

There's a Revolution in the Air!



Referring to a paradigm shift where a new technology or process has a radical impact on the way things are done

Technology changes fast and these days most of us accept that we are both a witting and unwitting audience to new technology constantly replacing the old. Often there is a “light bulb moment” and we witness a major technological breakthrough or even a quantum leap in technology that can benefit society in general. I’m not just referring to, for example, a new release of Microsoft software but a paradigm shift where a new technology or process has a radical impact on the way things are done.

The opposite phenomenon also exists, a so-called “Concord moment” where the current technology cannot be replaced by anything new or better and has seemingly gone as far as possible. For example, it is generally accepted that we will never see another supersonic airliner to follow on from Concord in our lifetimes. It’s odd that in the 1970’s passengers could fly to New York 2.5 times faster than today. Technology has reached the end of the line as it were, and Concorde can now be found as ornaments in the back gardens of a select few!



Another example is the famous quote from BBC television’s Top Gear programme about

the Bugatti Veyron, the fastest road car in the world. They noted that ‘it is unlikely to be surpassed in speed or engineering quality’.

So what do we call the phenomenon where the opposite occurs, new technology is available but it is blocked from entering the market? Perhaps “Luddite Technophobe Evangelism.” We could even give this an acronym – “LTE” would seem apt.

The fundamental question with LTE is “is it possible to stop new technology and progress and what or who are the forces behind such behaviour?” Who on earth are these people that believe they can play judge, jury and executioner in such matters? I accept there is a perfectly acceptable case regarding religion, the rights of believers to freely express and practice their beliefs within the law, the key words here are “within the law.”

However, it is not acceptable when just a few individuals and/or corporations believe they have the God-given right to go to extraordinary lengths to stop new technology from entering the market and destroying their existing business models.

That may take them across the Rubicon, and into areas which at best might be described as “grey” – at worst....

There are phrases that justify the subject such as ‘built in obsolescence’, and the ladderless stocking theory, but not, I believe, in this case. I’m talking about the mobile telecoms market sector where such overt and covert shenanigans are happening on a daily basis. Ultimately, as we shall see, they have no more



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chance of long-term success than King Canute had of stopping the tide.

We live in a new age, where if the internet sees a roadblock - eventually it simply routes around it – not my words, but a Board Director of telecoms giant Verizon last year.

If Bankers, MPs and Hedge Fund managers are currently public enemy number one, from first hand experience it would seem that the Mobile Phone Operators (MNO's) have also behaved and are still behaving in a manner that blatantly robs their customers of huge sums of money and are getting away with it. A pundit described the activities of one European owned network that by behaving as they do they are over-charging by the equivalent of the ill gotten gains of The British Great Train Robbery every single day.

Not surprising then, that if this was to surface in the current political and economic crisis it would cause extreme embarrassment. One economic hand grenade in the room might just be defused in time but the effect of two simultaneously, with the pins out, would be catastrophic.

If you don't believe me or this revelation is a little too far fetched for you then read the transcripts in the Competition Appeals Tribunal, ("CAT") where this fact is confirmed, under oath, in the words of MNO's own representatives. This is a blatant and unchallenged example of incumbent operators being absolutely steadfast in blocking technology for the sake of their balance sheet.

It's not just happening in the UK, a case between Network Operator E-Plus and Call Media Services in Germany is being played out as I write. Meanwhile in Belgium, the Regulator has twice forced the MNO to re-activate SIM cards, and in a Mediterranean Country the Regulator itself is an active user of a technology blocked for widespread use by the UK's Regulator. In case you are wondering what on earth I'm rattling on about. I'm talking about the use of GSM gateways.

A gateway device routes a land-line or Voip call through to the mobile phone networks and reduces the costs of fixed phone calls to mobile phones. The reason they can save you money is due to the complex rules and regulations governing pricing. When calling from land-line to mobile, the interconnection

fees between the fixed line operator and the mobile operator are extremely high.

MNOs allow free in-network calling and also provide free minutes for local and national calls. This therefore provides a significant opportunity for savings to be made using a device such as the gateway. The UK's own Regulator advised the then Minister in 2002 that such devices should be permitted because of end-user benefits.

Just like the second war of 1812-1815 between the United States and Great Britain, this is a forgotten war being raged between the licensed mobile phone operators and now mainly extinct GSM gateway operators. This battle has been going on for nearly 6 years and there is plenty of meat on this story even yet but for most part it is not picked-up by national journalists, probably because there is yet to be a victor, however in the trade journals the matter is known. The villains are not only the MNO's, but Ofcom, the Regulator, has also behaved in a manner that does not serve the best interests of the public by delaying, pontificating and being outright obstructive. This was notwithstanding their original advice to the Minister. Not surprising really when a fair few of that organisation are no doubt former employees of MNOs – but we are unlikely ever to be told - the Freedom of Information Rights only go so far.

