

## Profiting from convergence

*Defining growth paths for telecom service providers*



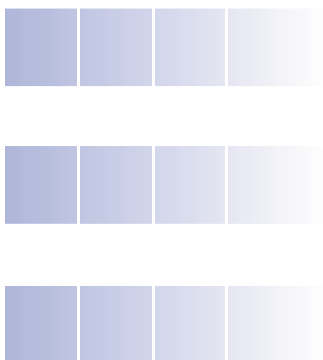
*An IBM Institute for Business Value executive brief*

IBM Business Consulting Services, through the IBM Institute for Business Value, develops fact-based strategic insights for senior business executives around critical industry-specific and cross-industry issues. This executive brief is based on an in-depth study by the Institute's research team. It is part of an ongoing commitment by IBM Business Consulting Services to provide analysis and viewpoints that help companies realize business value. You may contact the authors or send an e-mail to [iibv@us.ibm.com](mailto:iibv@us.ibm.com) for more information.

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"con-verge: to come together and unite in a common interest or focus"



## Introduction

Internal and external forces of convergence are taking hold of the telecommunications industry. Convergence of local and national voice services dramatically changed the telecom landscape, as competition flourished. Now, voice and data services are converging rapidly. Soon, customers will be able to access any content or application seamlessly from a multitude of networks, using any device of their choosing.

Industry players are gearing up to harness the potential of converging technology, networks, devices and content to develop multimedia services and solutions of ever-increasing sophistication on a single Internet Protocol (IP). Evolving customer demands for content from an increasing variety of sources will require telecom providers to engage in a complex web of collaboration with the media and entertainment, IT and consumer electronics industries.

Convergence offers telecom companies a world of opportunities. But before they can profit, telecom providers must make tough strategic and technical choices. Success will depend not only on making the right decisions about where to play in a converged environment, but on transforming business models and capabilities to make the most of these new opportunities. Most importantly, service providers must align their strategic choices and capabilities to the specific needs of the customer segments they intend to serve. The days of being "all things to all people" are in the past.

### *On the verge of opportunity*

Several market factors are reshaping the telecom industry over the next decade:

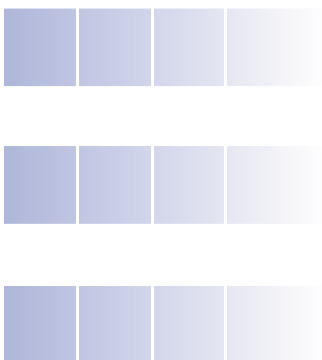
- Intense competition is driving voice prices down: between 2003 and 2006, revenue growth for mobile providers could decline by more than half,<sup>1</sup> while current growth for many fixed line businesses is flat or even negative.
- Consumer spending on broadband is expected to rise 37 percent, to over US\$100 billion by 2007.<sup>2</sup>
- Music and gaming content will explode – consumer spend in these areas is anticipated to increase 185 percent and 78 percent, respectively, over the same time frame.<sup>3</sup>
- Device and IP network proliferation continues – the last four years have seen a 100 percent increase in smart phone sales and international Voice over IP (VoIP) minutes.<sup>4</sup>
- Rapid emergence of new points of high-speed Internet access – global WiFi hotspots totaled 49,700 in 2003 and are expected to total 190,000 by 2007.<sup>5</sup>

Together, these factors are driving the convergence of telecommunications with other industries, and creating unprecedented change and growth potential for telecom providers as traditional "product markets" decline and new service opportunities arise.

This growth in supply and demand for new technologies and services facilitated by IP technology will blur the traditional boundaries of service, device and network – giving rise to a new "converged ecosystem" where telecom companies must partner to create value. As the single-product, voice-only world of telecom evolves into a multi-faceted services industry, simple connectivity will be increasingly commoditized. Value will be created by providing services and solutions to consumer, enterprise and public sector customers.

Where telecom network operators have historically controlled all elements of the value chain, the introduction of new players in more complex value systems is making it increasingly difficult to build lasting relationships with customers. In this environment, telecom providers must make clear decisions about what kind of businesses they want to be. There will be both winners and losers in all major telecom provider categories. Success will depend on each player's ability to combine its own differentiating strengths (network assets, customer management, service creation, etc.) with the capabilities of partners to create seamless communications services that meet the needs of targeted customer segments.

To understand just how much impact convergence will have on the telecom industry, the IBM® Institute for Business Value sponsored an Economist Intelligence Unit (EIU) survey of top industry executives and assessed the current market factors affecting the industry. The resulting study identifies the top-of-mind concerns for industry executives, and outlines the key challenges for telecom companies as convergence begins to take hold.



## Competing in the era of convergence

### Before convergence: Cracks in connectivity

Charles, a Sales Director for a European media firm, begins a typical workday at 7:00 a.m. at his home in Amsterdam, booting up his laptop. This morning, he must download the latest sales presentation so that he can update it while traveling to London for the monthly Board meeting this afternoon. After five minutes of booting up and dialing in to the network, a familiar message appears: the server is down. If he waits to retry, he'll be late for his flight. Instead, he leaves a voicemail with a colleague, asking for an update to be sent to his BlackBerry hoping that he can pick up the new presentation on the way.

