

A CLOUD OVER BUSINESS

The needs of business often get forgotten amid consumer regulation.

NICK WHITE explains what's at stake in enabling the cloud and other services

The internet is a potential accelerator for economic recovery, but it is currently inhibiting investment and innovation in cloud-based online business because it is constrained by cross-border communications barriers and by security and data protection concerns. Even within trading blocks such as the European Union, businesses face time consuming and costly hurdles, and as a result, few businesses are currently choosing to innovate and invest in international online applications for their core business processes.

The current regulatory framework within the EU was designed in 2009 to create a seamless market environment for electronic communications, but it has actually created new barriers because its architecture is built on regulation at member state level. This is because the 'relevant markets' (the areas subject to regulation) are all national, in line with the underlying principles of subsidiarity, and more damagingly because there is no distinction between end consumer and business customers.

This is not to say that the framework has been a failure, but rather that it now needs a fundamental change that will enable the next generation of business models to prosper. This is particularly urgent for mobile communications, where a dysfunctional ecosystem exists, with a fragmented patchwork of national markets. Each of these may have vibrant competition for individual end consumers, but they neglect the special needs of business users, especially those trading across national borders.

It is in this context that opportunities for transformative cloud-based applications are being missed by service providers and business customers alike. But it is not too late, for there are ways in which the current lose-lose situation can become a win-win.

The European Parliament elections of 2014 provide a great opportunity for a step change in the environment for both businesses users and end consumers of communications services. The European Commission's Connected Continent proposals pave the way for the next iteration of the Framework Directive, and represent a crossroads in the evolution of the internet economy in Europe. Decisions on the Commission's proposals will facilitate or obstruct the ability of the EU to leverage the Digital Agenda for economic growth, job creation, improved productivity and social welfare. A positive response to the needs of business customers must be reflected in the outcome. The decisions made this year in the European Parliament committees and in the Council can



make or break the proposed single market in electronic communications, empowering or denying the Commission's ability to carry the work forward later this year.

The Connected Continent proposes that inconsistency in standards applied between countries within the EU must be eliminated, for example for SIP trunking, or for spectrum allocation. Single, or one-stop authorisation is needed to simplify operations in multiple member states, both for service providers and customers. Limitations on device and application usage at member state level militates against pan-EU roll out of business processes, and should be eliminated.

Unjustified and punitive charges for international traffic on fixed and mobile networks must be removed, since these suppress innovation and investment in many international online business processes. This includes roaming charges, international and inter-network termination charges, cross-border leased line premiums and international call mark-ups.

BUSINESS REQUIREMENTS

To understand the issue more clearly, it is necessary to consider what businesses are trying to achieve through use of communications services, and why. This helps explain why the needs of business users of communications services differ radically from those of mass-market national end users. These needs are not necessarily addressed by the existing regulatory regime.

As an example, many large businesses manage fleets of thousands of mobile devices across multiple countries and would prefer an international contract with a single supplier on consistent terms.

← This is not possible currently, even with the largest operators with subsidiaries in multiple countries. One major international drinks firm experimented with a pan-EU contract for two years, but reverted to national agreements, since it created more problems than it solved, and was not even beneficial financially. Some customers of international fixed networks, needing high quality access circuits in several countries, have found that sub-national deregulation, or 'geographical segmentation', has released previously dominant operators from the obligation to provide access circuits to their chosen supplier on non-discriminatory terms.

The 'extended supply chain' is a phrase used to describe the interdependent relationship between the many stages in a business process from idea generation, innovation, design and manufacture to marketing, selling, transporting, distributing, retailing, and ultimate use of end products and services. In most cases, following outsourcing of generic core and support processes, these steps in the end-to-end process are performed by different organisations and companies. Each company in this extended supply chain has its own arrangements for internet access and increasingly for cloud services. Each business therefore needs to ensure that its own part of the end-to-end process can be competitive and can connect seamlessly with the applications and information of the other participants.

This may seem fairly obvious and straightforward, but it becomes much more complicated when the organisations, applications and data sources are in different countries, using different communications operators and cloud suppliers. Standards obviously become an essential ingredient, as do guaranteed seamless connectivity and assurance that there will be no discriminatory blocking or throttling of traffic or access.

Business user debates on network neutrality have a rather different form to the more usual consumer emphasis. While content providers seeking to protect intellectual property rights may argue for the ability to block or throttle traffic, it is impractical and unacceptable for a business to face the risk that a device is unable to use a network component or access an application or database, due to a nationally implemented regulation. The same concerns were raised when consideration was given to cutting off ISPs whose connections had been used for transmission of traffic that was deemed to have infringed copyright (see the case of French HADOPI law, now revoked).

The business customer requirements can be summarised in the following main areas:

- Open, non-discriminatory access to ubiquitous high-quality broadband services
- Borderless international mobile services providing seamless end-to-end connectivity
- Removal of functional, financial and regulatory transnational barriers to online trade
- Secure fit-for-purpose cloud services, which are robust enough for core business use
- A suitable communications ecosystem for the rapidly emerging 'internet of things'
- Flexibility of provider choice for each part of a communications service without constraint
- A network neutral open internet with differentiated, non-discriminatory traffic management
- Business grade service quality including symmetric bandwidth, low latency and resilience
- Separate recognition of distinct relevant markets for business and international services.

