IBM Business Consulting Services

Burning Up the Phone Wires
Mobile • Consumer • Enterprise Telecommunications
Our Industry Perspectives 2003 – 2006
This paper is part of IBM Business Consulting Services' on-going commitment to forward-looking industry and business points of view, and our aim to help companies and industries Transform Futures.

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2006: Rising from the Ashes

The road to recovery may seem daunting, but a better future by 2006 can take shape for telcos that make wise strategic moves, starting now.

In earlier days, "burning up the phone wires" meant to make avid or extensive use of the telephone. This short version* of our white paper, Burning Up the Phone Wires, summarizes the critical forces affecting mobile, consumer and enterprise telecommunications in today’s telecoms industry, where once-stable markets are now scorched earth. The authors, experienced telecoms strategy consultants with IBM Business Consulting Services, offer their analysis of future trends in these three industries, and their recommendations for forward-looking telcos:

• As reliable, higher-bandwidth mobile data services become increasingly available, customers will want access to converged data services wherever they are; successful providers will provide multiple solutions, both fixed and mobile, in dynamic package offers;

• Loyalty to devices and networks will decline as a result – customers will use the combination that best meets their needs in a given situation;

• Telecoms operators will be compelled to form alliances with other industries to create the comprehensive, flexible solutions customers will expect;

• Telco executives must carefully evaluate their companies’ capabilities, to decide if they can balance managing a maturing business while working to create complex new businesses; and

• Telecoms executives must make the time now to pursue new and different strategic objectives that will position them for a transformed future.

And they must keep those objectives firmly in sight: the quality of strategic choices made today will dramatically affect outcomes in 2006.

Feeling the heat?

*To receive the full-length text of this paper, or to learn more about our global Telecommunications practice, please visit www.ibm.com/services/strategy/industries/telecom.html, or contact an IBM Business Consulting Services representative.
If You’re Looking towards 2006, You’re on a Burning Platform

Telcos seeking to grow over the next few years – or just stay even – must recognize that the new product and service opportunities they should pursue will require that they redefine the markets in which they participate.

By 2006, customers expect that converged, multi-platform data services will be available wherever they are – in the car, office, home, a taxi, airplane or distant location. Users switch effortlessly between extensively networked services for their workplaces and customized service portals for their personal lives to manage daily tasks. They enjoy seamless integration of multiple providers and platforms, tapping or speaking into one of their sleek, multi-function wireless hand-held devices to catch up on e-mail, voice calling, chores and financial transactions, create graphically-illustrated documents, take photos, or send them to colleagues or family.

Today’s telco executives – those who are still standing – are standing on a burning platform. Customers of 2006 will demand constant advances in affordable, user-friendly interconnectivity for all their devices – both fixed and mobile – all the time, anywhere. Once partitioned by fixed, cable or mobile technology, market boundaries will blur; competitive strength will be defined instead by customer-led service. These conditions will fuel not just price and turf wars between telcos and other industries, but also the risk of lower returns than anticipated. Providers will respond with transformed cost structures, enduring longer payback windows as they subsidize what consumers should pay for extraordinarily versatile new devices. But shareholders, still burned by the sector’s collapsed share prices early in the century, will exert continuous investor pressure for more growth. The flow of innovation will continue its rapid pace. And regulatory imbalances between players will likely persist.

Collaboration and risk-sharing will be attractive options in 2006, both for packaging the innovative solutions customers demand, and for weathering intense competition for the fickle, information-saturated customer. In spite of past experiences, a telco’s ability to create and manage effective alliances with mission-critical partners will prove to have been a key differentiator of progress in moving successfully into the 2006 environment. Telco executives most likely to succeed will be those who abandon unfocused, undifferentiated strategies in favor of clearly defined competitive propositions that synergize the service provider’s strengths and the customer’s communications agenda.
Mobile at the Crossroads

The more reliable, higher-speed mobile data services now emerging will redefine the entire industry landscape, challenging the fundamentals of the mobile operator business.

