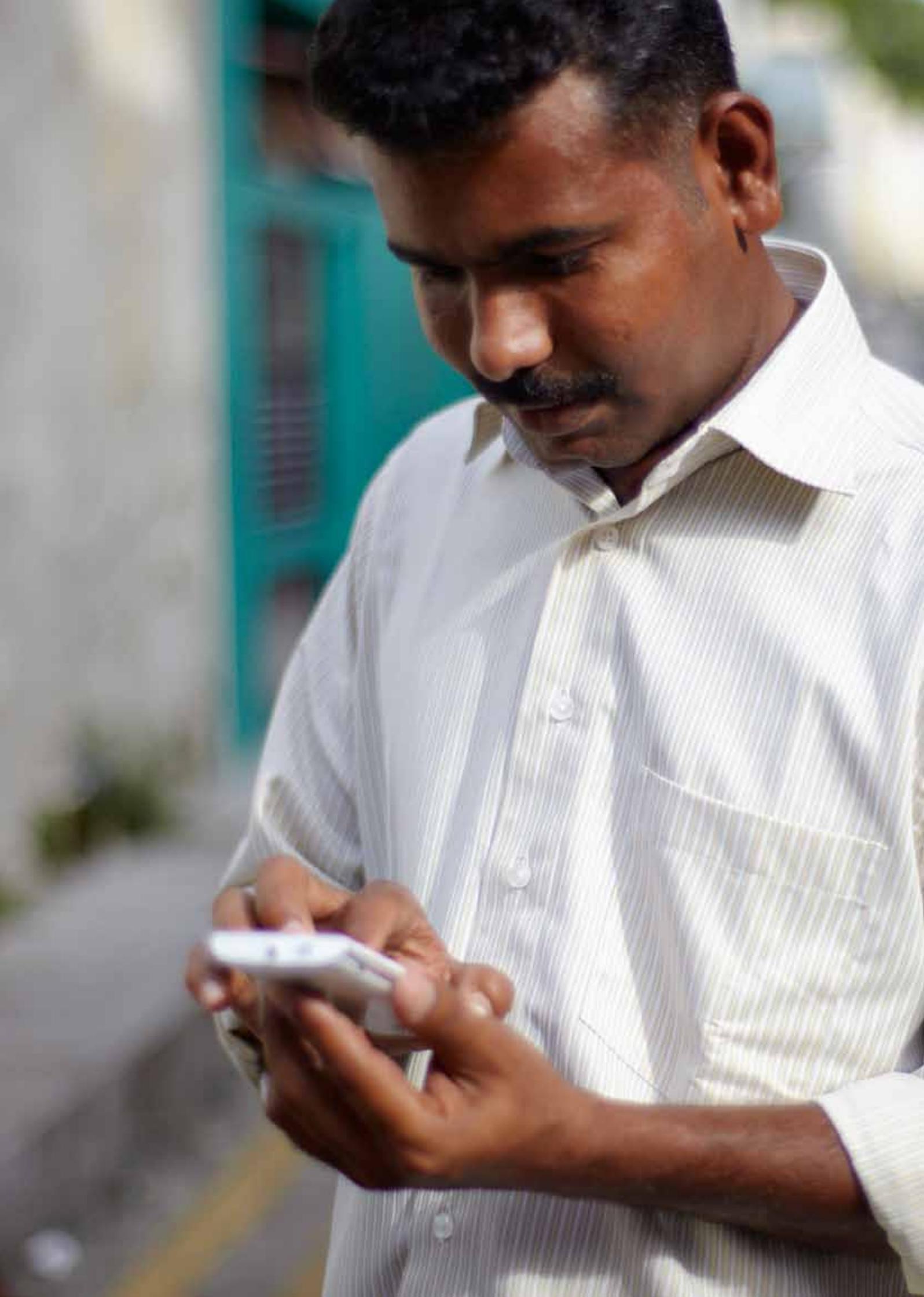

Figure 2: Economics of Voice v Data Dominated Network. Source: Analysis Mason 2011

BUSINESS OPPORTUNITIES AND VALUES

So how can operators ensure that they maximize their investments and that growing data traffic does not become a capex burden? Also, as more users join the data bandwagon, how do operators ensure a high level of customer satisfaction and an enhanced user experience? In other words, how can operators best exploit the growth in data traffic?

