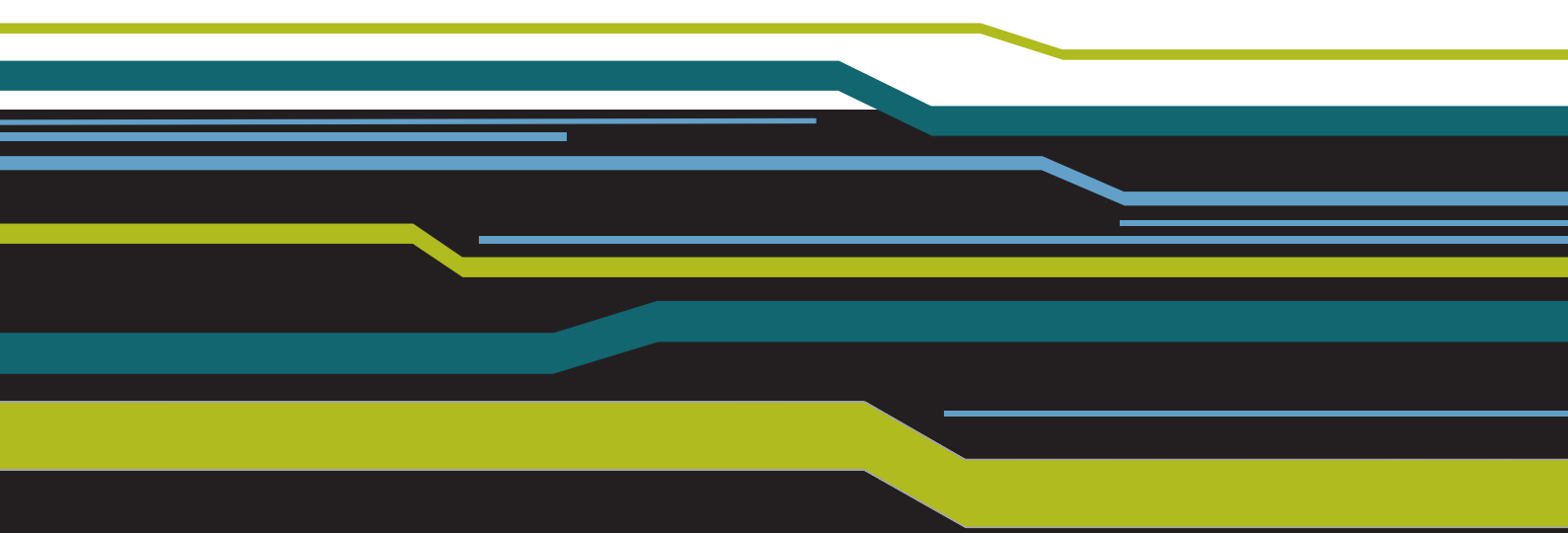


White Paper

LTE Pricing and Packaging

- Current Operator LTE Pricing and Packaging Overview



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LTE Pricing and Packaging

– Current Operator LTE Pricing and Packaging Overview

INTRODUCTION

LTE is currently live in 14 countries, with forecasts predicting that by the end of 2011 there will be some 16 million subscribers using LTE mobile devices¹. Also the Global Mobile Suppliers Association (GSA), reports that there is a total of 208 operators in 80 countries investing in LTE and reports that LTE is the fastest developing mobile system technology ever². As we approach a critical mass of deployments, this paper looks at how some of the most advanced ‘early adopters’ of LTE are packaging and pricing data plans to their subscribers.

The LTE deployments reviewed in this paper are globally diverse, including the United States, Japan, Hong Kong, and several from Europe. The deployments are reviewed in chronological order. For many operators their LTE deployments are at a very early stage, often restricted to limited metropolitan areas, and limited to mobile dongles. To date, only two US operators, Verizon Wireless and MetroPCS, have launched LTE smartphones.

