VoIP is Killing Fixed Telephony

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"A little less conversation, a little more action, please." That text comes from an Elvis Presley song from the 1970s. If his songs were focused not on love, but on business, Elvis could name his album "Conversation is Action" today. Four decades after his golden era, we are seeing developments in conversation and in action. We communicate more, we do more work, and we determine solutions more quickly. Business, however, has not changed in one critical respect – we still want to sell more and spend less. Thanks to VoIP (Voice Over Internet Protocol) technologies, we spend less money now for more conversation. The old PSTN (Public Switched Telephony Network) system is facing a slow and inevitable death.

THE LAST ADVANTAGE – MELTING AWAY

Why is it likely that PSTN connections will disappear in the near future? The problem is that such systems require far more spending on the development, maintenance and support of telephone networks. The quality of the connection offers no more advantages in comparison to IP telephony. Telecommunications company revenues from traditional voice services continue to decrease slowly, although the services remain the chief source of income in the fixed line market. Companies which offer Internet-based voice transmission have become entrenched, and they offer great promise for newcomers.

The traditional telephone network was developed more than a century ago, and it used dedicated links to connect callers. Yes, this network ensures a high level of quality, but it is inefficient and thus expensive to operate. The Internet, by contrast, was designed to maximise efficiency. It allows different types of data – voice, E-mail, video – to share the same network. The Internet also delivers streams of voice and other data which are sent over the network in formatted packets. The packets are sent out along the network and create manoeuvres for resources as they travel toward their destination. Sometimes, however, packets are delayed or dropped if they encounter congestion. Packet delays don't have much of an effect on text-based communications such as E-mail, but voice and video services require packets to arrive at their destination in order and on a timely basis. If packets are lost or delayed, the sound or picture is strained.

Fibre-optic technologies, however, have eliminated the only advantage which traditional telephone networks have offered in the past. The quality of sound and video is no longer a problem, although in the past, this is what kept conservative users from switching to VoIP. All businesses count their money, and every company wants more efficiency, so traditional telephony is surely lagging behind.

THE FUTURE BELONGS TO FIBRE-OPTIC NETWORKS

Today's low-loss glass fibre-optic cable offers almost unlimited bandwidth and unique advantages over all of the older transmission networks. Fibre-optic cables can support much higher data rates at greater distances than copper cables can, which makes them ideal for the transmission of any digital data. Fibre-optic cables are virtually unaffected by the weather. They can be attached to telephone poles or existing power cables without concern about the picking up of extraneous signals. The ability to carry much more information and to deliver it with greater precision than copper or wire cables – that is the main advantage in knocking out the traditional networks.

Incumbent telecoms companies in the Baltic States have inherited vast fixed telephony infrastructures from Soviet times. Telecoms firms are holding on to these old networks, although their present is pessimistic, and there is absolutely no future for them.

A contrast is presented by British Telecom (BT), which is transforming its network to handle modern communications more efficiently. This is the so-called 21st-century network (21CN) programme, and it will result in a new network which will use IP technology so that all signals (voice, video and data) are transmitted digitally. This is faster and cheaper than is the case with BT's current and traditional network. The new network will have the capacity to transmit huge volumes of data securely and efficiently.

BT's current network is actually a series of parallel networks which are used for different functions. There is one network for voice calls, whilst others are used to transmit data. A single network will be used for voice, video and data calls by 2009.

How will customers benefit? They'll be able to access any communications service from any device and from any location – and at broadband speed, yet. VoIP services will be developed so that customers can make voice calls over the Internet, using a PC or laptop. They'll be able to make and receive broadband calls on a second line, using an ordinary touch-tone telephone.

Baltic telecommunications companies have not announced any similar initiatives, so the voice telephony of the 21st century does not belong to them.

TWO DEATHS OF FIXED LINES

The loss of traditional telephony services in the market for home users will be the result of mobile service providers. Many users still use a fixed number as a backup even if they have

Lithuania's Communications Regulatory Authority has not disclosed VoIP market figures, but unofficial surveys suggest that there might be between 5,000 and 15,000 IP phone numbers in Lithuania – 2,000 of them in the business sector.

a mobile phone in their pocket. Prices of mobile and fixed calls are now more similar than was the case, and traditional telephony is left without any advantages. DSL connections keep home users from cancelling telecoms company services altogether, but this is the last straw which telecommunications firms can cling to in competition with 3G, EDGE, or any other mobile technology. The end is approaching slowly but surely.

The second death for traditional telephony services is occurring in the business market. Who'll continue to pay for local phone calls if users of a VoIP network communicate for free (i.e., when there are no base charges for service use)? Who will pay too much money for international calls if VoIP operators provide the same service at the price of a local call? The purchase of new end-points and software is the only constraint, because problems such as changing a phone number have been resolved. Conservative users may question the switch to Internet telephony, but those who count their money are prepared to switch to anything, as long as it reduces costs.

Phone calls someday will cost nothing above a small fixed monthly fee. Would you agree to pay for every Web site that you visit? The same Internet protocol is used whether you're visiting a friend's Web site or calling the friend. Both operations require no additional resources, and the fibre-optic network which is used involves monthly charges. Smart marketing and flexible pricing among telecommunications firms will not attract business users to the same extent as is the case of free VoIP services which are based on the fibre-optic network.

INNOVATIONS FOR SUCCESS

The shift to VoIP can positively influence a company's bottom line, as well as management efficiency. When voice services are integrated with back office software such as Microsoft Exchange or CRM, there are many features which can help in streamlining business operations. A conversation with a client can be recorded, and the sound file can be forwarded to the colleague who will work with the

client. Voice messages that callers have left when you have been unreachable can be downloaded to a mailbox. VoIP systems can be integrated with every employee's calendar, thus preventing phone calls during busy hours (the boss can call you at any time, of course – just approve the necessary option). The list of features is endless, because any procedure or process can be carried out with the help of standard or bespoke VoIP software.

VoIP does not bind a manager to a wire. Advanced cell phones can link callers to a VoIP service via a Wi-Fi connection. Users log in at a local access point, gain Internet access, and make their calls. VoIP software handles users just as if the callers were dialling from a VoIP client's computer which is attached to a wired network. The advantage here is obvious – users don't have to fire up a laptop at a hotspot. Instead they use their familiar cell phone within a wireless zone – and, of course, their calls are charged at regular VoIP rates.

Voice services are not only about calling and talking, they're all about management that is based on effective communications. To talk or not to talk – that has been the choice ever since Alexander Graham Bell invented the telephone, but the choice is not

enough for businesses today.

VoIP also creates endless possibilities for public services. How much does a government pay for the phone calls that are made at its various institutions? Most institutions obviously talk mostly with each other. If governmental organisations all use the same VoIP network, public servants can communicate for free. Rough calculations tell us that phone costs would drop by 30%, and it is just a matter of time before a smart politician begins to insist that such systems be installed.

Here, again, there are also possibilities for more extensive services. When someone contacts a government institution, he or she must verbally explain the problem. The helpful public servant forwards the individual to another institution or branch, and the explanation has to be started again. Anyone who has dealt with public institutions can probably think of the Elvis Presley song which is mentioned at the start of this article. The volume of conversation, however, would be reduced if the first institution records the person's statement and forwards not the individual, but the sound file. A verbal inquiry can then be treated as a document or application, and that handles all of the procedures which are necessary for the solution. ❑