The UK and EU courts now have their part to play as until very recently UK proceedings were very active. The simple remaining question now is, "is UK or EU law right?" One of them certainly looks wrong, and in this field, without EU law, the ability to use your mobile elsewhere in Europe and beyond simply would not exist. Also the lack of a mass market would have meant even higher mobile usage rates. Tellingly it was not the UK Regulator but the EU Commissioner for Information Society and Media, Viviane Reding, we have to thank for lower international call rates. Why our own Regulator could not have acted on this matter off its own back remains a mystery.

Even Trading Standards Departments and the Office of Fair Trading have apparently baulked at the idea of taking on the MNOs, claiming that the case is too big and likely to bankrupt the County Council if they lose the case.

So, with sure-fired stubbornness, pure obstinacy and obvious and blatant collusion



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the L4 "Luddite" networks have picked off the gateway providers one by one using techniques such as:

- billing disputes, (they stop service, consequently you don't pay, - they claim breach of contract for non-payment)
- claims of harmful interference of the networks (rejected in the UK Courts)
- and fraudulent activity (unsubstantiated)

as their weapons against the so called *crime* of providing cheaper voice calls.

Sharing intelligence is a widespread practice between networks but often so blatantly targeted that the poor unsuspecting and vulnerable gateway operators will have the knock on the office front door by up to four networks in one week. Forget the Data Protection Act as this is also blatantly abused and ignored with impunity. In many cases the MNOs network's fraud, risk and security, departments would write to both the gateways operator's clients and bankers using words like black listed or acting in a fraudulent manner. Key words like this on an email are enough to get your account suspended with obvious effect. Outrageous really, as the courts at the time hadn't even ruled on the matter. Perhaps a new offence is needed 'abuse of position' comes to mind. The EU comes closest with Articles 81 and 82 EC about the abuse of dominant positions. These are enshrined in the Competition Act – but remain under-utilised in this sector as fighting companies with bank balances as big as some minor Nations is a scary prospect, so the bullies get away with it.

What's so very odd about this is that the networks talk openly about it between themselves and Ofcom ignores it. Any complaint from a gateway operator on billing irregularities or wrongful billing is simply dismissed as 'coming from' a gateway operator and not followed through on grounds of "administrative priority." Being judged thus before a complaint is examined is commonplace. It is telling that there has never been a single complaint filed with Ofcom by an MNO about Gateways.

One current scam by MNOs is to offer on-net billing at a low rate but to charge off-net rates

when billed through a virtual operator even if it's on the same network. Blatant misbehaviour issues here and to make matters worse the assigned number ranges are not even published on the Ofcom website so how are you supposed to know? Though complaints have been made and this is a clear and absolute breach of metering and billing duties under the law, they are simply not remedied sighting platitudes and explanations such as 'a review is taking place' at the moment or "the matter has been referred to the Regulator and not likely to be considered until 2010." By that time another 52 Great Train robberies would have occurred and again they have got away with it.

A major point for the Competition Authorities and the Judiciary to consider are that the so called penalties for misbehaviour by an MNO are just a fraction of the reward. Good work if you can get away with it! A massive fraud by anyone's measure, but no one will investigate. All the sticky fingers must be in the honey pot. Now I'm not talking money in brown paper envelopes here but the art of turning a blind eye which is clearly and equally a great sin but carries no punishment if found out. We will never know to what extent, if at all, the huge sums paid for 3G licenses influenced proceedings – but we were talking here about the 2G spectrum – which was given free to MNO's.

Apparently, it's just another completely unconnected fact.

Bizarrely, most of the gateway GSM traffic in the good old days was encouraged by the networks in order to get market penetration or share. Even then there was the old conflict between connections and ARPU (Average Revenue Per User). One moment MNOs want the most connections and to be the biggest kid on the block - the next they want high average earnings per SIM card - all in the name of getting the city bankers to look favourably on their financial results and get the share price up. In some cases the networks would pay you to take the SIMs and rogue sales personnel, with a nod and wink from their bosses, would obtain credit clearance in the name of banker size bonuses. Often contracts and licenses were issued and then ignored. The argument tethered that the traffic had the wrong profile or calls were made to the wrong people. The



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distinction being made between private use and public gateways is also made – though how remains a mystery since it is the same equipment being used in both cases. Clearly very sophisticated traffic profiling is carried out by the network's fraud departments and calls monitored. GCHQ would be proud.

Whom you may ask are the co-conspirators in these alleged wrong doings. Winkling out whistle blowers has proved difficult but a few have spilled the beans. All want to give evidence that helps but is not offered for open court. We are aware of cartel meetings between networks fixing interconnect rates and agreements on how to deal with GSM gateways. Listening into phone calls and tracking CLIs' (Command Line Interface) is commonplace to see that companies under suspicion are making the correct kinds of calls and to people that the networks approve. This is not the same point as the 'wrong kind of snow' here but active monitoring of call records. Purposely over billing and falsifying call records to bankrupt small operators is commonplace and used by all networks simply to force gateway operators out of the market sector.