Despite the higher price and lower quality of mobile voice, users have demonstrated that they value its convenience enough to substitute it for fixed voice. However, we believe that the enticing speeds and greater connectivity of higher-speed mobile data services now emerging will create a drive for converged data services across fixed and mobile platforms. As users become familiar with the new functionalities of 2.5G (GPRS) mobile services, wireless LAN, Bluetooth and other technologies, they will want access to data services wherever and whenever they choose to go. Users will select, from their several devices and access modes, the combination best suited for the task they want to perform in the location where they find themselves.

Convergence, Not Substitution: Bad News for Mobile Operators

Mobile data functionality is increasing, but at a slower rate than overall data functionality in the market; therefore mobile’s relative position will decline. As data services convergence arises to sit alongside voice substitution, mobile providers’ returns may fall short of shareholder expectations, challenging operators to transform their business models. Providers must adjust their strategies for competing in the complex, competitive, fragmented market for converged data services, balancing it with the substitution-based competitive environment for voice.

Strategies for a New Mobile World by 2006

The mobile sector lost its appeal to financial markets even before data services convergence had begun to take hold. The 3G business cases were built on a consumer-based, mobile-centric model that is no longer credible. Successful mobile operators will define their competitive strategy in terms of their value proposition by segment – enterprise, consumer, or wholesale.

Mobilizing Business

Mobilizing the enterprise segment is a major opportunity over the next few years. In Europe alone, we expect the enterprise market for IT and telecommunications services to grow from €121bn in 2002 to €161bn by 2005. But will the IT industry dominate channels to the mobile enterprise market? Over 60 percent of European companies surveyed by IBM said that the responsibility for wireless communications rests with the IT function. Most mobile applications will extend legacy systems, and as data applications develop, the role of the systems integrator will grow.

Mobile providers will need to differentiate their added value powerfully. There are three basic positionings for mobile operators entering the enterprise market:

- Become a wholesaler of capacity to other players in this market, withdrawing from some present activities;
- Become the “partner of choice”, providing mobile network integration as well as basic connectivity;
- Acquire comprehensive systems integration capabilities to compete across all dimensions of the enterprise market.

The third option will be viable on a go-it-alone basis only for the few largest mobile operators. The quality of partnerships will determine how far other operators will be able to move beyond a wholesale model in the enterprise market.
“Mobilizing” the Mass Market

The economics of consumer mobile data services present great challenges. Added to the investments required in network and systems infrastructure are the costs of creating and marketing services, and of facilitating the rollout of data-enabled handsets. Mobile operators need to decide where and how to operate on the emerging value chain. We envision three broad strategic options:

- The “MobileLife” operator positions the mobile device as an essential lifestyle tool, participates fully in all aspects of the value chain – from developing content to world-class consumer marketing, micro-payment systems, digital rights management and transaction-sharing for service partners. This option offers the greatest potential value, but demands the greatest investment and risk.

- The “Wireless Partner of Choice” leverages its existing customer base and strong consumer branding to resell others’ services as well as its own. It uses attractive third-party content and applications providers to stimulate demand, and the partner network to share costs.

- “Wireless Transco” operators – wholesale providers of mobile data carriage – position themselves as the best means of adding mobility to other industries’ services. The “Transco” invests in multiple network capabilities, stimulating use of its mobile services through premium-priced bearer offerings.

In short, operators can increase their share of the longer mobile value chain, break into non-mobile value chains, or operate on a low-cost basis. Each option changes the economics of mobile services and requires its own unique mix of competencies.

Tomorrow’s Mobile Operator

By 2006, most mobile business models will represent a mix of retail and wholesale services. Only the largest operators will be able to develop strong positions in the enterprise segment. Others will hone tightly focused business models – perhaps enhanced by go-to-market partnerships. There is long-term potential in the consumer segment, but too many players to enable mobile to dominate. Operators that thrive will build a major role in the customer relationship, competing on service, innovation and packaging rather than tying users to one device or technology. The future will see more consolidation among mobile operators, and increasing cross-platform moves from fixed, mobile and non-network owners at the service level.
Strategic Priorities for Success in 2006 and Beyond

Where to say yes to the market – and where to say no? Mobile operators must make strategic choices and plan for transformation – and do it NOW.

1. Build Transformation around Your Customers, Not Technology – Totally integrate customer management, service creation and service delivery, considering every decision by its ability to enhance value – as defined by the customer. Replace customer growth metrics with traditional financial performance metrics.

