Who Put The Con In Convergence?

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There is no doubt that we are in the midst of a global communications revolution. Fiber optics, wireless technology and the Internet are transforming the way we communicate, and transforming the industry that delivers communications services.

One result has been a great wave of speculation about what the changes might mean and what the future might bring. Thousands of articles, books and websites have been devoted to proving the singular historical importance of some specific trend in or caused by the communications revolution.

I want to focus on two major and apparently opposed schools of thought, represented by the phone companies and large networking manufacturers on one side, and by Internet service providers and IP evangelists on the other.

■ One side says that the dominant trend is "convergence"—all things digital coming together in one box, one network, one service provider.

■ The other side says that the dominant trend is war to the death between the Internet upstarts and the entrenched phone companies, and that the Internet will inevitably win.

Both are wrong. These are partisan mirror-image positions put forward by vendors and their representatives. Neither one reflects reality or the interests of customers.

Misused Metaphors

Metaphors are useful devices. Properly used, they clarify and illuminate our thoughts. But they can be dangerous if we forget that they are just figures of speech, not accurate descriptions of the real world.

Take "Information Superhighway," for example. That term originated as a metaphor—a proposal that the U.S. government should support the building of a national information infrastructure, just as it supported the building of the national highway system after World War II.

That was a good metaphor. But it was quickly extended with discussions of on-ramps, fast lanes, back roads and even road kill, to the point where it was absolutely meaningless and vanished from the scene.

The idea behind the original metaphor remains, however. The June 2001 report of the Canadian government's National Broadband Task Force proposed essentially the same thing, without the burden of a confusing metaphor.

The most widely used communications metaphor today is "convergence." It is so successful that most people don't realize it's a metaphor.

Convergence means "tending to terminate at a common point." It can describe highway traffic, or a mathematical series or even the evolution of different species in response to similar environments. But as a metaphor for what's happening in communications, the term is used to mean things that have nothing to do with the actual meaning of the word.

Convergence=Multiple Channels?

The use of "convergence" we see in the press most often is the one promoted by Canada's largest corporation, Bell Canada Enterprises. BCE, you'll recall, owns Bell Canada (Canada's largest telephone company), CTV (Canada's largest private TV network), Sympatico (Canada's largest Internet service provider), the *Globe and Mail* (Canada's largest-circulation national newspaper), the ExpressVu satellite TV service and a bunch of cable TV channels.

In the November 2001 issue of *Bell News*, BCE CEO Jean Monty explained what BCE thinks convergence means: "First, convergence describes how content is distributed to several media. Say, from TSN to Sympatico Lycos and to the *Globe and Mail*. Second, it's how advertisers can now use more platforms—Websites, email, TV, and print—to reach specific audiences."

The same issue of *Bell News* describes some of Bell's convergence activities. They include: a website for the popular CTV show *Degrassi— The Next Generation*; a trivia game you play on a Bell Mobility cellphone, based on the CTV-carried show *Who Wants to Be a Millionaire*; a service that delivers news to monitors in elevators; and a subscription-based website for sports news from TSN.

All of BCE's "convergence initiatives" involve selling content produced by some BCE companies through multiple media outlets owned by other BCE companies. Calling that "convergence" may make it sound new and exciting, but it's just vertical integration—something media

companies have been doing for decades.

Back in 1966, for example, NBC launched a situation comedy called *The Monkees*, featuring a band created specifically for television. It was a multimedia phenomenon. In addition to the top-rated TV show, there were hit records—11 in the Top 40, three reaching #1. (They actually outsold the Beatles and the Rolling Stones combined for a couple of years.) There were tours, live shows, Monkees magazines on every newsstand, a Monkees movie, T-shirts, hats, posters, buttons— even Monkees contests on the back of cereal boxes. If there had been an Internet then, the Monkees would have been there, too.

The Monkees was a multiple media advertising opportunity that was exploited to the hilt. But no one called it convergence. It was just selling the same product several different ways.

And that's what this kind of convergence is, too. Not a technology trend or even a marketing innovation—just a new word for controlling and using multiple sales channels. And it's an outstanding example of a metaphor stretched beyond any possible usefulness.

Convergence = Multiservice Networks?