In most markets, we are seeing a premium being charged over 3G. This has been as low as a 19% increase and in one case where LTE is positioned as an alternative to fixed line DSL, the LTE offer is actually less expensive than the equivalent 3G offer. However, one or two operators do charge as much as 100% extra. Operators, who already have speed tiers for 3G data, have unsurprisingly taken the opportunity to extend this for their LTE offers. Fair Usage limits are in place with all of the operators. However, not all fair usage policies are listed explicitly and ‘excessive’ usage on ‘unlimited’ data plans is left to the discretion of the operator.

The specific usage limits imposed by mobile operators vary dramatically, ranging from 20-30 GB/month in many European markets, to 10GB/month or less in the US and 5GB/month in other markets like Japan. Once these caps are reached, operators are applying a mixture of throttling and overage charges, with no uniformity.

This paper examines some of the pricing and packaging used by operators in launching LTE services. Although only a handful of operators have launched commercial LTE services there are several different ways operators are packaging and pricing these services. These include:

- ➔ Good price comparison with 3G services – parity with 3G pricing, or a relatively small premium on speed – Verizon Wireless, NTT DoCoMo, TeliaSonera Sweden, EMT Estonia
- ➔ Relatively high price differential over 3G – focus on network speed to get early adopter market – Netcom, A1, Telia Denmark, Sonera Finland
- ➔ New mobile broadband service – bundling with voice and text as mobile internet upsell – MetroPCS
- ➔ DSL alternative for home / office use – Vodafone Germany, Deutsche Telekom
- ➔ Bundling with 3G as High Speed Network – focused on speed – Hong Kong CSL

As of May 2011, it can be seen that LTE is focused on meeting the needs of a small subset of users. Operators are starting to innovate with their data plans and during the writing of this report several operators changed their pricing plans in a drive to attract new LTE subscribers. However, it is fair to say that at this stage LTE represents an evolution of their current 3G pricing models, rather than a discontinuous break; focusing on a combination of data volume and network speed, with most imposing a fair usage limit. The standout exception of current operators is the Hong Kong based CSL, which has introduced a pricing plan charging by speed only.

Notes:

1. All prices are quoted in US\$ in order to help with direct pricing comparisons.
2. Exchange rates used are listed as an addendum to this document.
3. In comparing 4G offers with 3G offers, the writers of this document have used the most relevant 3G data offer (in comparative terms of speed and volume). This is typically the highest specification 3G plan, unless otherwise stated.
4. All operator pricing information is accurate at the time of writing and may have changed since publication of this document (May 2011).

1: Mobile Europe, May 3rd 2011, <http://www.mobileeurope.co.uk/news/press-wire/8738-16-million-mobile-lte-subscribers-by-years-end>

2: <http://www.gsacom.com> - May 11th 2011



OVERVIEW OF CURRENT PRICE PLANS MODELS

TeliaSonera Group

In December 2009, TeliaSonera AB staked its claim on being the world’s first operator to launch LTE services commercially to consumers by turning on its LTE networks in Norway and Sweden. The Group has commercial LTE services live in Sweden, Norway, Denmark, Finland, Estonia and Lithuania. This paper looks at the pricing and packaging of the LTE service in Sweden and provides pricing summaries for the Group’s operations in the other countries.



Telia Sweden

Operating under there brand name Telia in Sweden, Telia is the leading mobile operator in Sweden with 5.9M mobile subscribers. In addition, the Company also has 1.13 fixed line broadband subscriptions.

LTE services were initially available in 28 Swedish locations including Stockholm, Gothenburg, Malmö, Lund, and Visby. By the end of 2011, TeliaSonera aims to have LTE services available in over 200 locations throughout Sweden.

Currently, Telia in Sweden offers LTE modems. As it operates in countries with a high penetration of subscribers on 3G mobile data plans, LTE is offered as an upgrade to 3G plans (grand and medium plans), and there are numerous prompts on its website to get existing customers to upgrade to LTE services.