2. Build a Partner Value Web – In many mobile business models, partners will be the main source of value creation. Elevate partners to the same level as customers and manage them accordingly. Develop partner selection, retention and dispute resolution processes without delay.

3. Embed Service Creation – A robust, closely defined and managed new product development (NPD) process and service creation platform will form the heart of a successful transformation.

4. Outsource Where Possible – Stay lean. Focus only on what customers understand and want, outsourcing all activities that are not essential differentiators in the eyes of the customer. The mature voice business will continue to generate revenues – the challenge is to capture as much margin as possible from this business while generating profitable growth in data revenues. Successful mobile operators will pare costs continuously, allowing no sacred cows.

Consumer Telecoms: Narrowing Profits; Broadening Prospects

Consumers will continue increasing their personal communications budget, but how they spend it will shift.

Share for fixed-line service is expected to suffer between now and 2006, as consumers continue to migrate to wireless or e-mail for voice communications. Broadband spending in the US is forecast to grow at a CAGR of over 30 percent in the next five years. As broadband technology advances, complex struggles will play out in the industry around the globe:

- Fixed-line incumbents will struggle to grow in the face of rapid innovation, penetration and displacement by wireless carriers;
- CATV providers will likely dominate the US market for broadband Internet service; elsewhere, attractive opportunities in the broadband market still beckon;
- The dilemma of regulatory freedom versus protection of capital assets will heat up;
- Telcos will seek growth through leveraging their trusted brands into new markets.

Wireless Will Narrow Telcos’ Growth

By 2006, wireless service is expected to cannibalize up to 20 percent of fixed-line long-distance minutes. Despite the fixed line’s better call quality and reliability, mobile calling gives greater convenience
and superior functionality – and these benefits may not always come at a higher price. In most nations, multiple wireless providers will vie to become “the” voice provider.

As consumer migration to wireless continues, the home wireline profit picture grows more ominous. First to erode are the more profitable services – high-rate features with margins of 75 percent or more – while the low-margin line volume constricts more slowly. Even the “Yellow Pages” cash cow is threatened – new, location-based advertising and directory services now developing will channel wireless consumers to local vendors wherever they may travel.

Rapid innovation will continue to enhance wireless handsets; users are replacing them every 18 to 24 months. In 2003, nearly 50 percent of mobile phones will be replaced. Development of the fixed telephone handset is nearly stagnant by comparison. Telcos should urgently seek to narrow this functionality gap through collaborative product development (CPD) – aiming to increase cross-platform interoperability – before the convenience of the mobile user experience drives nearly all calls to wireless.

The Broadband Battle: Waged Globally, Varied Locally

Broadband services will be the critical consumer growth market. US household spend on communications is expected to increase by 2006, primarily from broadband growth; penetration is expected to increase to 50 percent of US households by 2006. Consumers want a full range of broadband services – voice, Internet and entertainment – and will tolerate less quality and more advertising to have them at a lower price.

Cablecos are bundling broadband with digital TV to capture demand. DSL cannot compete on price due to its higher costs. CATV, already ahead two-to-one, will continue to dominate, potentially ouststripping the telcos’ broadband share four-to-one by 2006. Telcos are waging a battle for their core voice and data businesses, but lack the parity to attack CATV in its core business, entertainment, where CATV is driving price increases well ahead of both the regulated telco and inflation. Telcos must address this void in their product arsenal.

In other parts of the world, the broadband battle looks different; average penetration in Europe is just four percent, with only ten percent of European Internet households forecast to have broadband access by 2005. DSL has garnered more European market share – some 70 percent, versus cable’s 20. The European market for home broadband simply may never develop to the same degree that it has in the US. In 2006, Europe will still be fighting the battle for broadband dominance. In parts of Asia, by contrast, broadband penetration is significant; for example, some 44 percent of Korean homes and more than 90 percent of its Web users have broadband. Affordable price and government investments in national broadband infrastructures have spurred Asian growth.

Regulation: Ally or Enemy?