Another common use of "convergence" refers to combining multiple forms of communication traffic on one network or in one controlling device. We hear it used this way mainly by telephone companies, but also by cable TV companies and makers of networking equipment. If you want to sell more than one network service at a time, "convergence" is the current buzzword of choice.

In particular, it's used to describe:

■ Delivery of voice, data and video to homes by one carrier.
■ Delivery of office phone service through a data network.
■ Various one-network-does-it-all projects, particularly those involving voice over IP.

The problem for those who advocate this kind of convergence is that so far there are no examples of successful businesses based on it. In fact, the ground is littered with failures. The test of experience does not bode well for this view.

It's been said that those who don't learn from the mistakes of the past are doomed to repeat them. The partisans of everything-in-one-box should study some history, such as the giant mistakes made in the business telecom industry in the 1980s. Under the banner of "voice-data integration," every computer company went into the telephone business, and vice versa. IBM bought Rolm, the third-biggest PBX company. AT&T

bought NCR. Northern Telecom launched a line of Unix-based office systems. Wang bought PBX-maker Intecom. And there were more.

The justification, though the word wasn't used then, was convergence. Voice, data and video were all digital and they were all controlled by computers. Why not combine them in one company's product and control them through one box?

Every single one of those projects failed. Not because they weren't well managed or well financed, but because they didn't make business sense.

More recently, we had the announcement by Sprint in the U.S. that it is terminating ION, the multibillion-dollar Integrated On-Demand Network that it launched with great fanfare three years ago. It was supposed to provide "virtually unlimited bandwidth over a single existing telephone line for simultaneous voice, video calls and data services." It was also supposed to be generally available by the end of 1999. ION never delivered all the promised capabilities, never made a profit—and never aroused much interest outside the trade press.

Despite all the convergence hype, the telephone business is still very different from data processing, and the television business has very little in common with either. The fact that different services can operate over a single network

> **The fact that different services *can* operate over a single network doesn't mean they *should***

or use similar technology doesn't mean that there is a good business case for combining them, or that one company can succeed in several very different businesses.

And that, ultimately, is the Achilles Heel of all the put-it-all-on-one-wire projects being promoted today, and of the wave of mergers and acquisitions that have been justified by saying the magic word *convergence*. If there isn't a business case—if the plan doesn't actually produce products and services customers will pay for—then all the neat technology and clever slogans in the world won't produce business success.

Of course, someone may yet find a winning formula for combining multiple services in one box or on one network. If that happens, the structure of our industry will change dramatically. But it is much too early to say that it will happen, or what the new structures might be or which companies will succeed and fail in the effort.

The Empire Must Die!

Convergence is a term adopted and promoted primarily by large, established companies that want to maintain or expand their market share—mostly by invading each other's turf.

Another view is advanced by individuals and

organizations that like to represent themselves as beleaguered insurgents battling the entrenched powers in a fight to the death. Only one side can win, and it must be the rebels.

We particularly hear that kind of argument from independent ISPs and their representatives. And one of the best examples of the literary genre I call "Manifestos From the Internet Partisans" is "Netheads Versus Bellheads" (http://www.tmdenton.com/netheads3.htm) a widely distributed paper that was written in 1999 by Tim Denton, François Menard and David Isenberg, under contract to Industry Canada. (Denton is a lawyer specializing in telecommunications and Internet issues. Menard is an independent consultant based in Montreal. Isenberg is a U.S. consultant best-known as the author of the 1997 paper, "The Rise of the Stupid Network.")

This paper launches a frontal assault on the very idea of convergence, as the authors believe the term is understood by phone companies. The Internet and the telephone network aren't coming together—they are locked in an irrepressible conflict, a war to the death.

In the authors' view, "Two systems are in collision, the packet-routed signaling system called the Internet, and the circuit-switched telephone system."

Convergence is not an option, and neither is coexistence. A "fundamental issue," they say, is, "which design philosophy is to prevail, the Internet's or the PSTN's?"

Naturally, the Internet's triumph is inevitable. The Internet is "the driver of the sea change in how communications networks are structured." As result of this great change "the basic business of telephone companies, voice communication, is reduced to a sideshow."

The phone network is doomed to irrelevance: "The entire traffic on the PSTN may amount to less than 1 percent of the total before 2010."