THE CLOUD OF THINGS

While consumer use of cloud services is already showing signs of significant take-up, business users are rather more reluctant to commit core business process applications to cloud services, due to concerns about security, data protection and risks of service interruption. Inconsistencies between EU member state regulations, and between the EU and elsewhere in the world, especially the US, also pose legal concerns, which deter take-up. A clear and agreed security and data protection model throughout the EU is essential and the work of the C-SIG working party addressing this needs to go further than its current work on defining service level agreements. Service quality metrics must be used to build a robust fit-for-purpose business grade standards-based cloud service environment.

Connected devices, such as cars, TVs, energy management and process control devices, and health monitors need a more flexible internet, especially in terms of mobile connectivity, where intelligence regarding physical location cannot be assumed, and where locked down SIMs in long-term mobile devices are unworkable. The changes needed in this ecosystem would also benefit more traditional users of the internet, whether individuals with increasingly sophisticated and bandwidth hungry devices and applications, or business users of global data platforms. The regulatory environment and the technology policies must address this opportunity.

Most attention has been paid to date to the use of cloud services for humans to access shared hosted applications using personal intelligent devices. Machine-to-machine (M2M) applications, especially using mobile devices, have the potential to dominate future usage volumes in terms of bandwidth and numbers of end devices. Such devices should be able to connect to the best available mobile signal wherever they are, and at consistent and predictable cost. While mobile operators compete on price and coverage, human customers and intelligent devices are unable to use the best available signal wherever they are, and are exposed to unnecessary white space, where their contracted operator has no coverage, while others do provide service. Single contracts covering all member states, perhaps involving mobile virtual network operators (MVNOs), are needed, as are offers for fleet management of up to tens of thousands of mobile devices. Such single-point, single contract management requires different tariff structures with different service bundles, which eliminate risk of bill-shock.

The problem is that each business involved, small or large, needs to be able to make its own competitive choices of communications services and products, and without constraint as a result of the choices of other organisations within the supply chain. But those are the precise cross-border and cross-organisational constraints faced today. When companies merge, or acquire new subsidiaries, or dispose of existing parts of their business, they find it difficult, if not impossible, to continue using all their existing applications or to transfer or consolidate existing contractual arrangements into more favourable ones within the new ownership structure.

This arises because of restrictions on availability of devices and applications to specific national networks, blocking or throttling of traffic, discriminatory or non-availability of access circuits, and punitive supplementary charges for crossing national boundaries. One example of particular concern currently involves Apple – businesses cannot accommodate exclusive mobile operator contracts for specific devices.



All these restrictions undermine the opportunities that these technologies were designed to enable. Such barriers are particularly iniquitous when applied to the growing community of small and medium enterprises (SMEs) which are the engines of online growth and which rely on broadband access from outside city and urban centres. These businesses need flexibility and choice when selecting services, and they need seamless international reach for growth.

BUILDING BLOCKS FOR SUCCESS

Ever-increasing broadband speeds are a feature of communications developments, but the headline figures quoted by service providers are another reflection of the focus on individual end consumers, since they tend to be confined to the downstream speed only. Business customers of broadband are interested in more than simple downstream maximum transmission speed. Upstream speeds are critical, as is latency, phase jitter, short outages, mean time to repair and resilience in the event of failure or congestion.

It is a strange feature of broadband studies that dominant infrastructure providers often claim impressive geographic coverage of over 90-95%, while surveys of business users still report that many are unable to get the broadband they need everywhere they need it. This may be explained by confusion between 'enabled exchanges' and actual roll out, as well as limitations on DSL services due to distance from the exchange.

Since business customers may wish to get all their services from the same supplier, the absence of equivalent input wholesale broadband access (see Ofcom's consultation to deregulate 90% of UK wholesale) may result in unavailability even where suitable infrastructure exists. Sub-national deregulation has already exposed customers in some member states to lack of redress when only the dominant operator has the services required. It is essential that broadband is available at all customer sites.

Businesses also need service providers to offer a range of quality, with guaranteed measurable delivery. This needs sophisticated traffic management, applied in a non-discriminatory and network neutral manner. This must be transparent; ie. it can be defined, monitored and reported before, during and after network operations including during network component failures and periods of capacity overload due to traffic volumes.

The real state of available services and operational quality should therefore be monitored and reported transparently, not in terms of theoretical service propositions, but in terms of the actual service delivered. Regulators should not confine their political targets to over-simplistic measures of broadband coverage and downstream speed, or mobile availability, but address usage. As the transmission technology used becomes less significant than the end-to-end service delivered, the role of other technologies, such as unlicensed and white space spectrum, should be included in the total picture of communications progress.

THE WAY FORWARD

A current study by BEREC, the European regulators' body, of the business service market needs to be progressed to the point where a distinct relevant market is recognised that is subject to impact assessments for regulation, and measured for efficiency and competition effectiveness. Similar attention should be paid to the international market for generic services, to enable the European Union to assess the success of its policies and regulations in seeking a connected continent which provides the best environment for business customers. The real measure of success is not the health of the communications market, but the economy it enables. Regulate for the big picture, not just the means to the end.

NICK WHITE is executive vice-president of the International Telecommunications Users Group (INTUG). See intug.org