

'The enterprise game plan is changing...'

by Eva Windisch, p. 54

ENTERPRISES PROVIDE half of all revenue for the typical traditional fixed-line operator and the telephony ARPU (average revenue per user) of a business user is typically 50 percent higher than that of other users.

Revenue from the enterprise market can be enhanced in three key ways: by increasing average revenue per enterprise, ARPE, by increasing the total number of enterprise users, and by increasing loyalty among enterprise customers.

Enterprises are more than ready to adopt new converged voice, data and multimedia services. Now it is up to operators to ensure they offer solutions that provide at least the same levels of convenience, capability and cost control as premises-based solutions, based on one of their core assets: the ability to offer quality broadband connectivity everywhere.

One of the key challenges is price pres-

sure, and the mobile market is shifting from a quantity game to a quality one, in which the consumer-enterprise subscriber mix is becoming a critical factor – along with opex reduction, time-to-market and global reach.

This plays to telecom operators' traditional strengths of reliability, availability and standardized operations. Fixed-line operators are well-known, trusted partners with long-term relationships with their customers. Mobile operators have the clear advantage of being able to offer mobility, which most current IT/IS providers cannot.

Operators can build on these strengths and translate them into truly converged, IP-based fixed, mobile and broadband services, based on standards such as IP Multimedia Subsystem (IMS). Operators with existing fixed and mobile businesses are in

a particularly strong position if they take the opportunity to offer enterprise customers a single interface for all types of services, including the ability to offer any service to any device, anywhere.

Fixed-mobile convergence will be vital for network operators to add value to their customer offerings and fight off the competition. IMS-based convergence gives operators a true advantage by enabling them to take full responsibility for providing multimedia services to enterprises – both locally and globally.

While VoIP is eroding the value of traditional voice business, it represents a vital route to capturing new revenue streams in data and multimedia services. New broadband and IP capabilities enable innovative multimedia services, together with a completely new class of hosting opportunities. •

All in the family

by David Wilson, p. 20

THE MOBILE MARKET has developed slower in the US than in Western Europe. However, aggressive marketing of family plans during the past three years has driven overall market penetration to 72 percent.

Family (or Companion) plans allow an account holder to purchase a bucket of minutes, then share those minutes with other "sub accounts," for a lower price per additional line. Generally, calls between users of shared minutes are free and, in many cases, so are calls to anyone on the operator's network.

Seventy-one percent of all family plans involve only two lines. In nearly 60 percent of family plan accounts, the master account holder is using 75 percent or more of the monthly bucket minutes. This indicates that a large majority of family plans are being used by consumers with lower usage levels. Family plans have strongly supported the strategy of bringing the incremental user into the mobile arena. The "low-hanging fruit" among incremental users has been the youth segment and fam-

ily plans are the primary way that young people get their first wireless phone.

Family plans have had a negative impact on the growth of pre-paid services in the US, where penetration is only 12 percent. While pre-paid has doubled in size in the past few years, the popularity of family plans has limited its growth. Value and distribution are the key factors here.

Pre-paid distribution is also an issue. While overall points of distribution have more than quadrupled over the past few years, pre-paid can still be hard to get in smaller cities and rural areas.

While pre-paid services have been limited by the introduction and strength of family plans, data services have benefited.

Young people have a strong influence on how the family uses the mobile. Promotional tactics is affected by this and may require new approaches, more centered on the young and demonstrate how mobile data can be used by the family.

Family plans lower churn, compared with those on individual plans. On the

downside, family plans generate about half the monthly average revenue per user (ARPU) of individual plans. But, this is not unexpected. Many "secondary" and "tertiary" users are the lighter users, so it may be that increased mobile-data usage in these plans will increase family-plan ARPU.

Ericsson Business Consulting believes the concept of control will be the next natural service offering within family plans.

Typically, the aspect of control has three components when it comes to family plans: spending control, – applying limits on how much a user can spend; usage control and safety control. The ability to track a user consistently ranks as a top service of interest to US consumers.