The telcos’ price-regulated status keeps telcos constrained in the consumer market. Although newer networks operating outside of “common carrier” regulation have grabbed share from telco incumbents – wireless on voice and cable on broadband, regulation often still treats the consumer wireline business as a monopoly. Regulation sustains universal service and stability, but telcos must look for more creative ways to keep regulatory status from hampering their ability to differentiate competitively.
Broadening the Telcos’ Options for Growth

What follows are some strategies consumer providers should consider in the face of market erosion, new opportunities, and regulatory constraints.

1. **“Anchor” the Wireline** – Just as mobile is taking over the individual, wirelines must take over the house. Telcos must “anchor” the wireline, creating and marketing reasons to keep a fixed line in the house, such as:
   - Quality – fixed-line quality will continue to exceed that of mobile phones.
   - Convenience – wireline extension phones are still easier and cheaper to use in large groups from one location.
   - Applications that utilize existing wirelines economically – such as household security system monitoring – a natural area for leveraging a trusted telco brand.
   - New technologies that use the narrowband system – such as a seamless capability to port the call management and data features consumers need between mobile phones and fixed phones.

2. **Own the Broadband** – Telcos will need to create high-end Internet and voice services with full security, call management features and superior customer service, relying on their brand strength to set profitable prices. But to fight CATV, telcos will need to create niche-differentiated pricing. Forward-thinking telcos will sharpen customer targeting and increase advertising revenues to stay profitable in the broadband environment. Another weapon will be reselling satellite entertainment. Smart telcos will create their own set-top box to deliver the “triple play” package that consumers most desire – voice, Internet and entertainment. It is not likely to become a high-margin proposition; but cross-selling satellite entertainment in countries where cable penetration is weak can proactively “nail the coffin” on CATV competition.

A key battle is expected over home servers. Like a computer, TIVO and set-top box combined, the home server connects all the home’s digital devices to a big broadband pipe. A family member can be in a room far from the family entertainment area with only a laptop, and still enjoy the full range of offerings – music, feature films, games, high-speed Internet, computing and voice services. The US home server and networking market is expected to grow to nearly $6bn by 2006. The carrier that controls the home server is most likely to control the broadband access – and the revenues from the “triple play.”

3. **Unlock Regulation** – Strategy is key in weighing the trade-offs between freedom and regulation. If common-carrier telcos decide that their massive investments in infrastructure call for guaranteed returns, they can choose rate-of-return (ROR) regulation, in which regulated retail and wholesale prices provide predictable revenues to maintain their large capital base. But if they gain more freedom to raise prices, they must still battle cable and wireless. Targeted pricing would allow carriers to provide “gold” services to affluent communities and discount packages for the mass market. To straddle both freedom and regulation, telcos could employ pricing freedom to help their retail operations compete, but maintain protections on wholesale uses of the fixed-line infrastructure, separating retail and wholesale operations completely.
Broaden Your Brand – Today’s time-challenged consumers must budget their attention amidst an explosion of new technologies and media saturation. Consumers will gravitate to trusted brands to filter information bombardment. Powerful brand equity will underwrite consumer confidence as the traditional telco risks entering new businesses, such as becoming a “retailing center” issuing one monthly bill for a broad set of utility services – wireline, electricity, water and gas; in the US, some 60 million households in 19 deregulated states have $50bn in electricity spend.

Telcos must choose markets and partners with care. And to make new ventures work, successful companies will commit to maintaining trusted relationships with consumers. An effective program of Customer Relationship Management (CRM) focuses on the services that represent value to the customer, and it affirms the lifetime value of the customer to the provider.

Two Ways Forward for Enterprise-Focused Telcos: “Up” or “Out”

The telecom industry needs to stratify along both customer and value chain dimensions. The skills and assets needed for enterprise-focused service providers to succeed will continue to diverge from those for network operators.

IT infrastructure, that trillion-dollar bundle of demand and supply, has become the ecosystem of enterprise-focused telcos. Connectivity, computing platforms, applications software, integration and management services are the arena where telcos increasingly must compete in order to succeed over the next three to five years.

We see two main propositions that will help jump the revenue gap most telcos face today. “UP” addresses traditional service-provider opportunities. “OUT” addresses the network-operator side of today’s integrated telcos. Enterprise-focused telcos must address the organizational challenges that these two propositions raise.