Being the longest established operator with LTE, Telia has evolved its data plans. It offers tiered data plans based on speeds and monthly data allowances. TeliaSonera in Sweden is offering three LTE plans – Total, Grand and Medium. These offer very different profiles in terms of speed and volume.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
Total	80 Mbps	30GB	\$97.05	-	40%**	Throttle back to 120 kbps
Grand	20 Mbps	20GB	\$59.79	-	30%**	Throttle back to 120 kbps
Medium	10 Mbps	10GB	\$48.44*	-	20%***	Throttle back to 120 kbps

* Other T&Cs apply; all plans come with Wi-Fi bundled; three months free subscription to Spotify as well as one month’s free movie package. Contract term is 18 months.

** Premium to upgrade from Telia3G Grand plan

*** Premium to upgrade from Telia3G Medium plan

The prices listed above are normal list prices. Currently Telia is running a number of promotions to get customers to sign up for LTE services. These include a reduced monthly subscription charge of \$56.55 for its Grand 4G and Total 4G plans. This promotional rate is for six months.

They are also offering further discounts for existing Telia 3G or fixed broadband customers to upgrade to LTE. For example, existing customers upgrading get an \$8.10 discount on the promotional fee when upgrading to the Medium and the Grand package. Subscribers upgrading to the Total 4G package receive a \$16.20 discount. These discounts are applied along with the current promotional price and run for six months. So an existing Telia 3G or fixed broadband customer could get the Medium 4G package for \$40.35 a month for the first 6 months. When compared to the equivalent Medium 3G package – existing subscribers can upgrade for an additional \$8.10/month, and for new subscribers there is a \$16.20 differential between the Medium 3G and 4G monthly subscription charges.

Telia does not charge overages. Instead, when subscribers reach their limit, their network speeds are throttled back to 120Kbps. However, it is possible for subscribers to purchase a volume top-up to get them to the next month's data allocation. The cost of these data top ups are as follows:

Data Top Ups	1GB	2GB	5GB	10GB
Price	\$4.70	\$9.55	\$16.03	\$28.97

Telia's LTE roll out is well underway and their pricing strategy of offering free content and discounted monthly subscriptions to get customers to sign up indicate that they are starting to aggressively market this new service.



Netcom Norway

NetCom is the second largest mobile phone operator in Norway and is owned by TeliaSonera. Netcom has approximately 1.2m subscribers. In parallel with TeliaSonera's LTE launch in Sweden, Netcom also launched its network in Norway, in December 2009.

Netcom are marketing LTE primarily on speed and it is currently available with mobile broadband modems. Netcom differentiate their two LTE plans, using both bandwidth speeds and different data volume allowances. For any usage over the monthly allowances, speeds are reduced to 120kb/s. Data top ups (at full speed) can be purchased – e.g. 1GB top up data costs \$18.25.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
Total	80 Mbps	30GB	\$92.38*	-	100%	Throttle back to 120 kbps
Grand	20 Mbps	15GB	\$73.81*	-	60%	Throttle back to 120 kbps

*Netcom is offering a half price monthly fee for the first four months. Prices listed above are normal post promotion monthly prices.

Looking at Netcom's 3G mobile broadband plans, the most expensive is \$46.17 with a fair use limit of 6 GB. This is significantly less expensive than the lowest cost LTE plan at just under \$74). With 3G+ offering expected use download speed of up to 14Mbps, then it will be interesting to see the adoption of LTE, given the price differential over 3G plans. In April 2011, Netcom have started to offer half price LTE monthly subscriptions for the first four months in order to attract new LTE subscribers.



Telia Denmark

Operating under the brand name Telia in Denmark, Telia Denmark is the second telecommunications operator in Denmark. The Company has 1.45M mobile customers, 67,000 broadband customers, and 153,000 fixed line voice subscribers.

In December 2010 Telia launched the first commercial LTE services in Denmark. The service covered the cities of Copenhagen, Aarhus, Odense and Aalborg. Telia is continuing to roll out LTE and is forecasting that 75% of the Danish population will have coverage in 2011.

The service is currently only available with USB modems, and the pricing is as follows:

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
Mobile BB 4G 20Mbit/s	20 Mbps	20GB	\$58.68	-	234%	Throttle back to 57 kbps
Mobile BB 4G 80Mbit/s	80 Mbps	30GB	\$78.32	-	345%	Throttle back to 57 kbps

Both options have a 6 month contract and a modem price of \$97.92. 3G comparison is with Telia's 5GB allowance, 2Mbps 3G offer at \$17.56/month.



