Advisory Report

Mobile Broadband: Dealing with Heavy Users

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Summary

It's now widely accepted that around 75% of the available mobile data bandwidth is hogged by just 5% of users. This has important marketing consequences for mobile operators, as well as opportunities for service-differentiating control and automatic up-sell mechanisms. Identifying the heavy user is a non-issue; operators know exactly who they are, and the overwhelming majority of them are laptop users. In a market of exponential bandwidth appetite growth, heavy users need to be managed and serviced properly.

Current Perspective

Identifying the Culprit: Mobile Laptop Users

When it comes to identifying heavy mobile broadband users, there's no mystery: laptop users currently consume ten times more data on average than users accessing mobile broadband networks from a handset, and that divide is likely to keep on growing. As a result, services for mobile data accessed from a handset and from a laptop are diverging, and we're seeing two very different sets of marketing practices emerge for these distinct user groups.

In the handset user world, 'unlimited' or all-you-can-eat plans, either as classic 'bolt-ons' or part of a voice and data bundle, are still very much the norm. In almost all cases the definition of 'unlimited surfing' is governed by fair usage policies which either automatically degrade the available bandwidth to GPRS levels after a specified ceiling per month ('bandwidth squeeze') or impose out-of-bundle charges.

Throughout Europe, there is very little conformance in terms of monthly ceilings on unlimited plans for handset users, with ballparks varying between 200 MB to 500 MB per month (see Table 1: European Market Leaders' Key Handset Mobile Broadband Handset Services, Policies). In our poll of Europe's five leading mobile operators, bandwidth squeeze is used in

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two out of five key services promoting 'unlimited' browsing from a handset. In cases of out-of-bundle charge imposition (e.g., O2 UK Web Bolt-On), most operators start imposing incremental charges without informing the user of the ceiling imposition, although a select group of best practice services (see O2 UK Web Bolt-on) now alert users by a text warning, both just before the user exceeds the limit, and as those additional charges kick in.

Table 1:
European Market Leaders' Key Handset Mobile Broadband Handset Services, Policies

Operator/ Key Handset Internet Plan	Package and Marketing Messaging	Price	Ceiling and out of bundle policy
O2 UK Web Bolt-on	Unlimited surfing on O2 Active or i-mode	GBP 7.50 per month	200 MB ceiling, after which additional charges apply.
T-Mobile Germany Combi Flat S	Unlimited HSDPA surfing plus mobile voice flatrate	EUR 44.95 per month	300 MB ceiling, after which bandwidth squeezed down to GPRS levels
Orange France L'option Internet Max	Unlimited browsing	EUR 12 per month	500 MB – hard cut off
Movistar Spain Tarif Plana Internet en el Movil	Unlimited browsing GPRS/ 3.5G, no surcharge for overuse	EUR 10 per month	No ceiling, but bandwidth squeezed down from 1 Mbps to GPRS levels after 100 MB
TIM Italy Super Vitamine	Bundled voice messaging and unlimited browsing	EUR 6 per month	10 MB ceiling browsing usage per day (excluding messaging/ mail), charges per KB thereafter

Although the media has created worry over the ability of operators' networks to support the growing numbers of mobile broadband users, handset access is not the issue. Average mobile data usage over a handset has been relatively stable over the last twelve months, and just a small number of handset users regularly exceed 1 GB, primarily due to the economy of delivering data to a mobile handset. Downloading a full length music track to the handset could eat up anything between 3-4 MB. Downloading the same track to the laptop could require anything up to 10 MB. This efficiency is entirely due to the several years' worth of work that operators have already put into optimising Web pages for the mobile screen, and fashioning popular Web applications for mobile consumption. The growth of thin applications, widgets and made-for-mobile services such as Facebook and MySpace use up only the fraction of the Web comparable data when accessed from a mobile phone.

For these reasons, European mobile operators report they handle few cases of serious over-usage among mobile handset customers; the headline cases of 'bill shock' almost always involve mobile data to a laptop, and some operators report exceptional cases of users accessing over 500 GB of mobile data from a laptop in a single month. Such a high level of consumption is unlikely to be generated by a handset user. Whereas operators define a 'heavy data user' among laptop access customers as one consuming around 10 GB a month, the definition of 'heavy usage' from a handset is at just 1-2 GB per month. Furthermore, the heavy handset data user segment is well identified. More often than not, heavy users from a handset are owners of one of the newer, higher-end handsets such as the G1 or iPhone, and therefore governed by a handset-specific data plan which anticipates such higher usage behaviour, and charges for it accordingly. By contrast, the definition of 'heavy user' in the laptop world is subject to a rapidly moving target. Just one year ago, it wasn't uncommon to see highest usage mobile broadband laptop plans with a ceiling of just 1 GB. Such a ceiling would certainly be considered insufficient today. Most 'heavy user' packages for laptops are now pegged at 5GB. In short, our bandwidth appetite expectations for this top volume segment have increased five-fold in just one year.

