

Competition in Telecoms

If competition is a good thing, let's move to IP.

Barbara Lancaster

blancaster@LTCinternational.com

Regulators have attempted to encourage competition in PSTN telecoms, with mixed results for customers and investors. Perhaps we should recognize that traditional telephony is not an ideal environment for real competition. "New generation" IP-based telecommunications seems to offer many more opportunities for genuine open competition. If this is the case, then a substantial move towards an all-IP infrastructure should be supported by regulators and welcomed by customers and by investors alike.

The notion of free competition in telecommunications is not new. In the beginning, voice networks were built by private companies, slinging copper wires from roof to roof. They operated completely independently of each other, interconnection was haphazard, and in some cases, companies claimed that their wires were being sabotaged or stolen by competitors' linemen. Now that was real competition.

Eventually governments caught on to the profound economic benefits of global voice telephony and took steps to regulate the industry. Regulation imposed some necessary standards, including interconnection and numbering schemes, and started the process of building a single global "network of networks" - the voice Public Switched Telephone Network (PSTN). Regulation also established territorial monopolies, partly on the grounds that the cost of building the infrastructure was so high, that multiple competing companies would only succeed in putting each other out of business. Many governments went further, taking private companies into national ownership: telecom was seen as a basic infrastructure requirement (like roads and sewage) and became a branch of government. Build-out was subsidized by tax-payers, so uneconomic areas could be wired and share in the economic stimulus of being connected to the world.

In the US, telecommunications reached many rural and marginal areas by community action of one sort or another: rural co-operatives, municipalities, state and federal subsidies. In due course many of these marginal operations became profitable. Profitability required only three key items: a sufficient volume of customers, a management team that was reasonably competent and honest, and the passing of time.

The same drivers (*volume, decent management and patience*) also paid off for the big private operators and for the government-owned PTTs. Maturity brought profitability. At one time, no pension fund was complete without its quota of AT&T shares.

Profitability brought opportunities. In the US, the big operators started to acquire some of the smaller companies now that they could pay their way, thus extending their reach into areas that a few years previously had seemed so unattractive. Elsewhere, governments saw opportunities for huge financial gain by selling off their telecom operating companies to private ownership.

The unexciting world of telecommunications as a public service transformed into the much more exciting world of telecommunications as a money-making enterprise. The scene was

set for the competitive explosion, in long-distance and then in local access. Regulators encouraged competition for all the right reasons. And so we entered into the “irrational exuberance” phase (to apply the words of Alan Greenspan). There were benefits for some customers, but there were problems too.

- Customers got a great deal on long distance PSTN rates.
- As margins were squeezed, long distance carriers looked to Internet traffic growth as a major new revenue stream. But these forecasts were hopelessly inflated, since they were based on extrapolation from very early growth figures and the insubstantial business plans of dotcoms.
- Little serious analysis was available on what end users might actually want (and be able) to use the Internet for.
- Overcapacity became a problem with every carrier planning to be the biggest. In the local access market, competitors seriously underestimated the cost and operational complexity of providing service using the incumbents’ local copper.

Unfortunately for some enthusiastic newcomers, the basic truths of running an infrastructure business continued to apply: *volume, careful management and patience*. In the world of competitive carriers, how many have achieved three out of three? Few companies who started up in the last six years have reached sustainable profitability. Many companies became bankrupt, or are going through the process.

The bankruptcy process, from one perspective, is a way of restoring companies to a sound financial footing by demolishing shareholder value. Whether a company goes through the process and comes out the other end, or network assets are sold off at cents in the dollar, the end result is the same: companies emerge with business plans that may actually provide a path to profitability. The real historical cost of assets is no longer an issue. This allows companies to reduce prices, sell more, and achieve profitability much more quickly.

As more companies benefit from bankruptcies, the survivors who started off with sensible business plans will be at something of a competitive disadvantage. How can they compete with companies whose asset costs have already been written off?

One scenario is that previously sound companies will become uncompetitive, stumble, and they’ll have to go through bankruptcy too - with further impact to their suppliers. Eventually, when most everyone has gone bankrupt there will be a much smaller number of operators selling services at low prices and making money. A sustainable competitive telecom environment at last?