Sonera Finland

Previously called Telecom Finland, the once government owned Sonera, joined forces with Telia of Sweden in 2002 to create TeliaSonera. In Finland the Company has 3.2 million mobile subscribers, 276,000 fixed line voice subscribers and 476,000 fixed line broadband subscribers.

Sonera’s LTE service was launched in November 2010 in the cities of Helsinki and Turku. The service is available with a USB modem that is included in the package price.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
Täysnetti 4G (Sonera Full Net 4G)	80 Mbps	30GB	\$67.31	-	157%	Throttle back to 3G/2G

This is for a 24 month contract.



EMT Estonia

In Estonia, TeliaSonera operates under the EMT brand. EMT has 797,000 mobile subscribers, 333,000 fixed line voice subscribers and 190,000 fixed broadband subscribers.

EMT’s LTE service was launched in December 2010 in the city centers of Tallinn, Tartu and Kohila. The service is available only with a USB modem which costs \$560.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
EMT Internet 4G*	100 Mbps	Unlimited	\$51.10	-	28%	Throttle back to 120Kbps

*TeliaSonera4G site reports a fair use policy of 30GB



Omnitel Lithuania

TeliaSonera operates under the brand name Omnitel in Lithuania. Omnitel has 2M mobile subscribers, 689,000 fixed line voice subscribers and 345,000 fixed line broadband subscribers.

LTE was launched by Omnitel in Lithuania in April 2011 in the cities of Vilnius, Kaunas, Klaipėda, Šiauliai and Panevėžys. As all other TeliaSonera companies the LTE offer of Omnitel is currently only available with a USB modem.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
Internet PC 4G 5	30 Mbps	5GB	\$29.22	-	41%	Throttle back to 120 Kbit / s
Internet PC 4G 10	80 Mbps	10GB	\$41.93	-	100%	Throttle back to 120 Kbit / s

The price for the LTE modem is \$295 without a contract or \$0.42 with a 24 month contract



MetroPCS

MetroPCS is a United States based operator, with over 8.1 million subscribers. It offers wireless broadband personal communication services (PCS), on a no long-term contract, flat rate, unlimited usage basis in selected major metropolitan areas in the United States. MetroPCS launched its LTE services in September 2010, laying a claim to being the first to commercially offer this service in the US.

Unlike other operators they do not market LTE mobile broadband modems, but have gone straight to providing LTE services on smartphones. It offers three LTE plans, and these are only available as part of a voice, messaging and data bundle. MetroPCS has a no contract, pay monthly up front service. It principally targets consumers on a budget and mid-range spenders, with value, no contracts and content as the main messages.

Looking at MetroPCS' LTE price plans, it's important to understand the difference between basic web browsing and "data usage". Data usage involves downloading material, so if customers want downloads other than YouTube they'll need to go the \$50 plan where they'll get 1GB of "additional data usage". MetroPCS have bundled LTE data usage and content in with voice and text.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
\$40 service plan	8 Mbps	Restricted*	-	\$40	N/A	Overages
\$50 service plan**	8 Mbps	Restricted** plus 1GB	-	\$50	N/A	Overages
\$60 service plan***	8 Mbps	Unlimited***	-	\$60	N/A	Unlimited

* Web browsing with unlimited YouTube access

** Same as above, but with access corporate e-mail and 1 GB of additional data access and content-based services

*** Same as above, but with plus unlimited data access and additional content services

MetroPCS position 'unlimited' in their marketing messaging – e.g. unlimited YouTube access in the \$40 plan. However, this is excluding other video streaming services, and if a customer wants additional content downloads then they need to move up to the next plan and pay by usage. Content bundling is also used in the plans – such as premium music and video content from MetroPCS' content site, MetroSTUDIO™, in the \$60 plan. Although MetroPCS do not publish usage figures relating to fair usage policy their terms of use state that "If we notice excessive data traffic coming from your phone, we reserve the right to suspend, reduce the speed of, or terminate your MetroWEB Service".