Data/video traffic optimization

Before operators can offer differentiated services to their customers, they will need to focus on ensuring their networks are optimized for a high-quality data/video experience. This essentially means that operators must efficiently exploit their network resources and ensure that any surge in data traffic has little impact on the quality of the user experience. Data/video traffic optimization may involve several steps, including caching, content adaptation and policy enforcement (Figure 3).
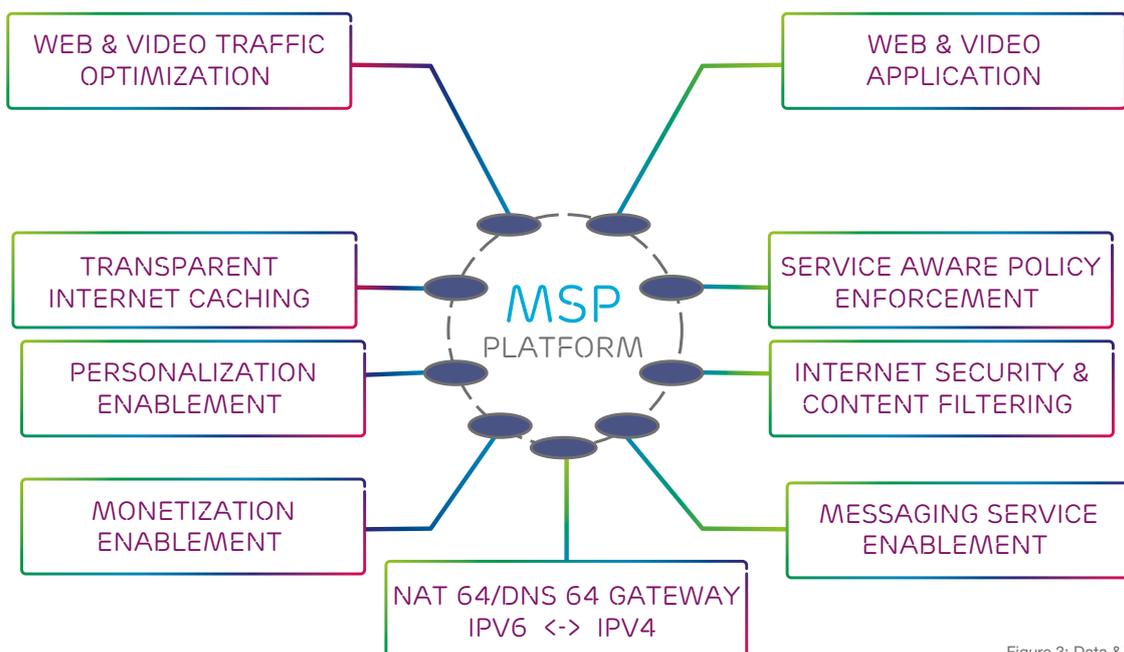
WEB & VIDEO TRAFFIC OPTIMIZATION

WEB & VIDEO APPLICATION

TRANSPARENT INTERNET CACHING

PERSONALIZATION ENABLEMENT

MONETIZATION ENABLEMENT

MSP PLATFORM

SERVICE AWARE POLICY ENFORCEMENT

INTERNET SECURITY & CONTENT FILTERING

MESSAGING SERVICE ENABLEMENT

NAT 64/DNS 64 GATEWAY IPV6 <-> IPV4

Figure 3: Data & Video Optimization

Don't be a bit pipe

Operators have traditionally served as "pipes" that allow data traffic to pass between end users and content providers. Use of these pipes is charged on either a fixed-rate or usage-based basis. Historically, there has been limited focus on enhancing the user experience or creating segment-based offerings.

One way in which operators can explore monetization is by evolving the "smart pipe" concept. This involves moving from offering a single quality-of-service (QoS) level or experience to all users, to offering differentiated services that allow customers to enjoy a better quality of service or experience if they are willing to pay a premium. As data consumption grows, more customers will be interested in improved network performance and an enhanced user experience.

Operators can differentiate according to:

> subscriber behavior and usage pattern based on need (enterprise versus consumer), location, time of day and other parameters
> the requirements of a specific application type — high bandwidth and reliability for streaming video compared to best-effort delivery for a movie downloaded at night.