By 9:00 a.m., Charles is on the train to the airport. Though the trip gives him time to peruse the morning paper, the presentation – now just hours away – weighs heavy on his mind. He wishes the train offered broadband coverage so he could make better use of the time. He thinks he might have a chance to download the presentation in the airport lounge where public wireless LAN is available. But when he arrives at the airport, the security line is excruciatingly long, and again a chance to download the presentation eludes him.

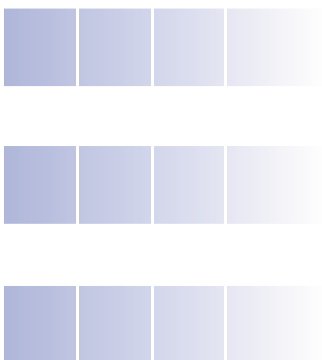
On the London Heathrow Express transit, Charles receives a BlackBerry e-mail: the latest slides are now in his work e-mail inbox. Better late than never. He jumps into a taxi. As he speeds toward his meeting, he watches the new in-cab TV service's financial news update. The dollar has fallen further on the euro–bad news for next quarter's sales prospects.

Charles arrives at the meeting venue and, with just thirty minutes to go, he races to find a spare desk and Ethernet cable to download the new presentation. The file is a whopping 20 MB, and a few slides need to be amended. In the end, the meeting is not particularly good: he is 10 minutes late and unprepared to answer several tricky questions on the new numbers in the updated presentation.

At 4:00 p.m., it's straight back to the airport – without time to check and reply to e-mail or get updates on the several other projects he has been disconnected from all day. Predictably, the plane sits on the runway for an hour before it departs. It is 8:00 p.m. before Charles returns home again, tired and irritable. He can't help but think there must be a better way to use his time, manage his work day – and for that matter, his life.

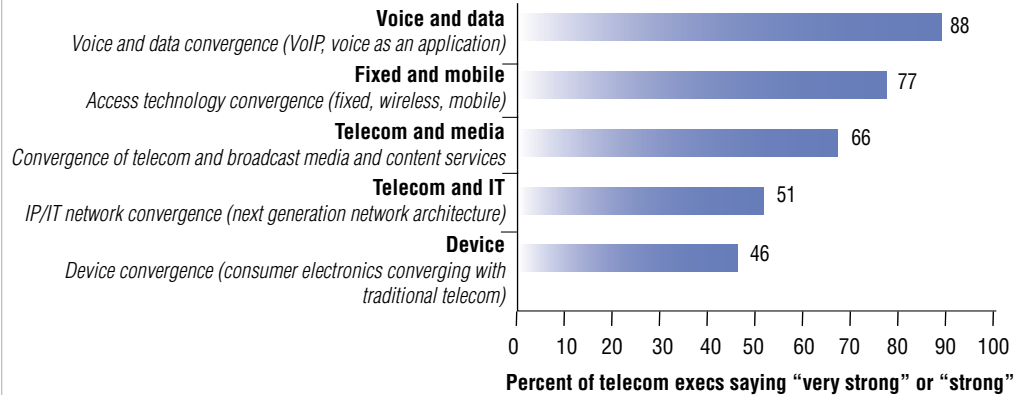
Eighty percent of the telecommunications executives surveyed agreed that it is essential to embrace convergence within the next three years as a source of long-term revenue growth.<sup>6</sup> Moreover, there was a clear correlation between the perceived importance and the likely timing of different types of convergence.

Those surveyed view voice and data as the most important type of convergence (see Figure 1),<sup>7</sup> as evidenced by the strong growth in VoIP in all geographic markets today. Service providers are able to offer VoIP at highly competitive prices, without owning network assets and avoiding all the traditional constraints of distance, location and unit pricing models.



Most incumbent fixed network operators have overcome their initial fears of revenue cannibalization. As revenues from fixed line voice minutes decrease, it is “eat or be eaten.” Many are launching their own VoIP services, bundled with DSL broadband subscriptions as a value-added service.

**Figure 1. Impact of different types of telecom convergence within next three years.**



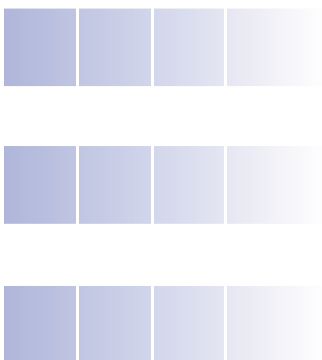
Source: Economist Intelligence Unit; IBM Institute for Business Value analysis.

Telecom executives perceive convergence between fixed line and wireless access technologies to be the next most important type of convergence to impact their business.<sup>8</sup>

As customers grow accustomed to the increased bandwidths of their fixed home, office and vehicular networks – and the ever-presence of their mobile (cellular) networks – combining the two will become increasingly attractive. Fixed line service providers are targeting this opportunity by bundling WiFi access with DSL subscriptions, while mobile service providers are offering integrated 2.5G/3G/WiFi PC data cards to accomplish the same.