Unlike most other mobile operators MetroPCS did not have a 3G network and is making the leap straight from 2G to 4G. So unlike other operators they don't have a 3G network to fall back on if a LTE customer goes out of coverage, and specific network speeds are rarely mentioned in their marketing messages.



A1 Austria

A1 Telekom Austria, part of the Telekom Austria Group, is the market leader in Austria with approximately 42% of the market, and 4.9m subscribers under its different mobile brands. It successfully completed its LTE trial in June 2010 and carried out a commercial launch in October 2010. A1 are in the process of upgrading their network to HSPA+ and while they have a LTE offering, their CFO has commented that their “HSPA+ network is still sufficient. LTE is not a necessity right now,” said Hans Tschuden, CFO of Telekom Austria. (source: totaltelcom.com)

It currently offers one LTE data plan for mobile dongle users and offers service limited to certain areas of Vienna and St. Polten. It does not currently offer LTE for smartphones. For those subscribers who exceed their data allowance, an overage charge is applied.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
A1 Breitband LTE	150 Mbps	30GB	\$131.71	-	100%	By overage \$10.10 per GB

Given the coverage, the price premium and existing alternatives from A1 (DSL and 3G), it could be viewed that Mobilkom is going after early adopters who are willing to pay a significant premium to enjoy the high speed enabled by LTE. As the service rolls out nationwide, one can expect these prices to come down in order to attract 3G and DSL customers to LTE.



Verizon Wireless

Verizon Wireless is one of the largest operators in the world with over 94 million subscribers. They launched their LTE network in November 2010 in 38 major markets, reaching one-third of all Americans. They plan on doubling their coverage in 2012 to reach 200 million people, and to blanket the U.S. by the end of 2013.

Verizon has different data price plans by device, currently offering LTE mobile broadband modems, smartphones and tablets with LTE plans. As can be seen in the table below, Verizon offers LTE at no price premium to its 3G modem offer. Its LTE offers are not currently using bandwidth speed tiers, offering the same speed to all LTE subscribers. It has however, introduced a data cap for modem users, and customers are required to sign-up for a 2 year contract.

Unlike many other operators' LTE deployments, Verizon has a 4G smartphone offering (HTC ThunderBolt). However, smartphone users need to purchase a \$40 voice plan to be able to purchase a 4G smartphone data plan. This brings the total cost to \$70 a month, on a 2 year contract.

Modem dongle, hotspot, and tablet users who go over their cap incur an overage charge. Smartphone users do not need to worry about overage charges as their data plans are flat-rated / unlimited.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
Tablet	5-12 Mbps	1GB	\$20	-	0%	By overage \$20 per GB
Tablet	5-12 Mbps	3GB	\$35	-	0%	By overage \$10 per GB
Modem / Tablet / Hotspot 5GB	5-12 Mbps	5GB	\$50	-	0%	By overage \$10 per GB
Modem / Tablet / Hotspot 10GB	5-12 Mbps	10GB	\$80	-	0%	By overage \$10 per GB
Smartphone	5-12 Mbps	unlimited	\$30*	-	0%	none**

* Other T&Cs apply;

** Verizon does not have a hard fair use policy for unlimited data plans. However, they do monitor usage to identify high usage, and reserve the right to reduce the network speed of the top 5% of data users.

The primary focus of Verizon's marketing to date has been on speed, and provides several examples of comparative speed with 3G – e.g. "LTE could handle a download of a 10MB file in 10 seconds or so, instead of about 100 seconds with the current 3G network", and positions LTE as "up to 10 times faster than 3G". In its annual report Verizon expressed a desire to quickly embed its LTE services in several M2M opportunities. We'll also see LTE chips built into a wide range of products, such as consumer electronic devices, home appliances and vehicles. For example, GM's OnStar service will use Verizon's LTE network in vehicles with advanced cameras, sensors, navigation and monitoring tools to further enhance the driving experience.