Mobile control represents the next opportunity for driving revenue from family plans and building further flexibility and reliance on the mobile phone as a critical component of communication and lifestyle. •

The business case for rural broadband

by Anders Hörndahl, p. 44

3G IS A KEY enabler for realizing the vision of making broadband internet connection available to everybody. A 3G/WCDMA network is a multi-service provider. In rural areas, it constitutes a cost-effective way of rapidly deploying broadband services, including voice, video telephony, basic data services (SMS and MMS), advanced mobile data services (such as music downloads), small-screen TV streaming, mobile broadband (targeting laptop users), fixed wireless broadband (ADSL alternative) and fixed PSTN-equivalent telephony.

For broadband services, mobility will see a shift to targeting individuals rather than households, making the market for fixed-wireless broadband and mobile broadband much larger than that for the fixed offering.

The price of WCDMA terminals is falling and High-Speed Packet Access (HSPA) -

enabled terminals will soon be commonplace. This evolution will result in unmatched economies-of-scale for HSPA chipset manufacturers and terminal vendors, making it hard for suppliers favoring other wireless broadband technologies, such as WiMAX, to compete.

Fixed-wireless broadband is a service providing residential broadband access over a mobile 3G network. It is terminated in an indoor fixed-wireless terminal (FWT).

We have examined a realistic market and site scenario, representing a rural region somewhere in Europe. Based on provision of mobile telephony/data/mobile TV, mobile broadband and fixed-wireless broadband and conservative figures for service penetration and average revenue per user (ARPU), we calculated an annual revenue of more than EUR 1100 per square kilometer.

Assuming an annual total cost of owner-

ship of less than EUR 285 per square kilometer resulted in a gross operator margin exceeding 75 percent for the combined 3G service offering.

Extensive modeling and analysis have shown that it is possible to deliver broadband capacity via WCDMA/HSPA at an end-to-end cost of about EUR 1 per gigabyte. We are therefore convinced that 3G-enabled fixed-wireless broadband is a cost-effective alternative to ADSL.

WCDMA/HSPA technology has emerged as the dominant global 3G standard. Other comparable technologies have, so far, been based only on revenue from fixed-wireless broadband, however WCDMA/HSPA can benefit from multi-service revenue streams where mobile telephony is likely to remain as the major revenue source in the next three to five years. •

Policy lessons to be learned from lagging US market

by Mark Newman, p. 58

THE US IS ranked 15th in the world in broadband penetration, and 21st in a broader “digital opportunity” index. So what has gone wrong with telecoms-related policy-making in the US, and how does it compare with Europe and Asia?

US consumers face a broadband duopoly of cable and telephony operators. The telecom merger spree that left the US with just a handful of network operators has left many office buildings with a single provider.

In contrast, Europe’s broadband market has mushroomed. This has been achieved by forcing telcos to allow ISPs to piggyback onto their local network infrastructures in a process known as local-loop unbundling (LLU).

The world leaders in broadband, Japan and South Korea, have a different approach altogether. These countries show a clear preference for manipulating market structures and market shares within an overall context of providing state-of-the-art,

affordable communications services to consumers and businesses.

For the first phase of relatively low-speed (less than 10 Mbps) broadband rollout, the European model is the most efficient. But this model may not be sustainable as telcos extend fiber closer and, in some cases, into – the home.

Several European operators are already in discussions with their regulators about the impact of their fiber build-outs on LLU. Governments are reluctant to stand in the way of telcos building new high-speed infrastructures, as long as they can provide some assurance that DSL providers will be able to continue supplying services to their customers. However, such a move could mean that the onus for setting a wholesale price model would move away from the regulator to the telcos themselves. If this happens, there is a risk that telcos could create new high-speed broadband monopolies.

In contrast, telcos in the US and Asia face the prospect of greater infrastructure-

based competition from wireless operators and the growing influence of local facilities-based operators. In the US, Sprint is rolling out a nationwide WiMAX network that will compete with the telco-cable duopoly. In Singapore and Hong Kong, mobile operators have launched DSL-type services over HSDPA – a 3.5 G upgrade to WCDMA.

As we move into the second phase of broadband deployment – taking fiber closer and even into the home – regulators will seek to create a degree of confidence among those who are to invest billions of dollars in new networks. US carriers are making these investments, but there is still a question mark over whether they are being given the stimulus to catch up with Europe, Japan or South Korea. •

Making the smart tube work for you

by Karin Björk, p. 24

INTERNET PROTOCOL TELEVISION (IPTV) and mobile TV are effectively new types of media, and operators face a range of difficult questions with regards to selecting technology and establishing a business model and price structure that will assure them a fair share of the revenue pie.

