

## Digging Out Of The Hole: Re-Initializing Telecom

Bart Stuck and Michael Weingarten

It's been unseasonably cold this winter in the Northeast, while our friends on the West Coast are suffering from endless *El Nino* storms. Somehow, the weather reminds us of the dismal state of the telecom industry: It's been cold, and it's not getting better soon.

People in the industry are saying that 2003 is going to be a total bust, and have limited optimism regarding 2004. The basis for the pessimism goes like this: There's a lot of excess telecom supply. Given demand growth trends, it's going to take years to absorb the capacity overhang. The CLEC bankruptcies aren't helping, because the underlying capacity isn't going away. If anything, debt-free companies emerging from Chapter 11 with low marginal costs will only fuel another round of disastrous price cuts.

This pessimism creates a self-fulfilling doom loop:

- Because everyone believes that things won't get better soon, there's limited carrier willingness to invest in next-generation technology.

- As a result, there aren't exciting new service offerings for customers—just complex price-discounting schemes for existing services like mobile and long distance, along with bundling discounts for entrusting your communications life to a single service provider. For cable TV, we don't even get discounted offers—just bills that grow faster than inflation.

- Because there aren't exciting service offers, demand doesn't grow much. The new pricing results mostly in market-share changes, not primary demand stimulation.

**Editor's Note:** This is the first of what we hope will be many analyses of how the industry can turn itself around (hopefully, the turn-around will begin soon!). A follow-up piece from Stuck and Weingarten will appear next month and we invite readers' manuscripts, comments and critiques.

—FSK

- Slow demand growth and unwillingness to invest in next-generation equipment force a substantial cutback in new product development at major equipment vendors and venture-funded startups.

- Reduced new product development further retards the ability to offer new products.

- And so on...

### Top-Level Diagnosis

We see the problem as an over-emphasis on supply and under-emphasis on demand stimulation. Interestingly, this supply-centric viewpoint has persisted in good times as well as bad. In the good old days of the mid-'90s, there was a "build it and they will come" mentality. Industry leaders thought demand was infinite compared to supply. Given this belief, it made sense to build networks with lots of dark fiber, and design equipment with ever-increasing productivity improvements, fueled by Moore's Law; per-box prices remained high, but the boxes delivered much higher throughput and therefore much lower cost per bit (assuming full utilization). Since demand was believed to be infinite, why worry about stimulating demand, or about where growth would come from?

In the current down market, infinite demand has been replaced by widespread belief in minimal demand growth. Now the attitude is: Why waste time trying to grow what can't be grown? So service suppliers have focused on reducing the cost of supply by cutting back on capital and operating expenses. Equipment vendors and VCs have responded by reducing monthly expenses to increase cumulative burn time, reducing the supply of new technology.

### Our Prescription

Is there a way out of this supply-centric doom loop? We think so. The key is to take a demand-centric approach.

Start by thinking about what would trigger a substantial increase in primary demand growth. Let's not get hung up over what technology exists today, or short-term financial constraints. Instead, let's think about what consumers would buy, if they only had the opportunity.

Then, concentrate on how to provide the necessary delivery platforms eco-

nomically. Let's stop thinking we can't afford to invest in next-generation equipment. Instead, we need to understand that we can't afford *not* to invest in the *right* equipment—if we can figure out what the right equipment happens to be.

Once we've done that, let's figure out how to make the right equipment available faster, and jettison development activities that don't contribute directly to demand growth.

### Getting There From Here

This is not a trivial task. It calls for a fundamental restructuring of supply-side-oriented processes by which telecom industry executives have run their businesses for years. What may help make demand-side strategies viable?

1. **Create an organization to think about demand stimulation.** If you want to promote demand, a good way to start is by focusing attention on new services. Leading consumer goods companies, like Procter & Gamble and Frito Lay, have development groups that do nothing but think about new products. In telecom, what passes for marketing is segmenting existing products to existing customers with tailored pricing schemes. There is minimal thinking about new products. That needs to change.