However, the \$30 a month unlimited smartphone data plan for LTE offer may not last too long, with Verizon having stated that they "will move to some type of usage-based pricing this year." Verizon executives have said "LTE also gives us the capability to price very differently than we priced before. Not just on consumption, but also possibly on speed differentiation".¹

1: ZDNet, March 1st 2011 - <http://www.zdnet.com/blog/btl/verizon-htc-thunderbolt-coming-very-shortly-lte-tiered-pricing-too/45482>



CSL

CSL, based in Hong Kong, is a subsidiary of Telstra Corporation Limited and has approximately 2.7m subscribers. It commenced LTE trials in February, 2010 and followed this later that year in November with the launch of the world’s first LTE/DC-HSPA+ network.

CSL offer a ‘hybrid’ 3G / 4G network. They promote network speed as a major differentiator and market their 1010 brand as the “fastest mobile broadband in Asia-Pacific”. As they offer a hybrid 3G / 4G service, it’s difficult to make a direct comparison between its offerings and others. CSL does not market LTE capable phones. So, LTE speeds are only available to mobile broadband modem users.

CSL offers different monthly rates dictated by download speed for unlimited mobile data usage. However, it offers only one service plan that equates to 4G-capable speeds.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
1010	21Mbps	unlimited	\$68.07	-	21%**	Excessive use as defined by CSL will be throttled*

* CSL’s fair use policy, which will not impose any additional charges for usage, but will use throttling to restrict the network speed of very high bandwidth users.

** The 21% premium over 3G services is the differential over CSL’s 1010 mobile broadband offer provided at 7.2 Mbps.



Vodafone Germany

Vodafone Germany is a wholly owned subsidiary of Vodafone Plc. It has 36.191 million mobile subscribers (34.1% of market share), and 3.851 million fixed line DSL subscribers. The Company launched LTE services in December 2010. Vodafone’s roll out of LTE services focuses on areas where there is no, or limited, fixed broadband access. The reason for this is that as a provision in the LTE spectrum auction, rural areas with no fixed broadband get LTE coverage first.

Vodafone Germany’s LTE Zuhause (LTE At home) service is being marketed as an alternative service for fixed line broadband connection, where the existing line is too slow, or there is no DSL connection available. Plus there is the added benefit of mobility. Like several other operators they describe LTE as “turbo internet”.

On their website Vodafone says that it “is driving the expansion plans for universal coverage in Germany with a fast broadband Internet”. This is the type of message that normally would come from a fixed line operator. As initial LTE roll out is focussed on rural areas, there is not a focus on upselling 3G data customers, or adding heavy data offers to encourage usage. However, the table below does provide a pricing premium comparison with Vodafone’s 3G service in order to provide consistency. This comparison is based on the current speed based 3G offers that Vodafone Germany provides. The prices listed in the table below are for usage only. Basic hardware (dongle) is available for additional \$3.66/month.

The pricing uses a combination of speed and volume based tiers and will throttle back speed once monthly data volume has been used up.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
LTE Zuhause Internet 3600S	3.6 Mbps	5GB	\$29.24	-	25%	Throttle back to 3G/2G
LTE Zuhause Internet 7200S	7.2 Mbps	10GB	\$43.87	-	0%	Throttle back to 3G/2G
LTE Zuhause Internet 21600S	21.6 Mbps	15GB	\$54.50		20% less	Throttle back to 3G/2G
LTE Zuhause Internet 50000S	50 Mbps	30GB	\$87.74		NA	Throttle back to 3G/2G

For areas with DSL coverage, Vodafone Germany also offer an existing fixed line DSL (16000 DSL) offer. This provides downstream speeds of up to 16Mbps and upstream of up to 800 kbps. Basic pricing starts at \$29.19/month, up to \$51.13/month Vodafone DSL + TV Package. This provides 16 Mbps DSL, bundled fixed line to mobile calls, internet security package plus access to over 50 free TV / HD TV channels as well as video on demand channels. A direct comparison between the pricing for Vodafone’s LTE and their DSL services may indicate parity at the lower end, but the bundling of TV channels at the higher end packages could indicate that the DSL subscribers are getting additional content. It will be interesting to see if the Vodafone TV package is rolled out to LTE customers, and if bundled content will be used as an option in pricing differentials.

