by Jon Fell

Do we now need *superfast* regulation?

Not so long ago, the main way in which we used our telephones to communicate was to make a call, send a fax or send a telex. To these tried and tested methods of communicating we added email and then online discussions. The underlying telecommunications infrastructure was fixed line telephony. Mobile technology had not evolved sufficiently to provide much more than voice and text messaging as its options. As mobile phone technology evolved to provide greater functionality and connectivity, there simply was not the bandwidth to make this exciting enough to displace our reliance upon fixed line communication.

In the last 5 years there has been a huge change in the way in which we communicate and the way in which we use telecommunications services. So much so that telecommunications service providers and regulators alike need to change their approach and adapt to the new market place.

This is not simply a European phenomenon but a global one. In this age of social media and smartphones, we have entered the truly mobile, "always on" world. Under the "old" order, time spent on a call was king. We were all billed on a time-of-network-usage basis. In the new world where the volume of data being transferred over the global telecommunications networks far exceeds the volume of voice calls and where the cost of data transfer is not charged by the minute or by the bit, telecommunications service providers

need to revisit their business models and their business opportunities.

The pace of the changes to the way in which we choose to communicate have highlighted the need to improve the global telecommunications infrastructure and act quickly. As society adopts new online communication technologies, the social divide grows between those areas with good infrastructure and those with poor infrastructure or none at all. To balance this, most countries in the EU are investing significantly in the development of next generation networks capable of handling the ever increasing demand and which will provide everyone with high speed Internet access.

A changing market

At the end of the first quarter in 2011 there were 540.69 million broadband subscribers globally[1]. Perhaps more significantly the Internet has become a network of devices talking to each other, often without human intervention. Cisco predicts that by 2015 there will be more than 15 billion devices[2] connected to the Internet which is more than twice the projected population of the planet at that time. Cisco also predicts that a staggering one million minutes of Internet video will be transmitted every second. No wonder, then, that the greatest challenge faced by telecommunications providers is the need for more and improved network infrastructure.

On 4 August 2011 Ofcom published its Communications Market Report for the UK[3]. What is interesting is that the report shows that telecommunications sector revenue in the UK fell in 2010 for the fourth year in succession. This is against a background of an increase in calls and a forty fold increase in the volume of mobile data transferred over the UK's mobile networks between the end of 2007 and the end of 2010.

One of clear messages coming out of the Ofcom report is that there has been a significant shift in the way in which we choose to communicate. We have moved away from fixed line voice telecommunications to mobile data communications. This is understandable given the meteoric rise in the use of social media and text messaging. In the past, the incumbent telecommunications providers have been protected by the existence of two significant barriers to entry for new telecommunications providers. First, there was the capital cost of building a new network. As a result call charges were kept high to enable the operators to recoup their expenditure. This is no longer the case. Fixed line operators have long been required to provide access to their networks.

The use of the MVNO[4] model allows a business to provide a branded mobile telecommunications service using a mobile network operator's network without the need to obtain a spectrum licence. This is not new and we have seen examples of successful MVNOs with the likes of

Virgin Media and Tesco in the UK. In both instances, the companies have been able to leverage their brand, reputation and, in the case of Tesco, its customer base to great effect. However, such arrangements were still costly and only made sense if the organisation in question had a significant presence in the minds of the consumer. The relatively complex and cumbersome nature of MVNOs changed beyond recognition with the advent of the MVNO aggregator. It is now economically viable to set up an MVNO with a relatively small subscriber base. One of the most significant barriers to entry has resolved itself as a result of market forces.

The second barrier to entry was the relatively slow take up of new technologies. It took mobile phones a decade to achieve 50% penetration rates. However, social media reached a similar level of penetration within five years and it seems likely that the adoption of smartphones will reach 50% of the adult population within a period of four years. This trend is set to continue with the period between use by early adopters and maturity continuing to shrink. This means that the effect of disruptive technologies will be felt much quicker in the market.

The first response of the telecommunications providers was to try to become all things to all persons. Not so long ago, every service provider wanted to ensure that its service offering was at least a triple or even quadruple play. Being a simple provider of fixed or mobile telephony was not sufficient. The new mantra was 'content is king'. This resulted in the mobile companies becoming desperate to develop bespoke content with a view to creating their own slice of the Internet. However, the rapid increase in services available over the phone network and the market pressure created by new entrants has meant that network operators have had to revisit their approach. Content is still king in that

there is no turning back from the consumer's hunger for new content nor from the way in which we wish to communicate.