Perhaps. If so, it will have been paid for by the many investors who believed the bubble would last, and who held onto their stock instead of selling at the peak of the market (unlike many industry insiders). In effect, the investors who provided the funds to build the new businesses are the investors who will not get a payback. It works pretty much like the government subsidies in the early years of telecommunications, except without the complication of handing the money to the taxman first. The “irrational exuberance” ends with sober reflection, not a champagne party. No wonder that people are unenthusiastic about investing more of their money in telecom businesses.

Perhaps they should consider that a competitive market in PSTN services was always something of a forced fit. Until competitors could by-pass the “last mile”, competition was always going to be somewhat compromised. The nature of the legacy PSTN

telecommunications environment made competition problematical: high cost of entry, low margins, few technology choices, and a technology approach that made service delivery and network ownership inseparable. This approach was so successful that it's taken us about a hundred years to create the possibility of building something radically different.

Now "new generation" networks do offer a real possibility for transforming telecoms. By "new generation" we mean general purpose networks capable of carrying a wide variety of services, including voice. By contrast, the old networks were basically designed for voice and adapted gradually for other services - at significant cost. New generation networks provide an opportunity for real competition to emerge, if regulators around the world create the conditions for it to happen...

The proliferation of different technologies at steadily reducing costs enables more companies to compete in local access. Twenty years ago offices and homes were served almost exclusively by copper pairs providing PSTN voice service. Today, almost 80% of households in the US have broadband IP access available in their neighborhoods, and about half of those have a choice of broadband service provider. Always-on high-speed IP pipes can be provided by: copper pairs, coax, fiber/coax, fiber, broadband wireless (3G, 802.11x, line-of-sight), IP over power, satellite. As these access technologies continue to improve, competitors will stand a better chance of being able to by-pass the incumbent telco (and for that matter, the incumbent cable TV company.)

Riding on top of the IP network of networks will be a multitude of new service providers - offering real-time communication services (including voice, text and video), information, entertainment and other applications. The cost of entry will be low. Customers will have more choice. People will be able to subscribe to multiple service providers and change at will. And yet technology costs will be low enough for companies to make money. Providing they win enough customers, manage their businesses, and don't expect to get rich overnight (that pesky *volume, careful management and patience* again).

Much of the IP transformation is nothing to do with new services, and everything to do with delivering old services more cheaply, with more features and greater user control. Voice is not a new application. Media distribution is not new. Data storage and remote access are not new. But the advantages for end users (and carriers) of doing these things in an all-IP environment are profound. The "killer apps" are already with us: voice, media, data.

For the first time technology makes it possible, at least in principle, for multiple competing businesses to play in the build of networks and in the supply of services over the networks. Certainly there needs to be cooperation and settlement agreements as traffic passes from carrier to carrier, but the "new generation" architecture is much more amenable to competitive activity than old generation technology.

People who were burned investing in companies who were primarily competing in PSTN world will be reluctant to invest in the new world too. But the old PSTN rarely offered satisfactory opportunities for fair competition as classically conceived by Adam Smith. Perhaps as the dust settles we will decide that the experiment in PSTN competition was not very relevant to the main evolutionary path of the telecom industry. From a 2002 perspective, some PSTN competitors must feel like they opened a candle factory the year before electricity was invented. The future is IP, not PSTN.

We are not talking here about more Internet hype. Recent disappointments should not blind us to the fact that a revolution is still possible, and indeed is in progress. But telecom is a huge industry and the revolution will take some time.

If we still accept that free competition makes for a stronger industry and better deals for customers, we should applaud its coming, and not mourn the relegation of the old technology into a supporting role. Technology geeks and gurus were first to clamor for the coming of the all-IP environment, attracted by its technical elegance, application agnosticism and operational simplicity (relatively). Then savvy customers started to catch on, looking for more choice, more control and big savings. But the mass market for real-time communications, collaboration and media using the new technology is largely untapped.

So now is the opportunity for investors to show enthusiasm for an all-IP world. It seems rational to show some preference for companies building services and networks for the future, not for a museum. And if the rules of the game are closer to the classical rules of competition, then intelligent investing might still pay off.

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Barbara Lancaster is President of LTC International Inc.

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USA +1 972 234 8997

Europe +44 131 200 6066