Customer-segment pricing for data traffic will lead to an enhanced user experience and provide the operator with an innovative and customer-centric brand. This will reduce churn and also attract new customers. Add-on packages can be provided where there is a need for faster data access at specific times or locations, such as at an airport.

Service usage differentiation can be achieved by applying QoS parameters on installed network resources though efficient usage and management. In this way, operators can increase average revenue per user from customers who are willing to pay a premium for increased service quality when using bandwidth-intensive applications to, for example, watch mobile TV.

New services/up-sell opportunity

After subscribers have been acquired, incremental revenues can be derived by offering value-added services such as personalized experience based on user profiling, secure browsing, advertisement insertion, parental control, and so on. Content optimization, adaptation and caching can provide a seamless user experience across devices, as well as doubling the speed on mobile devices.

What do operators need?

In order to achieve their goal of data/video-traffic optimization, as well as effective data-traffic monetization, operators will need a solution that incorporates the following features/functionalities:

> **content optimization and adaptation** can significantly reduce incremental network capex — on Radio, Transmission and Gateway GPRS Support Nodes (GGSN) — required to roll out data-intensive applications to consumers. Data optimization can reduce network load by 5-25 percent and operating costs by up to 50 percent
> **video compression** will have a positive impact on the user experience as market penetration of streaming services increases. Guaranteed bit rate per application will enable predictable performance and give operators the ability to charge a premium for improved service quality. Techniques such as bit-rate throttling, adaptive-streaming throttling, relative transcoding and translating are fast evolving in this space.
> **end-to-end QoS** can be enabled through scheduling of radio access network resources, static/dynamic

QoS profiler on home location register/Service-Aware Policy Controller, prioritization of packets through backhaul and GGSN
> **off-portal browsing**
> **virtual (Multiservice Proxy) gateways**
> **content-filtering capabilities** can help operators deliver segment-specific tariff plans
> **secure browsing** can help mitigate risks by using best-in-class antivirus software
> **advertisement insertion**
> **script-controlled streaming proxy** can increase control over streaming traffic and reduce the time taken to bring new services to market
> **scalability** with support for high throughput (TPS without major architecture change)
> **forward integration support**, such as IPv6 support
> **integrated solution**

So what should operators focus on?

It is clear that, in the current environment, operators must focus not only on optimizing their network resources for delivering high-quality data services but also on building innovative business models to monetize their investments in building capacity. In summary, operators should:

> enhance the experience for existing customers and attract new ones by offering a range of diversified products that suit a range of customer segments rather than persisting with the "one-size-fits-all" approach
> drive new revenue streams by enhancing the mobile-data traffic user experience through content optimization and caching, parental control, secure browsing and so on
> monetize advertising and contextual-content opportunities by building customer profiles and reducing the time to market for such services
> invest in building scalable and cost-efficient architecture that enables subscriber and application-centric QoS provisioning.

ERICSSON VALUE PROPOSITION

Ericsson as data traffic/video optimization partner

Ericsson has considerable knowledge of how best to optimize traffic to give users a superior experience. As an operator's data traffic/video optimization partner, Ericsson can provide a solution that takes end-to-end responsibility for exploiting the growth in data traffic by minimizing network capex and opex costs, helping to acquire new customers and retain existing ones, and monetizing the data and customer base.

With Ericsson as your partner, you will:

Keep costs under control through optimization and the utilization of a simplified solution
> multi-optimization strategy for content, video, protocol and caching can reduce the network load by more than 50 percent
> a single solution handling 2G, 3G and LTE drastically reduces operational costs
> architecture and patented real-time scripting mechanism that gives a very scalable and flexible solution, reducing operational costs to a minimum.

Acquire and retain customers by providing a fast, user-friendly, personal and secure mobile-broadband experience
> multi-optimization strategy provides a fast and stable user experience — 99.996 percent stability over the past two years
> a user-friendly experience whereby content is adapted to any device
> a personal and secure experience with a personal navigation bar, content filtering and antivirus features.

Monetize the data and customer base
> advertising and opportunities for providing user data to third parties (profile brokering) can provide additional sources of revenue
> operators have the opportunity to move beyond the "one-size-fits-all" approach and tailor customer subscriptions with add-ons such as security, advertising or a personal navigation bar.