When it comes to IPTV and mobile TV, operators are sitting in the driver's seat. They control the two-way connection needed to offer evolved TV in their fixed networks or over their mobile networks.

There are three driving forces behind this television evolution: consumers want to control, interact and use personalized services; the penetration of two-way broadband connections; and the rapid digitization of content, including TV and video.

Pacific Century CyberWorks (PCCW) in Hong Kong is a good example of an IPTV

success story as it has become the world's largest IPTV provider, with more than 500,000 ADSL-subscribing homes.

Globally, there are more than 5 million IPTV lines already in place and forecasts project this number may increase five to tenfold during the next five years.

Mobile TV is vastly more widespread than IPTV, with more than 120 commercially available mobile TV services currently on offer around the world. More than 100 of these have been launched over cellular two-way telecommunication networks.

To be successful, operators should take into account four key factors: educate your users, ensure ease of use, have the right content, and have the right pricing models.

A wide variety of pricing models are currently being tested, including flat rates, pay-per-view, advertising, and bi-direc-

tional models. Ericsson has found that payment willingness for mobile TV typically resides at USD 10-15 per month.

Using both fixed and mobile networks to enter the TV market is a question of synergies. Reuse of common functions, such as pricing, bundling, billing and customer care, means economies of scale and convergence will allow any device to access a variety of services over a single network.

IP not only means reduced operating costs, but also allows operators to buy from multiple vendors, which in the end leads to better prices. This cross-industry alignment also strengthens the appeal for the consumers – where different devices and subscriptions “interwork.” So, the search for interoperability is as important for evolved TV as it has been for the overall success of telephony. •

Balancing the driving forces of broadband

by Lena Beming and Hans Höglund, p. 32

LIFTING BROADBAND to a true global mass-market level requires market players to address and balance a range of complex issues. These can be broadly grouped into six driving forces:

I Devices. The digital devices appearing on the market are becoming more advanced, and many require broadband connectivity. Many devices are already connected in one way or another, and inbuilt connectivity is being added to health monitoring systems, game consoles and even cars. This makes cooperation over interoperability essential. The Digital Living Network Alliance (DLNA) is an industry forum set up to achieve this.

II Services. A vast number of advanced services can be provided to entertain us or make our daily lives easier. Downloading has become a substantial distribution channel for music, and broadband is an excellent distribution channel for IPTV. It is impossible to predict the future “killer application,” but what is clear is that operators can prepare themselves for the future with a “killer envi-

ronment” that can support all future services.

III Connectivity. Any service should work on any screen and device, fixed or mobile. We see a transformation to an integrated open-standard broadband architecture as the means to achieve this cost-effectively. With broadband, access/connectivity will expand and offer opportunities as a stand-alone business, separate from the services.

Quality will be crucial. Operators will therefore need an access technology with sufficient capacity, together with the ability to handle both fixed and mobile access, as well as adapting the content/service to the device and screen in use. This can be achieved with IP Multimedia Subsystem (IMS).

IV Costs. For broadband usage to reach even higher penetration levels, it has to come at the right price. New business models and methods of charging will be required to attract future broadband users.

It is unlikely that average user revenues will increase in line with traffic, thus mak-

ing it even more important for operators to evolve to a cost-effective network.

V Competition. Players within fixed line, mobile, cable, IT and media are all aiming to provide complete content and connectivity offerings to the same market, thereby creating a new competitive environment. Operators can either strive to be the best at horizontal offerings, such as the physical access or the broadband connection itself, or ensure that they have a combined total offering, with advanced communication and multimedia services with telecom quality.

VI Government/regulatory incentives. Governments around the world are aware of the societal benefits of broadband and are striving to promote it in different ways, some by using taxpayers' money to build out broadband coverage in competition with established commercial operators.