Mobile Laptop Data Appetites – Where Will It End?

In the laptop mobile data world, European operators report a tripling and even quadrupling of mobile data over laptops and netbooks from H1 2008 to H1 2009. There's no reason to suggest that consumption will start to level out in the coming year. Fixed broadband is a good decade older than mobile broadband, but European broadband usage continues to grow at 20% per year (source: The FTTH Council, July 2008), and the availability of ever-higher bit rates does appear to encourage further usage. According to the FTTH Council, European FTTH customers consume three times the bandwidth of ADSL customers in Europe, and to this extent it does seem likely that HSPA evolution and the move to LTE will indeed encourage exponential usage growth in the same way. As mobile operators move from HSPA speeds of 7.2 Mbps and 14 Mbps up to the full potential 100 Mbps and 150 Mbps of LTE, that's certainly something to keep in mind. Furthermore, as mobile operators enter the 'broadband' club, they start having the same problems as ISPs. Both provider sets now view the growth of P2P applications or bittorent protocols and video/ TV streaming, including legitimate (ie., legal) P2P as a key threat to network capacity management. Most mobile data packages explicitly ban P2P usage, but this is no longer an adequate reflection of the Internet today, which increasingly makes use of legal P2P in the distribution of popular software and application upgrades, such as Skype, Linux and World of Warcraft. Both ISPs and mobile broadband providers could be treated to the same regulatory brush when it comes to taking active measures to filter illicit content and make the Web a safer place to hang out, (please see Mobile Broadband Content Filtering: Lessons Still Need to Be Learned, May 19, 2009). But arguably the biggest problem both camps share is the 'heavy user.' The maxim that the majority of available bandwidth is consumed by the small minority of heavy users is equally applicable in fixed and mobile networks. It's not all that surprising that mobile operators are resorting to the same control techniques.

Techniques for Dealing with the Heavy User

In the mobile laptop world, we see a clear movement away from 'unlimited' marketing messages towards usage-based, metered plans which make a harder distinction between the 'occasional user' and the heavy user, with various gradients in between. In this market, the classic bundle proposition with out-of-bundle charges is still very much in place, as is bandwidth squeeze, but operators are also investigating alternative techniques to up-sell users to larger plans. The shifting sands of bandwidth appetite are actually in favour of such a strategy. Problematically, the average mobile broadband user consumes up to five times the data he did a year ago – that's a real issue for users locked into a 24 month contract with a fixed data ceiling. Consumer data patterns are changing so quickly, the average user will have an entirely different set of requirements at the end of a contract than at the beginning. Certainly, BT customers who picked the entry-level broadband package, only to discover that the peak hour bandwidth squeeze contractual terms implicit to that package prohibit satisfactory viewing of BBC iPlayer, can sing a song about that one. At the time of choosing a contract and data plan, consumers can't possibly be expected to predict the choice of applications they may want to access tomorrow, and anticipate the additional bandwidth these applications will demand. How can mobile operators respond to that?

Some have looked into service models which automatically upgrade customers who run out of data on any given month to a higher-usage package, or even a bolt-on bundle of extra data to get them over the month. Seen from this perspective, the move away from unlimited plans allows operators to create an up-sell opportunity out of heavy users, although not all have chosen to take advantage of this. Automatic up-sell is the mobile industry's equivalent of the 'put another coin in the slot' prerogative. Notification is one of the key features of this emerging up-sell on-the-fly technique and the favoured (and most obvious) method for mobile operators is SMS or e-text which pops up on the laptop screen as a short information alert. In the case of this particular option, TIM uses an SMS alert to inform Alice Mobile Data Kit 10 Flexi customers that they will be charged an additional EUR 10 for a further 30 hours of online surfing once that mobile laptop user exceeds the initial 30 hour usage limit. Of course, notification needn't be necessary at all, if the end-user agrees to buy into one of the new 'automatically adjusting' packages, such as Orange France's Internet Everywhere 2 hour Adjustable package. In this instance, subscribers understand that the monthly fee of EUR 9.90 (on a 24 month contract) represents just two hours worth of surfing from a laptop. Once the user exceeds this initial limit, incremental out-of-bundle charges apply until the user has wracked up six hours of usage, at which point Orange France rounds off the monthly cost at a flat-rate EUR 19.99. A third step to 12 hours is then offered, at EUR 29.90.