Therefore, the new business model is to concentrate on the operators' key strengths – the operation and management of networks. The emphasis has shifted so that the operator becomes an enabler of services and provides access to its networks to third party service providers. The revenue flows from the added value that the operator can bring by providing management and billing services in addition to access to its network. This is reflected by the growth in MVNO aggregators and the availability of pan European MVNO services.

The reduction in barriers to market entry should be a good thing for consumers. Greater choice in service providers will stimulate the development of new services and lead to cheaper communications. An ideal situation for a competition-based regulatory environment, and one which will lead eventually to the regulators being able to step back and let the markets regulate themselves. But maybe not yet. There are a number of challenges which still need to be overcome as the market goes through this period of change and rebirth.

Challenges

It is inconceivable for any large public or private sector organisation not to have a web presence. It is equally inconceivable for companies and government not to use the online world to communicate and interact with their customers and their constituents. Increasingly, use of online forms and downloads is the preferred, if not mandated, channel of communication. This highlights the biggest challenge facing regulators and service operators alike. How do you avoid discrimination against those living in areas where the infrastructure is not up to transfer-

ring large amounts of data swiftly or at all? Fixed line voice communications may have reached all, but that is simply not the case with access to superfast mobile or fixed line broadband.

The need to build new and faster networks that provide everyone with access to high speed modern communications comes with a huge price tag. As such it will nearly always be the incumbent fixed and mobile operators that are best placed to take up the challenge. This means that the market position of the incumbent is reinforced rather than reduced. The high cost of the new networks means that it is only economically viable to provide the services in areas where there are sufficient subscribers to enable the operator to recoup its investment.

Consequently, if all of the population is to be served by these new networks then there will need to be investment by governments as the financial case for a business of building a new high speed network in areas of low population simply does not stack up. How then should governments go about this gap funding and what role do the regulators have?

Options

One option would be for the regulators to impose a universal service obligation on the incumbent operators to provide broadband services at a minimum speed to any one who demands it and then to regulate the amount which can be charged by the operator to install and provide the services. This after all is the approach taken to the provision of fixed line voice communication and one which has worked well to date. However, the market is now very different. The fragmentation of service providers means that any new build network needs to be capable of running competitor's services over it.

Such an approach would impose an unreasonable burden on the incumbent provider in a market where its revenue from the direct use of its network by customers is reducing. It is only fair that those service providers investing vast sums of money into the design and build of new networks should be entitled to a reasonable return on their investments. However, this needs to be balanced with the need to ensure that competition at all levels of the communications market flourishes.

The risk is that by allowing the incumbents an opportunity to recoup their investment, other service providers are prevented from competing. At best, a bottle neck is created whereby the incumbent supplier controls the speed of development of competing services. At worst, access is denied or severely controlled. One aspect of this relates to net neutrality, which until recently had been a bigger issue in the US than in Europe.

There is undoubtedly a legitimate need for a network operator to manage the traffic over its networks. Certain traffic will need to be prioritized. Voice traffic will take precedence over data traffic. But what is legitimate? Is it legitimate to always prioritize the network operator's traffic over that of its competitors? The answer is almost certainly not; but what about different types of content or content from different sources? It all becomes far less clear cut. To date only two countries have passed laws to ensure net neutrality: Chile and the Netherlands. Should the rest of Europe follow in the footsteps of the Dutch? Maybe, not just yet, as it seems prudent to take time to see how the existing transparency and quality assurance measures adopted by the EU Commission work out and to see whether the Dutch regulator's actions lead to higher costs for consumers as predicted by the mobile operators.

The EU acknowledges the need for those building next generation networks to be able to recoup their investment by charging other service providers wishing to access the new network. This is not unreasonable. However, the question remains as to how should such access be regulated in practice? It is easy to set out principles to determine what constitutes a reasonable charge. In the UK Ofcom's approach is to ensure that the amount charged is fair, reasonable and non discriminatory.

On the face of it, this approach seems eminently sensible in that it provides protection to other service providers without being unduly prescriptive. The problem with such an approach is that it creates an environment which is ripe for dispute. If the incumbent charges too much, then the only avenue available to the other service providers is to involve the regulator to determine what is fair and reasonable.

The consequence is that there is delay and additional cost. This is surely the opposite of what good regulation is meant to achieve. Whilst the holy grail of European regulation is to avoid *ex ante* regulation and allow the market forces to ensure that the telecommunications market in the EU is innovative and competitive, now is not the time to take a light touch approach.