Over the next several years, a majority of large companies across most industries will replace the integrated operations they use today by adopting “virtual value chain” networks to transform their businesses and industries. They will become either Brand/Customer Managers, managing the delivery of an expanded set of value propositions to carefully targeted customers, or Supply Chain Operators, handling product or service production and fulfillment. Both will depend on Shared Services Providers for non-strategic functions like HR or accounting. This transformation will create enormous opportunities
for IT solutions providers to deliver the “glue” that will allow newly dis-integrated businesses to operate effectively.

As of now, the telcos’ historically dependable bread and butter, connectivity services, inhabit a shrinking portion of a growing pie. Connectivity will increasingly be purchased as a component already integrated into enterprise solutions – elevating the relationship between the telco and the solution provider to one at least as important as the one between the telco and the enterprise customer.

To get in the game, telcos will need to provide either sharply differentiated, high-value solutions, or standardized, low-cost ones. The telco’s goal in the new environment will be to become either “the” solution provider, or a highly recognized, respected “brand” for connectivity services. Several areas with potential are collaboration in biosciences ($9bn), eLearning ($5bn), web-based conferencing ($9bn); in-building wireless LANs ($4bn), IP Centrex ($5bn) and web services ($15bn).

Moving UP with Potential Opportunities

How should a telco address these potential opportunities? We have identified two areas for attention that both involve moving up the value chain.

**One is in-building services** – Technology’s recent waves of change will create opportunities to replace most existing voice infrastructure over the next three to five years, and at the same time, to introduce wireless technology, converging both with data infrastructure. Wide-area connectivity service offers will be driven by these new in-building solutions. Forward-looking telcos will start now to leverage their trusted brand equity, establishing relationships with clients that demonstrate their ability to build and support integrated voice/data solutions. Companies retooling for the coming era of increased security and readily deployable back-up plans will find wireless in-building networks increasingly attractive. As the bandwidth of wireless LANs increases, a laptop with a headphone will be the only “per person” infrastructure required per employee; companies will be able to abandon wired in-building networks, gaining significant cost savings and flexible facilities operation.

Owning the in-building solution will provide a direct revenue opportunity – the resale and support of equipment – not just voice, but also the data elements tightly coupled in the solution. Ownership will also provide an indirect revenue opportunity – wide-area networking support for the converged data/voice network, enabling telcos with existing in-building PBX/Key system offers to build on these relationships. Taken together, these elements present an opportunity in the US and Western European of over $100bn in 2006.

**The second is managed services** – for connectivity, computing and operations. Managed services will finally begin to flourish over the next several years. Only a miniscule percentage of computing power deployed and available today is actually used productively. But it is possible to foresee a scenario only ten years ahead where computing around the globe would be drawn not from in-house or managed IT services, but from a power grid of computers operating like an electric utility; perhaps as much as 25 percent will be delivered this way by 2006. Grid computing will require the creation of a reliable, redundant, fault-tolerant, quickly restorable, highly interconnected network of data centers, centers in turn supported by a secure network of grid operations centers with hugely scalable transaction-recording, tracking and billing systems.

Whether or not you believe in the grid computing vision, we see some $250 billion of opportunity in managed services in 2006. Most telcos already are serving some of these markets; but success in coming
years will demand an expanded commitment to this larger opportunity set, beginning with engineering current offers into end-user solutions offered by others, while choosing some solutions to market directly.

Forward-thinking planners will also shift the "connectivity mindset", such as knowing the circuit IDs for each customer so trouble reports could be addressed quickly. Winners in 2006 will be companies that want to interact with customers about the transactions they are trying to complete, not the technology that is performing those tasks.

**Moving “Out” – Expanding Your Enterprise Offerings**

Many telcos’ largest enterprise customers are other telcos, as buyers and sellers of interconnection and termination services. Our second opportunity area focuses on expanding the offers for peer companies. Few telcos can accomplish being “best-in-class” in most of their operations. By assuming management of operations and assets, outsourcers can spread the large fixed costs – operations and management systems, processes, training and other investments – over a larger scale, and deploy best practices to improve performance across operations.