Table 2:
European Market Leaders' Key Laptop Mobile Broadband Handset Services, Policies

Operator, Key Laptop Internet Plan (lowest package itemised)	Package and Marketing Messages	Price	Ceiling, Out Of Bundle Pricing
O2 UK Mobile Broadband	3GB plus unlimited WiFi	GBP 9.79 per month for first four months (24 month contract)	3GB ceiling, after which out-of-bundle charges of EUR 0.20/ MB apply. Additional excessive usage policy on WiFi
T-Mobile Germany WebnWalk for Laptop L	Unlimited data	EUR 39.95 per month	Bandwidth squeezed to GPRS levels after 5 GB usage per month
Orange France Internet Everywhere 2 hours adjustable	2 hours of inclusive surfing	EUR 9.90 (24 month contract)	Additional charges of EUR 0.16 per min until 6 hours, at which charge rounded off at EUR 19.90, and again at EUR 29.90 at 12 hours.
Movistar Spain Tarifa Plana Internet	1 GB	EUR 30 per month	Classic ceiling, out-of-bundle charges at EUR 15 / 0.5 GB
TIM Italy, Alice Mobile Data Kit 10 Flexi	30 hours of surfing from a laptop	EUR 10 per month (24 month contract)	Text message warning users approaching 30 hour ceiling. TIM charges a further EUR 10 for another 30 hours, applied automatically.

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Recommended Actions

Recommended Vendor Actions

• By this time next year, mobile operators will be obliged by European regulation to provide data roaming customers with timely alerts of their usage. Since these investments have to be made anyway, it makes sense to think of deploying the same technology for national mobile data usage via the laptop to notify users when they exceed their monthly bundle allowance, and encourage a 'put another coin in the slot'-type purchase.

• Mobile operators should not consider the BT/ BBC iPlay bandwidth squeeze episode as a sign of changing times. This episode certainly cost BT quite a bit of negative PR, which it arguably didn't deserve. Had BT low-package contract customers read the small print, they would have been aware of the peak time reduction potential. Problematically, consumers cannot anticipate their future bandwidth and application access requirements at the time of signing a contract. Data contracts – fixed or mobile – are not flexible enough to respond to the rate of bandwidth appetite growth. This episode flags up the flaws in the existing model, not the shape of things to come.

• Mobile operators attempting to second guess future mobile data bandwidth usage patterns should be wary of anything but the very nearest-term predictions; this market is moving too quickly for longer-term projections. The growth in mobile broadband subscription uptake in Europe outperformed all expectations last year, but few in the industry feel confidence in predicting usage behaviour. Although it is tempting to base usage data to the fixed broadband world, it should be remembered that the two markets are at significantly different stages of maturity. Mobile broadband usage, furthermore, is increasing far faster than the 20% per annum currently exhibited by European fixed broadband users.

• Mobile operators should adjust their attitudes towards the 'heavy user'. At present, many tend to talk about their highest volume users as a market scourge; an undesirable bandwidth-hog, typically embroiled in legally questionable P2P activities which degrade the end-user mobile broadband experience for the majority. Turning this segment into high-ARPU value customers could be as easy as adjusting the schedule priority for certain users within the network, or a proposition re-jig to build usage flexibility (together with incremental spend) into a monthly plan. Mobile operators also need to rethink their near-universal ban on P2P within mobile broadband plans. Not all P2P activity is illicit – it's only a matter of time until operators get called out on this issue.

• Mobile operators need to modernise their mobile broadband contracts, or risk the kind of negative PR exposure recently lavished on Deutsche Telekom and T-Mobile in Germany for the operator's decision to block, and then create a surcharge for, Skype VoIP. Application-specific tariffs or surcharges are not a feasible way for dealing with heavy users and the use of legitimate P2P and bittorent protocols are calling existing limitations into question.

Recommended User Actions

• All consumers looking to buy a mobile broadband service this year are advised to read the small print, and then read it again. Even those who consider themselves 'light' or 'mid' users should consider that their future usage patterns may include heavy bandwidth applications which push usage beyond the parameters of low-volume plans. Consumers should be on the look out for contracts in which operators retain the right to reduce the broadband speeds at peak hours, as this may inhibit the consumer's access to tomorrow's applications.

• Consumers who feel they are unable to predict their monthly mobile data requirements are advised to seek out prepaid mobile broadband services, to get a feel for their typical requirements. Consumers should also consider why they need mobile broadband at all (irregular access, or DSL replacement), and shop for the package which best supports these needs.