The aim of telecommunications regulation in the EU is to further the interests of European citizens in relation to communications matters by promoting competition in the markets. Currently the need to promote the interests of consumers can be achieved only if the regulatory environment promotes the rapid development of a new telecommunications infrastructure which is capable of being used by all consumers and not just those living in large urban conurbations. This means that regulators need to be proactive in their approach to regula-

tion. The problem with regulation of the telecommunications market in the EU has been that each member state has had too much discretion in the way in which it implemented the 2002 Directives. The EU wanted to address this very issue when it reviewed the 2002 EU Directives. However, it was not able to impose the level of central control over the NRAs[5] as it had originally wished. Rather BEREC[6] was born with the power to make recommendations to NRAs but not to impose a particular solution. The problem then will continue to be that there are 27 NRAs with 27 different ways of doing things. So much for harmonization.

Implementation

To be fair, it remains to be seen how the Better Regulation Directive[7] and the Citizens' Rights Directive[8] will be implemented across Europe. Notwithstanding that the date for implementation has passed, to date less than half of the member states have implemented the two Directives.

The EU Commission has in its amendments to the 2002 Directives sought to deal with the challenges. It has included new provisions in relation to infrastructure sharing to enable access to existing telecommunications infrastructure. So far this seems to have been interpreted as being an obligation imposed on the incumbent provider alone. In both the UK and France, the regulations relating to infrastructure sharing are asymmetric in that they apply only to the incumbents (although duct sharing obligations in France apply to all providers). It seems that whilst all service providers are keen to have access to the incumbent provider's networks, they do not want to afford the incumbent reciprocal rights.

It is difficult to see the logic of such an approach and it does not seem to reflect that taken by the EU in the Better Regulation Directive[9]. It is a

shame that regulators in the UK and France have adopted this approach with regard to fixed line telephony. A better model would be that of the mobile world where infrastructure sharing is seen as a means of reducing cost.

In addition the EU has sought to impose obligations on service provider to ensure transparency. These obligations relate to the provision of information about technical specifications and "any conditions limiting access to and/or use of services and applications".[10] Unfortunately these are not as stringent as those obligations imposed in relation to quality of service and information about traffic shaping imposed under the changes to the Universal Services Directive[11]. Whether they will be sufficient to deal with the perceived net neutrality issues remain to be seen. However, the EU has included a nuclear option for national regulators – functional separation.

This is not a new concept in the UK where BT has been subject to voluntary undertakings for some time. It represents a significant new tool in the regulators' armoury. In the UK it is fair to say that BT's undertakings have not resolved all of the problems which arise where one operator has such a significant share of the market. As the undertakings are voluntary, they are not capable of easy fine tuning by Ofcom as all changes have to be agreed with BT rather than imposed. At best functional separation is a means of addressing some of the more obvious anti-competitive behaviours, but without complete transparency it remains a relatively blunt tool.

Conclusions

The telecommunications market is going through its biggest era of change since the introduction of mobile telephony. Whilst in many respects the main barriers to entry have been removed and there has been a growth in the number of service providers, the position of the incumbent service providers has, if anything, grown stronger. It is difficult to see how telecommunications regulation alone will create the pan European superfast networks which all governments are set on and all consumers want.

The light touch regulatory approach tends to add uncertainty and cost into the process at a time when certainty and efficiency of process are needed. That being said, in order to provide the desired levels of connectivity to the hard to reach areas, there needs to be more than just regulation, there needs to be government funding and incentives.

One thing that does not help is the further hurdle which has to be overcome in the form of State Aid rules. It is not an option to simply drop the protections put in place in order to achieve a particular goal. If you did so, where would you stop? However, it would be helpful if the aims of the telecommunications regulator and those operating the State Aid regime were more in line.

A market with a large number of suppliers and relatively low barriers to entry should be sufficiently competitive to justify little or no *ex ante* interference from the regulators. Competition law should be capable of dealing with any anti competitive behaviour without assistance from detailed and prescriptive regulation. All of this is true, but it does not yet apply to the telecommunications sector. The dominance of the incumbent service provider has been reinforced by the development of the next generation networks.

The lack of harmonization across Europe, and the inability of the EU to intervene where NRAs are not dealing with the issues adequately, will continue to hamper the development of fast, reliable services for all. The changes introduced by the EU may turn out to be no more than tinkering at the edges. An opportunity to use regulation to help achieve the goal of a next generation level of service for all may have been missed.

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Regulatory policy