The PSTN is a "one trick pony." It only has one application—"setting up or tearing down 64 kilobits channels." The Internet allows millions of applications, created by users at the edges of the net. As a result, the triumph of the Internet over the PSTN is self-evidently a good thing.

Just like the everything-in-one-box vision, the argument in "Netheads Versus Bellheads" rests on very questionable assumptions. Its prediction of the decline of voice traffic to insignificance is based on a 10-year linear extrapolation of the thoroughly discredited claim that Internet traffic doubles every four months. The actual growth of IP traffic, while substantial, is orders of magnitude less than that—and no one can reasonably claim that even the real growth rate will continue unabated for 10 years.

And the assertion that the telephone network's only application is setting up and knocking down circuits makes no more sense than saying that the Internet's only application is moving packets around. Either the authors are playing games with the definition of "application," or they know very little about what the telephone network actually does, and about the extraordinary range of things that people and businesses do with it.

Moral Crusade

When I read articles and papers by phone companies favoring convergence, I am always struck by their unshakable conviction that they know what is best for all of us. But I must say that "Netheads Versus Bellheads," like many other essays from enthusiastic Internet partisans, outdoes the telcos in exuding absolute confidence in the justice of its cause.

This isn't an essay on the pros and cons of particular technologies for particular applications, or an objective analysis of trends. It's a Manifesto for an all-encompassing Moral Crusade, in which all the issues are black and white. Packets are good, circuits are bad. Distributed is good, centralized is bad. ISPs are good, phone companies are bad.

I'm the last person to oppose moral crusades. I'm in favor of people campaigning as hard as they can to improve the world—heaven knows it needs improving! But this particular campaign, it seems to me, is not just quixotic, it is self-defeating.

The authors wrote the paper to argue that regulators should force phone companies to completely unbundle their networks. This would enable a new generation of "non-facilities-based telecommunications providers" to treat the PSTN infrastructure as "raw spectrum"—as simple physical capacity that ISPs and others could do with as they wished.

That's an interesting concept. If adopted, it would probably create many new opportunities for network-based businesses and applications. But reducing the big telcos to commodity sellers of wavelengths would also be extremely expensive and economically disruptive. Very possibly the harm would outweigh the benefits.

Selling such an idea would require careful cost-benefit analysis. It needs, in short, a business case—but there is not even a hint of that in "Netheads Versus Bellheads." Instead, we have a moral argument: this would help the Internet, therefore it is good, therefore it should happen.

It's a variant of what the editorial in December's edition of *Telemanagement* called the Great Internet Fallacy. In this case, the argument might

> **Without a supporting business case, the "Nethead" case won't merely fail— it will backfire**

be expressed as: "Any network project that might be good for the Internet must therefore be socially and economically desirable and should be implemented, regardless of cost."

The real world doesn't work that way. The main result of this type of argument is to undermine its supporters' credibility in the eyes of the regulators, governments and knowledgeable customers it is supposed to convince.

What's more, it causes the Internet Partisans to underestimate and misunderstand their major competitors, who are not evil, but who are competing to win and haven't survived for decades by being stupid or unwilling to adapt to change. You can bet that the Bellheads will provide a complete (and very negative) cost-benefit analysis if such a plan is ever considered by regulators or policymakers.

Converging Arguments

We seem to have two very different positions here. The telco Bellheads say everything will come together, in a new improved PSTN. On the other side, the ISP Netheads say that the PSTN has reached a dead end, and everything will move to the Internet.

But from a customer point of view—the view of the people who actually use network services and ultimately pay the bills—the Nethead and Bellhead approaches aren't very different at all. Both argue that one size fits all, so we should narrow our choices to the one they want to sell us. They both propose convergence—they just want to converge in different places.

Both are attempts to convince us that there is one best solution to all of our networking needs. Both are trying to sell one-wire solutions to our many-wire problems. And, like good salesmen, they present their solutions as inevitable—how can we not buy in?

But the real world always intrudes. And the real world, despite what you read in the trade papers, is not converging on a one-wire solution. Quite the opposite. In the real world, choice is proliferating, and customers like it.