Until recently all gateway surveillance would be the domain of MNO fraud departments and disputes would be subject to fraud investigation and not simple billing errors. The guilt being implied before any communication takes place using UK law when it was known that there was a potential compatibility problem with EU law that might lead to English law being changed – thereby removing their right to terminate. In fact, under EU law there is a specific right to connection, and lawful disconnection should in such situations be accompanied by an alternative deal from the Networks, though I've yet to see one - ever. So gateway operators are always guilty by association before any dialogue.

A word of explanation about the technology and the politics.

Sorry, but after my bitching its worth just mentioning some of the technology and tariffs here. Over the last 4 years across the EU, average mobile termination rates have fallen by around 40%. Data available to the European Commission suggests that in some places they could be over 800% too high! Yet again we would be lost without Viviane

Reding. Though most people in the UK don't know or care what she says or does they most certainly should. She has put money back in their pockets that otherwise would have gone straight to those poor impoverished MNOs...

Whilst the individual National European telecoms regulators are trying to get the cost of calls down by codes of practice or statute the technology exists to do it now, and the European Commission can achieve its goals far more easily than it might have thought. National Regulation will work eventually but it's slow and technology that's achieving cheaper calls is being actually blocked now at whatever cost. The economy needs those savings right now!

The technology moves on though; arguments such as that over harmful interference are won in the courts, but every engineer knows that gateways do not interfere and networks operate as they were designed to, gateways or no gateways. It's simply a question of agreeing fair contractual terms, and if they are below interconnection rates, so what – we the consumers benefit, and it was the MNO's who made the tariffs available in the first place!

Perhaps too it demonstrates that the Commission must be right that National mobile termination rates are too high because all rates should be cost orientated. In turn the networks employ specialists to look for gateways use. The trouble here is that the MNOs are using the law to argue their case in the knowledge that they must loose ultimately as the Commission was not told about restrictions to gateways on the grounds of business type which were introduced in the UK. At that moment EU law was breached, and the damages due mount daily. As the cat and mouse game continues, new developments occur.

You can't keep a good inventor down and now we will see the emergence of voice calls over data and VoIP (**Voice over Internet Protocol**) over wi-fi on standard mobile handsets. Thus MNO'S have been forced to the point of chasing down the gateway operators in the name of their protectionism and balance sheets. All that is happening is those operators go underground or develop new ways of making cheaper calls. This will ultimately lead to free or near free voice calls and then, as we examine history we will see that the MNOs



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brought it on themselves, the Isaac Newton effect. You can also see it happened with Google Voice being used and The Session Initiation Protocol (SIP) is a signalling protocol, widely used for setting up and tearing down multimedia communication sessions such as voice and video calls over the Internet, enabling free calls off your mobile with no roaming charges.

So will technology prevail over commercial bullying, protectionism and restrictive practices? Well on the face of it GSM gateway providers haven't done very well so far (but if they were so wrong, and given the mighty forces arrayed against them they would all be very dead). For that matter neither have other providers within telecoms.

If you examine the recent past then it's clear to see trends. The development of Bluetooth enabled VoIP was quickly quashed by GSM networks and handsets had this facility disabled. So called 'call control' is a very rare beast indeed. Call Telephony Profile is almost a dirty word. Subscriber Identity Modules (SIM) with multi EMSI had a flutter but did not happen and multi SIM holders or twin SIM handsets are still in the backwater as networks purposely block older phones with complicated address books without seamless integration. Thank God for Microsoft CE and Symbian OS as more things are now possible.

Skype has on the face of it got somewhere but Skype 'in' and Skype 'out' is a gateway of sorts. So why have they been left alone whilst others like Truphone have needed to serve injunctions to use VoIP.

There are so many anomalies, so many questions and many double standards. Why is Orange UK turning gateways off whilst still selling to others? Why has the UK regulator and the courts ruled against gateways and ignored the European thoughts on this. What happened to the Frankovitch ruling in all this?

Well new technologies like VoIP will prevail but even as the war continues all four mainstream networks are likely to disconnect you if they see you making a voice call on the data channels. Odd really, the voice quality is amazing and at a fraction of the price when roaming. Could it be that private protectionism is fighting technology advancement on the same system? What about Least Cost Routing algorithms appearing on hand sets?

Well they here now and only as a result of overzealous behaviour by MNO fraud departments closing down so called gateway operators only to find that new technology pops up on hand sets to achieve the same thing. Have no illusions here we are talking about mobile hand sets with gateway software on the SIM or the phone's operating system; a true game of whack-a-mole if I have ever seen one.