Vodafone Germany is also running a ‘recruit a friend’ marketing campaign, whereby subscribers can recommend a friend and if this friend signs up for Vodafone’s LTE service the friend gets a \$73.13 discount and the ‘recruiters’ get a \$73.13 ‘recruitment fee’.



NTT DoCoMo - Xi™

NTT DoCoMo serves over 56 million customers in Japan and has 54 million subscribers using FOMA™, the world’s original 3G mobile service based on W-CDMA. NTT launched its Xi™ (pro-nounced “Crossy”) LTE service in December 2010. Xi™ service is initially available in the Tokyo, Na-goya and Osaka areas, with plans to reach 70% of the Japanese population by March 2015. Users leaving the LTE service area are handed over to DoCoMo’s FOMA™ 3G network, which has nation-wide coverage.

NTT DoCoMo offers two LTE data plans for mobile dongle users and plans to introduce LTE-compatible handsets, including voice service over the FOMA network, by March 2012.

With the introduction of LTE, NTT is taking the opportunity to provide data volume based data caps. Similar to Verizon, NTT makes the same speed available to both plan users. Apart from price the main plan difference is that the lower cost plan comes with a two year contract.

Comparing this with 3G, NTT DoCoMo currently charges \$66.73 (Pake-hodai plan – source DoCoMo Website) for unlimited 3G use. This 3G plan is subject to a two year contract. Assuming 5GB LTE limit should be enough for most customers, 4G / LTE will cost around 19% more than current 3G charges on the Xi Ninen data plan. Most users will pay only slightly more for LTE than they already do for 3G data.

The table below provides information on the two LTE plans that NTT DoCoMo provide.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
Xi Data Plan Ninen*	37.5 Mbps	5 GB	\$81.43	-	19%	Additional \$32.82 per 2 GB
Xi Data Plan	37.5 Mbps	5 GB	\$99.79	-	46%	Additional \$32.82 per 2 GB

*Xi Data Plan Ninen is subject to a two year contract with cancellation charges applying - \$336 (1st month) to \$124.69 (from 24th month)

In addition to the charges outlined in the table above NTT DoCoMo charges an upgrade and a sign-up fee of \$39.39 for new customers or \$26.26 for existing FOMA™ 3G customers

Subscribers who consume more than their data allowance are charged an overage fee. As can be seen from the table above, a monthly charge) covers up to 5GBs of data. After that, \$32.82 will cover each additional 2GBs of data. These plans have an initial introductory offer of unlimited data volume above a monthly 5GB limit, but will move to usage based charging for all monthly usage over the 5GB cap once the introductory offer expires on April 30th 2012.



Deutsche Telekom

With operations in over 50 countries, Deutsche Telekom Group is one of the largest integrated telecommunications companies in the world. The Group has around 129 million mobile customers, approximately 36 million fixed-network lines and more than 16 million broadband lines (as of December 31, 2010). The Group provides products and services for the fixed network, mobile communications, Internet and IPTV for consumers, and ICT solutions for business customers and corporate customers. Launched in April 2011, Deutsche Telekom is marketing its LTE service as a broadband access technology to areas of Germany where DSL access is limited or non-existent. Like Vodafone Germany, this roll out is part of the provision under the spectrum allocation directed by the German government.

The provision of LTE is viewed as an extension of the Deutsche Telekom broadband network and not a ‘new’ network in the way that some mobile operators are positioning LTE. Indeed LTE as a technology is very much underplayed in Deutsche Telekom’s marketing, and the positioning is that the existing broadband network has been extended using advanced mobile technology (which is HSPA – High Speed Packet Access, 3G, and LTE) to bring broadband to areas without DSL coverage. The fact that HSPA is being used in areas where there is no LTE coverage limits the speeds that are being provided.

Deutsche Telekom are bundling fixed line voice calls with ‘mobile’ broadband access in a double play offer called Call & Surf Comfort via Funk (Radio). This is available as an exclusive offer for areas without DSL coverage. The table below illustrates the cost.