Broadband growth is inevitable because once people start using it they will never turn back. It is therefore up to market players to ensure there are no barriers to further broadband penetration and usage. •

How being connected changes our lives

by Erik Kruse and Michael Björn, p. 15

HIGH-SPEED FIXED broadband is fundamentally changing how consumers perceive the internet. The “always-on” nature of broadband is likely to have even more fundamental and far-reaching consequences. Subscribers are becoming accustomed to having access to everyone, and information about everything, at any time.

While a mobile phone is perceived as a very personal item, broadband is associated with the household, and with a socket in the wall.

There is also a significant difference between how narrowband and broadband users allot time on the computer. Narrowband use is batched; but with broadband, users are “always on” and use of the internet becomes integrated into their daily lives.

However, as end users are introduced to the idea of mobile broadband, reactions become more complex. Although people are positive about the opportunity for increased freedom, they also see that the

time slots available during a normal day are too short to make spontaneous use of a laptop with mobile broadband feasible. As a result, current laptop-based mobile broadband use is often planned – an obvious restriction when compared with the mobile phone.

Looking at the short-term, mobile broadband is a twofold proposition: several vertical markets of people with specific mobile-computing needs, and a huge horizontal market of everyone with a mobile phone.

Business travelers are a relatively distinct group, but commuters are a huge and multifaceted group. The commute is one of those typical in-between situations where you may not be able to use a laptop but where you have more time to focus attention on your mobile phone.

As the content experience with the mobile phone improves for commuters, the “always-on” habit becomes mobile.

And just as with fixed broadband, users start pushing the boundaries in terms of where they use their broadband.

As part of this process, we will see end-user-driven demand for convergence of both functionality and form between mobile phones and laptops, and eventually we will stop talking about mobile versus fixed.

Just as the PC at home is our tool for connecting to the infrastructure we call the internet, the commuter pass is the tool that connects us to the transport system and the morning train; the credit card connects us to our banks; the ID card connects us to our workplaces and the cash in our wallets connects us to that morning cup of coffee. Our research shows that in the future, we will use our mobile phones to do all those things – and more.

Consumers will drive demand for having broadband everywhere – and in that process, reinvent the way we live. •

Don't be afraid – there is money in broadband access

by Klas Nordén, p. 8

BROADBAND ACCESS must inevitably become a business on its own merits. It is important to understand how to manage access and services as two different businesses, and move towards providing fixed and mobile-broadband-internet access as a single offering.

Operators seem to fear the “bit-pipe” role, believing that the future lies in new content and application services that are integrated with the access service. But access and services have different logics and business models, and the divide between them will definitely be clearer in the future.

The bit-pipe business (offering connection/access to the internet) will be a commodity business, but it is interesting in itself – in most cases the free cash flow looks attractive, both for fixed, mobile, and a combination of both. We base this conclusion on analysis of a number of different markets and cases: DSL (incumbent, unbundled local loop and resale), fiber,

cable, 3G (greenfield and High-Speed Packet Access upgrade) and WiMAX.

For mobile and fiber cases, market penetration is a critical success factor. Within an existing fiber universe, the fiber case shows stronger free cash flow/sales than any DSL case, but expanding the fiber universe is expensive.

Key cost drivers of the mobile case are customer premises equipment (CPE) subsidies. CPE subsidies also depend on the expected balance between traditional handsets and other devices, such as laptops with PC cards or embedded radio modules.

For the DSL case, a key cost driver for all non-incumbents is the monthly copper fee (for unbundled local loop business models) and the wholesale fee (for DSL resale business models).

For GSM/WCDMA operators, upgrading with HSPA is a natural step in providing broadband and shows the most favorable business case.

The following recommendations can help develop a successful broadband business.

Take advantage of the bit-pipe role – access is an attractive business in itself. If consumers demand it, just offer access. Manage access and services separately, according to their different business logics.

Explore opportunities to differentiate through convenient access at home and elsewhere (integrating fixed and mobile) and for multiple devices. Differentiate the access offering with related services such as customer care, quality of service, security and safe storage. Focus on cost efficiency and economies of scale for sustainable margins. Create a clear go-to-market strategy; timing of investment is essential. Winning broadband strategies will contain different technological solutions, fixed and mobile, depending on different market conditions and the assets at hand. •

Managing the big shift

by N. Venkatraman, p. 10

OVER THE PAST five years, many companies, such as Dell Computers, have shifted standard business processes – such as call centers, help desks, task scheduling, maintenance, and accounts – to lower-cost operations in India, China and other locations. Managers need to recognize the power of broadband for three reasons:

- **Broadband redefines product characteristics.** It is not only personal computers, laptops and mobile phones that rely on broadband functionality. Video-game consoles are increasingly being designed to take advantage of broadband connectivity, as are refrigerators and other home appliances.