So-called freedom of speech is currently a myth as the means by which we make it is clearly not free. Could it be that The UK Government has tuned to the dark side and be found itself to have sold licences to the networks and taken the booty now having to over govern the position with consequence of supporting restrictive practices and price inflationary cartels. And where is Europe in all this? About to pounce, we hope and pray, for never was the cavalry so desperately needed as the roll call below demonstrates.

Homage to those fallen heroes in the forgotten war:

- VIP Communications
- Recall Support Services
- Floe Telecom
- West Manor
- Quotex
- World Wide Telecom
- Itelso and 6335.com
- Anglo Communications
- Bon.net and Babble
- Airmax Communications

Finally if the MNOs thought for even a second that this war was over, they are very wrong. A new age is coming, and they can no more stop it than then can the tide.

The EU Commission will achieve its goals, and Mobile Termination rates will tumble, thanks largely to a forgotten war by forgotten companies, unloved by MNOs and some National Regulators, unknown to the public, and unrewarded for their business risk. Without them the speed of new technology evolution that will forever change Mobile Termination Rates (MTR's) would not have been possible.

Mobile phone users could pay less for making calls from abroad to their country of origin,



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under proposals put forward by the European Commission.

The Commission said it would draft a law to crack down on "unjustified" high charges for using mobile phones abroad. The proposals seek to scrap all roaming charges for receiving a call when travelling abroad in the EU. They also aim to make the cost of calls made abroad the same as those made in the user's country of origin.

The problem being that roaming prices still vary for a four-minute call - as little as **€0.20** for a Finnish consumer calling home from Sweden up to **€13.05** for a Maltese consumer in Latvia. In some cases roaming prices have even increased over the past six months. In the UK, one operator has increased the price for roaming from €3.45 to €4.92 when consumers call home across the EU. Another example, Lithuanian customers are charged for a 4 minute call from France between €4.41 and a staggering €12.08.

The UK is always closely scrutinised, and this year 2009 promises significant changes in the balance of power between the five operators. This is partly because of the prospect of a spectrum change. There are 2.6GHz auctions upcoming, plus redistribution and re-farming of 900MHz GSM bandwidth - and partly because of the changing fortunes of the players. T-Mobile has seen a severe drop in market share, whilst O2 and 3 UK are on the up, with SIM-only deals, the latter by low cost mobile broadband and a wholehearted embracing of the open internet model, highlighted this week (April 2009) by a free Skype offer.

In 2008, the UK added over 3m new mobile connections, taking its base to 75.75m or 124% penetration. O2 ended the year with increased share at 28.3%, while Vodafone, Orange and T-Mobile all lost share, ending on 25.3%, 21.1% and 19.4% respectively. T-Mobile was worst hit, partly because its MVNO partner Virgin Mobile lost share and slipped below the growing 3 UK, on 5.9%. The next most important MVNO after Virgin is branded by retail giant Tesco.

ARPU was also under pressure, especially among the operators reporting in Euros. Vodafone's dropped from £22.5 to £21.5, while O2 and T-Mobile reported declines of €4.8 (to

€28.1) and €5 (to €26) respectively. Orange, which uses rolling averages, saw an increase from £265 to £272, though this number is not entirely comparable, while 3 does not support separate ARPU for the UK.

The Hutchison owned unit, which could be up for sale later this year, according to rumour, has taken a further step in its disruptive approach to the mobile web. Always far ahead of its rivals in embracing the open internet model, it has worked closely with Skype in the past few years, even offering an optimized handset co-branded with the VoIP provider. Now 3 says it will offer unlimited Skype-to-Skype calls and instant messages at no charge to anyone with a 3 SIM card - previously this was only available to customers who paid extra for a data plan. New customers just need a pay-as-you-go SIM, which can be used in any Skype compatible handset, and costs from £1.99 (\$1.65). Currently the phone must come from 3 UK but in the summer the offer will extend to any unlocked handset.

This is characteristic of 3's recent aggressive approach to winning new customers with eye-catching deals - it was the first to offer pay-as-you-go dongles, for instance, and has consistently undercut its rivals on mobile broadband. It has repositioned itself as a supplier of broadband access. Its prize is the growth in market share it saw in 2008, a decrease in churn, and hopefully a steady stream of additional fees for other internet services and content once users are hooked. 3 UK has found that regular Skype users are less likely to churn than non-Skype users and use more traditional voice minutes than non-Skype users in addition to calling their Skype contacts. So counter-intuitively perhaps, the Skype users have proved among 3's highest margin customers.

If this carries on for much longer then it won't be long before the 4 other networks start to offer gateways again. However watch out any respective supplier as their contract isn't worth the paper it's written on. Justice delayed is justice denied - now finally after 6 years, some of those pioneers might be shown to have been right after all. The Emperor had no clothes all along...