Divergence

Not long ago, there was a single technology, and usually a single supplier, for every networking problem.
■ Voice calls? Use the PSTN.
■ Television? Deal with the cable monopoly.
■ Business data communication? Use X.25.
■ Home e-mail? Use a dial-up modem and a bulletin board.

And so on. Choice was the exception, and high prices were the rule.

The dominant trend in communications today is not convergence, but divergence. Not fewer networking choices but more. That's been hard on some suppliers, but wonderful for customers.

For voice calls today, I can use the traditional PSTN, or a cellphone or the Internet. In most places there are multiple suppliers of each.

For television, I can use the cable company, or two different Canadian satellite carriers or wireless MDS service. In some places I can also get DSL-based TV.

For business data networking, I can use IP, or private lines or frame relay, or ATM or Gigabit Ethernet.

For home data communication, I can use much faster dial-up modems than were available a few years ago, or DSL, or cable, or satellite or several different flavors of wireless, either licensed or unlicensed.

Contrary to the predictions of both phone companies and Internet evangelists, there is no sign that any single supplier or technology is about to take over.

IP has seen extraordinary growth in the past decade. But it has not replaced private lines or ATM or frame relay for business data networks. *All* forms of data networks have grown.

The number of cellphones in service in Canada rose from 1 million to 10 million in the past 10 years—but there was no decline in wired phones or wired phone traffic. The number of ordinary PSTN-connected phones has also set new records every year.

Voice over IP has grown, primarily as a method of avoiding international long distance charges. But it has had no effect on the volume of ordinary circuit-switched long distance, which continues to grow at record rates.

The real world does not show any sign of converging on one networking solution, and that's not surprising. Given the extraordinary range of consumer and business communication requirements, it is extremely unlikely that any one technology or supplier will ever be able to support all of them equally well. Maybe that will happen one day, but don't bet on it during your career.

The Convergence Con

"When I use a word," said Humpty Dumpty in *Alice Through the Looking Glass*, "it means just what I choose it to mean—neither more or less."

Remember that convergence actually means "tending to come together at a common point." It never was a good metaphor for current trends in telecom and networking, where the capabilities of different technologies are broadening, and our choices have expanded exponentially.

Once we peel away the accumulated layers of convergence hype and partisan posturing, at the center we find....nothing. Just a word that the advertising agencies use to mean whatever they choose it to mean.

"Convergence" sounds important. Using it to justify an advertising program, or a merger or a networking sales pitch is a way to make them immune to criticism, since they represent an all-encompassing, inevitable trend. As the Borg

In the real world, the dominant trend is divergence, not convergence

villains on *Star Trek* would say, "Resistance is futile." (The Borg, who are part human and part machine, seem to me to be an excellent example of what real convergence might be like, but for some reason no one is using them in ads.)

Supplier attempts to sell one-size-fits-all solutions for every communications need remind me of a *Pogo* comic strip I saw decades ago, in which Seminole Sam (the wily fox) tried to sell Albert (the not-too-bright alligator) a "combination shoe and tooth brush."

You could, I suppose, combine a shoe and tooth brush. You could even identify some benefits to include in the sales brochure. Buyers would save on brush-storage space, and save money by buying one brush instead of two.

But most people wouldn't think that was better than using two separate brushes, each designed and optimized to do a specific job very well. Most people would say that using a brush on shoes makes it inappropriate for use on teeth.

Are the advocates of "convergence" con men like Seminole Sam? Probably not. He knew perfectly well that a combination shoe and tooth brush was a ridiculous idea. He was looking for the sucker that P.T. Barnum said is born every minute.

The convergence crowd, in contrast, seem to have convinced themselves that their way—whichever one they've chosen—actually is the best way for all concerned. That makes them all the more convincing, of course. And it makes them much more dangerous than Seminole Sam□

Companies Mentioned In This Article
AT&T (www.att.com)
Bell Canada (www.bell.ca)
Bell Canada Enterprises (www.bce.ca)
CTV (www.ctv.ca)
ExpressVu (www.expressvu.com)
Globe and Mail   (www. theglobeandmail.com)
IBM (www.ibm.com)
Intecom (www.intecom.com)
NCR (www.ncr.com)
Northern Telecom   (www.nortelnetworks.com)
Sprint (www.sprint.com)
Sympatico (www.sympatico.ca)
TSN (www.tsn.ca)