Name	Max Speed Download	Volume	Post-Paid	Pre-Paid	Premium to 3G	Enforcement
Call & Surf Comfort via Funk (Radio)	3 Mbps	3 GB	\$54.46	-	NA	Above 3GB speed reduced to 1 Mbps. Usage above 5 GB speed reduced to 384 kbps

This offer is bundled with a fixed line telephone service and has a contract term of 24 months. The price of \$54.46 a month is for consumers, and there is a \$49.12 a month price tag for business customers. Given that LTE is being used here as a broadband access technology by a fixed line telecoms operator, direct comparison with mobile operators’ LTE pricing may not present a truly accurate comparison. However, throttling back speed is used when a subscriber uses up their monthly data allocation.

Deutsche Telekom provides subscribers with a wireless router fitted with a location-specific SIM card. A LTE dongle offer is planned for the near future.

WHAT NEXT?

It is important to state, that with LTE pricing models many operators are still very much at the experimental stage, and that where we are probably does not reflect their end goals for LTE. As can be seen from this paper existing LTE pricing models include operators providing tiered usage plans based on:

- ➔ combination of usage volume and download speed
- ➔ usage volume with no speed restrictions until a usage threshold is hit, then speed is throttled back
- ➔ download speed with no volume restrictions

This offers a range of pricing plans by a relatively small number of current LTE operators. As with most services in ‘early adoption stage’ pricing is not used as the main marketing tool to attract subscribers. As more operators launch LTE services and competition intensifies then flexible and innovative pricing, packaging and controls will be used as a lead marketing element, in order to attract and retain subscribers and stimulate usage.

Ultimately, LTE based service offerings must respond to revenue growth and business model challenges. As the complexity and number of data plans increase with rapid changes to pricing and quota operators will have to work hard to manage this complexity and subscriber experience. To do this operators must place the subscriber centre stage, optimizing services and offers for the subscriber, while managing costs.

LTE can provide the foundation for operators to deliver a wide range of services that can provide the opportunity to help them evolve from being access providers to experience providers. This involves not only providing the connectivity over which content is delivered, but also making their networks highly intelligent to ensure content is delivered at the level of quality consumers expect, and personalizing and streamlining access to content in compelling ways.

This can generate new income from new business models and increase revenue from existing subscribers. However, there is a question if traditional B/OSS systems (many of which were originally designed for 2G voice) can provide the flexibility needed to fully monetize the opportunities that LTE will present.

In terms of LTE B/OSS will need to be capable of managing the dynamic interactions between subscribers, their services, and the network, to enable new business models and revenue streams to be realized. This includes operators having increased visibility of the subscriber and the network in order to provide deeper insights into what the subscribers are experiencing on your network. Also the B/OSS foundation needs to be in place to enable operators to better monetize existing and new business models. At the same time operators will need controls built into B/OSS to ensure that network resources and costs are optimally managed.

This will provide the foundation for operators to make the most of every subscriber and drive the success of LTE.

Exchange Rates Used

The rates used were from 5th May 2011 and were as follows:

€ 1: US\$ 1.46	NOK 1: US\$ 0.185
SEK 1: US\$ 0.163	1 JPY = 0.0125 USD
1 HKD = 0.1286 USD	1 DKK = 0.1962 USD
1 LTL = 0.4234 USD	

About OPENET

Attract subscribers, provide them a great experience, maximize revenue from them, and minimize the cost to serve them. Sounds simple until you try to do it with millions of subscribers supported by inflexible legacy infrastructure amidst an ever-changing set of business requirements. To succeed in this environment, you must first know your subscribers and how they use your services, be capable of deploying innovative business models that maximize revenue, and be able to control the allocation of your network resources intelligently and efficiently. This is making the most of every subscriber. And Openet can help with our Subscriber Optimization Software.

At the core of our solutions is the Openet Framework, a convergent, modular, real-time event processing and transaction management platform. This Framework enables operators to transform their BSS/OSS environments to capitalize on new services, business models and network investments. A global company, Openet is used by the world’s largest and most innovative service providers including AT&T, BT, Orange, Telstra, Time Warner Cable, and Verizon Wireless. Learn more at www.openet.com.