2. **Make certain that this team is truly interdisciplinary.** Our experience with telecom organizations is that different functional groups do not work well together, even when they are put on joint task forces. Engineers typically don't believe that marketers are smart enough to understand technical issues, so they don't bother to tell them about alternative technologies, features and costs. Instead, they give "Marketing" a single infrastructure option that all too often is based on what currently is available. Finance puts together business models that take inputs from engineering and marketing, spending little time worrying about cross-function consistency. The resulting offerings tend to memorialize the present and do little to advance the future.

The fix? The functions need to *really* communicate. It would help a great deal if some of the marketers had an engineering background and vice versa. Finance has some other issues on risk assessment that we will discuss below.

**3. Think about customer needs on an unconstrained basis.** The telecom industry's supply-centric approach has led to overly constrained thinking; new product development becomes limited to products that are supported by existing technology. This arguably will lead to prolonged stasis.

Telecom marketers need to think on an unconstrained basis. What products would people buy if they could? At what price points? Forget about whether or not the technology exists to deliver the service. We can deal with that later.

**4. Think on a systems basis.** To make any new product "work," there needs to be some combination of new:

- CPE hardware.
- CPE software.
- Content.
- Network infrastructure.

Look at the Internet, which, to take off, required low-cost PCs, applications such as email and Web browsing, user-generated content (Web pages) and a new TCP/IP network with switched dialup service.

We disagree with people who spend a lot of time thinking about "killer apps," ignoring other product elements. Even with PCs, it took a combination of microprocessors, operating systems and application software to make the industry take off. Networking products require even more integrative thinking.

Telcos don't have to provide all the piece-parts themselves, and we're not suggesting that the core intelligence needs to reside in the core network. However, the telcos need to think about how the pieces come together.

**5. Work backwards to develop supply-side needs.** Having defined killer product offerings, telecom companies need to think about what this implies for supply-side requirements.

For example, if a new service requires a fundamentally new network infrastructure, what are the functional requirements of that network and how low-cost does that network need to become to make the new service economically viable, both with respect to capital and operating costs? What are the different options? Again, the issue at this stage is not to check for availability, but instead to define product specs.

**6. Consider supply-side element availability/timing.** Having defined supply-side requirements, telecom companies next need to assess availability and timing. With Moore's Law improvements in

electronics and 2X Moore's Law improvements in optics, at what point will the needed technology elements become available at supportable prices?

**7. Take steps to accelerate supply-side element availability.** All too often, service providers think about new technologies as "givens" that they can do little to affect. Particularly in the current environment, this isn't true. To the extent that a large provider really wants/needs some new technology, it should consider investing in companies that can provide these technologies, and/or being more willing to accelerate beta testing.

**8. Think more creatively about business case risk assessment.** In most companies, Finance plays an important role in killing off new initiatives, by piling on risk adjustments to new product business cases, while assuming that capital investments in existing technologies are low-risk—even though old technology is subject to the high risk of obsolescence.

That needs to change. Finance needs to realize that in addition to the risk of doing something, there is the risk of *not* doing something, and becoming the modern-day equivalent of a buggy whip. One way out: Think in terms of option values; i.e., that an investment in new technologies gives you an option to proceed further if all goes well, but can be truncated early if things go south. That approach can cut the risk considerably.

**Conclusion**

We have faith in the long-term need for telecom services and equipment, but believe that the industry has spent too little time thinking about demand stimulation. With heightened focus on the demand side, we think that industry prospects can improve substantially.

What specific ideas do we have regarding which new products would be particularly helpful in stimulating demand? That's a subject for another day. But to get things started, we've written a piece on telecom macroeconomic trends, which will appear next month. After looking at the numbers, you realize one thing. If you have new products that people want, they are prepared to pay. If you don't, you'll get squeezed□

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