**Network operations outsourcing** is a significant opportunity with little competition. By 2006, almost $50bn will be spent annually on network operations. Buyers of network operations outsourcing come primarily from within the industry, though a good business plan might stretch to include utilities, cable and other parallel businesses. Most of the sellers of this service are from outside the telecom industry, such as infrastructure equipment providers and utility operators. Roughly $20bn in annual network operations expenditures is immediately “addressable”, but as business models and suppliers prove themselves a larger share of the market – especially in “operate and maintain & repair” – will ripen.

To enter the network operations outsourcing market, a telco must choose an appropriate business model, first determining the scope of outsourcing services to offer, and what operating model to adopt. The table on page 14 illustrates the leverage this new business direction could provide. We assumed that the outsourcer offered services covering the 30 to 50 percent of its operations where it was “best in class”, that those operations had a 30 percent fixed cost component, that the telco’s performance in the chosen areas was 20 percent better than average among like companies, and that prospective customers would split the performance improvement opportunity with the outsourcer.

**Specialized Outsourcer**

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This is an attractive way to increase revenues and profits by doing things for others a telco already does well for itself.
Solutions for Enterprise-Focused Companies

We have identified the “up” and the “out” directions of growth, and new markets for telcos. How should your company begin?

1. Invest for Growth, but Stay Flexible – Ensure that the investments your enterprise-focused company is making now are flexible enough to be exported to other operating environments. Adopt the discipline to view network operations as a business, not a cost center.

2. Innovate through Team-Building and Sharing the Risk – Coalesce all the business development ideas that your interconnect customer account managers are considering, and challenge that team to build a business case for broadening those offers in these new directions. Consider acquisitions, partnering and alliances as a means of getting started in new ventures.

3. Make Critical Choices – Investigate markets with diligence. If a case cannot be made for your company as a seller of the services you envision, look around at your peers and competitors to see whether you should be a buyer instead.

4. Accept the Inevitable Challenge – Being a market leader in providing IT ecosystem solutions or network operations outsourcing will be challenging. But being a market leader in one of those areas is likely to be a requirement for survival. Choose what and where to be best, and grow in that direction.

Summary

In the three markets we have considered in this paper – mobile, consumer and enterprise, there are growth segments available, but little “low-hanging fruit.” At least until 2006, there will be few easy pickings for large telcos.

Uncertain expectations and recent losses in the technology sector will drive shareholder demands for performance, forcing telcos to develop new products, services and markets. Growth will be significant in spite of economic uncertainty, but strong equity performance by individual companies will be based on profits, not multiples.

Mobile network operators are experiencing dampened growth from market saturation, an uncertain economy for higher-revenue data services, and a market perception that mobile companies are not yet mature enough to provide the range of services traditionally supplied by fixed-line telcos. Central to planning for 2006 is a focused business model with a carefully honed, realistic strategy that clearly articulates where and how to compete in the emerging value chain.

For common carriers, consumer migration to e-mail and mobile services, and to affordable cable packages that deliver voice, data and entertainment, is eroding market share. Successful incumbents will broaden their brand equity by transforming product innovation, pricing, target marketing and CRM, while making cost and regulatory adjustments to stay even. For European and Asian telcos, bold plays into open markets for broadband can put them ahead of wireless erosion, preemptively nailing the lid on CATV competition.
In the enterprise sector, the movement from integrated to networked business models and from traditional to wireless systems will create opportunities for telcos. Profits will be possible for players bold enough to master the provisioning and management of new technologies, offer (or subscribe to) network operations outsourcing, and sell these new capabilities.

Growth in all three areas will involve not just new products and services, or a new spin on the old ones, but transformation – a proactive abandonment of many of the assumptions from the days of stable business models – in favor of participating in a customer-driven, partner-dependent redefinition of the market. Strategic planning, partnering to reduce capital outlay and risk and to enhance developmental excellence, and customer relationship management (CRM) will assume critically important roles.

The muscle of proven brands may provide some insulation to incumbents in a firestorm of change. Companies wanting to thrive in 2006 and beyond must learn how to invest for new growth in a tightened investment season; how to organize around markets while retaining optimum integration capability; and how to measure profit from unfamiliar new markets. In a new environment, where voice and data are converging and wireless networking will continue to scorch prospects for land-line systems, companies must sharply define what they want to do and where they want to play.

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