The performance of the next generation of automobiles may be tweaked using software. It is no longer just about fixing the faults from a distance but modifying the features of the product through broadband.

- **Broadband enhances process function-**

ality. In the case of products that are not easily digitized and connected to the network, the business processes can be modified using broadband. For example, RFID (radio frequency identification) tags have already changed logistics activities dramatically.

Online blogs and wikis allow new ways of sharing knowledge and expertise. These developments compel managers to design their organizations to leverage their collective intelligence and exploit economies of scale in terms of expertise. Expertise is not limited to what happens inside a firm's organizational boundary.

- **Broadband enables new patterns of service delivery.** Physical newspapers are on the decline, and Apple revolutionized the music industry through iTunes and the iPod – thanks to broadband.

Broadband has the potential to impact broader society, going beyond corporations

and consumers. People throughout the world can access high-quality multimedia material from educational institutions and other sources. Broadband could render some of the current sources of competitive advantages obsolete, while creating new advantages. Advertising is a good example of this, with traditional advertising giving way to rich media advertising, linked to specific searches.

Business strategy is increasingly crafted and executed within partnerships. Apple is linked with Disney and Google, Google is linked with many different publishers and portals, and Microsoft is located within a complex network of relationships. Healthcare is becoming a network of complementary providers of products and services.

In looking at your strategies for the future, identify the key alliances and partnerships that may be required to win. •

“We don’t think ‘mobile broadband’ – we just see customers who need internet access”

by Karin Rives, p. 50

SONAECOM'S MOBILE subsidiary Optimus was struggling to catch up with Portugal's two leading mobile carriers and find something with which to fill its 3G network. Optimus decided to try what nobody had done before: use the 3G system for mobile broadband, marketing it as a simple extension of fixed broadband.

Luís Filipe Reis, Sonaecom's COO and the person responsible for the new drive, called the Optimus mobile broadband service “Kanguru”. When the service was first rolled out, pricing mirrored what consumers paid for fixed services.

Optimus became the first operator to offer mobile broadband in Portugal. Necessity, rather than inspiration, drove the company to rush the service to market. Optimus had two big problems: it was very difficult to get the incumbent to unbundle the local loop, and Optimus had a new UMTS 3G network with very low usage.

Reis describes the painful truth many

operators have learned in the past few years: 3G did not deliver an immediate rise in revenues because consumers have shown only scant interest in video calls or internet browsing with their mobile phones. Clunky 3G phones aggravated the situation – Optimus's customers simply continued to use their GSM phones.

By adding mobile internet services to its fixed DSL offering, Sonaecom hoped to enhance its total broadband package in the eyes of consumers. By subsidizing the modem, it also made the offering affordable, turning Sonaecom into a truly converged telecommunications and media provider. Optimus would sell mobile phone and broadband services, while Sonaecom Fixed continued to offer fixed phone, television and broadband.

The strategy worked. One week after Kanguru was launched, more people were accessing the internet wirelessly through the modems in their homes than through

the DSL copper line offered by Sonaecom's fixed division.

“Even our vendor friends were amazed because we really hadn't changed a thing,” Reis says. “What we offered was a broadband product that was similar to any other broadband product in the world.”

Vodafone and Portugal Telecom, the country's two largest telecom operators, followed with their own mobile broadband offerings a few weeks later. Starting in 2007, Optimus plans to launch mobile broadband with speeds of 7.2Mbps, up from 3.6Mbps, and the plan is to move up.

To speed up the adoption of broadband, operators can: (1) Supply the pipe, plain and simple. “It's not a very sexy business, but it's a good business.” (2) Charge differently for different levels of services, “just as a restaurant charges for bottled water but not for tap water.” (3) Open the pipe according to customers' tastes, with integrated services and content tailored to each customer. •