**Swisscom Mobile “Mobile Unlimited” offers convergence mobility play<sup>9</sup>**

Swisscom Mobile is offering a 3-in-1 mobility play, integrating GPRS, 3G (UMTS) and WiFi: a first of its kind to offer integration between traditional mobile networks and fixed wireless access (FWA). The PC card and software find the fastest available network, switching seamlessly between the three technologies. To satisfy user preferences for a single price regardless of network use, Swisscom charges a sliding-scale flat rate, based on data bundles, for the service.



The key to this area of convergence is wireless (but not mobile) technologies that can "bridge" between fixed line and mobile networks: hence the success of WiFi (802.11x) and Bluetooth, and the interest in the evolution of wireless technologies such as WiMax (802.16x), ultrawideband (UWB), Near Field Communications (NFC) and Zigbee. Eventually, this type of convergence is expected to involve accessing fixed, wireless and mobile networks seamlessly with a single device to create a truly converged service, as envisioned by BT's Project Bluephone and others.

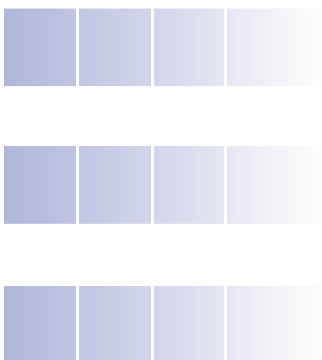
The forces of convergence discussed above are primarily *internal* to the telecommunications industry, and it is not surprising that our executive survey group today regards them as more important, since telecom providers are still able to retain a relatively high degree of control over their development. However, the real challenges for the telecom industry are *external*, emanating from the impact of convergence with the IT services, media and entertainment, and consumer electronics industries.

Some players in these industries – with well-established brands, customer bases, distribution channels and competencies – see telecommunications as the next logical extension of their businesses. For telecom providers, this poses unique challenges in terms of customer relationships, service development, next generation network (NGN) development and the systems and processes required to deliver working solutions to customers.

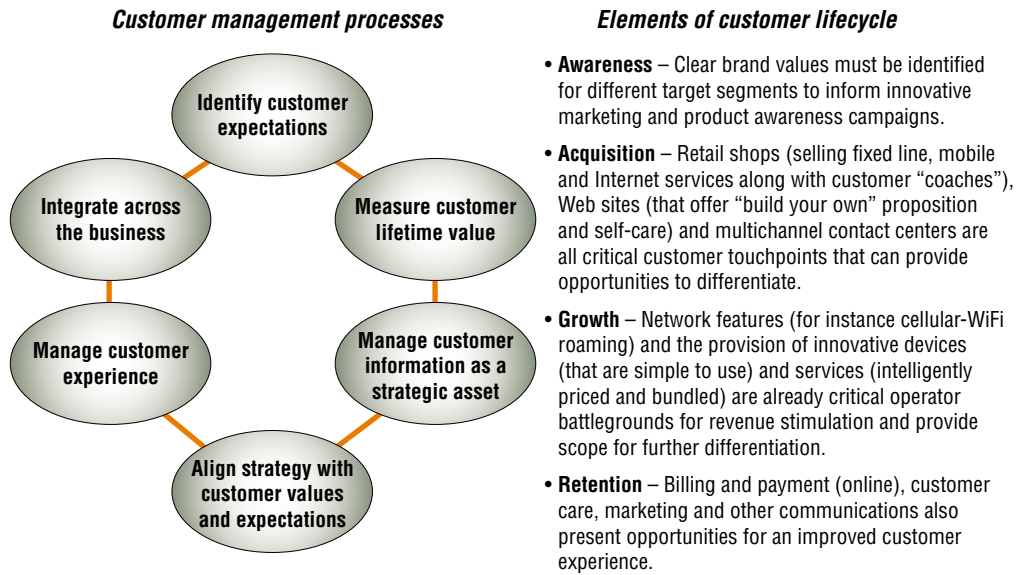
#### **Challenge: Customer focus**

Forty-six percent of the executives that responded to the EIU study stated that their medium-term growth strategies centered on core markets and customers.<sup>10</sup> But how well do today's service providers know what tomorrow's customers will require? In a converging environment, the ways in which consumers live, work and communicate at home, in the business world and even in their cars, are changing rapidly.

Developing greater customer intimacy can help telecom service providers differentiate the customer experience, as well as stimulate usage and loyalty. Implementing needs-based segmentation, investing in skills, capabilities and systems, and enhancing market research can help operators make strides in this area. Improving the customer experience requires attention across all stages of the customer journey, including awareness, acquisition, growth and retention (see Figure 2).

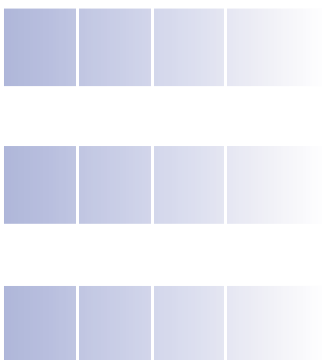


**Figure 2. Managing the customer lifecycle.**

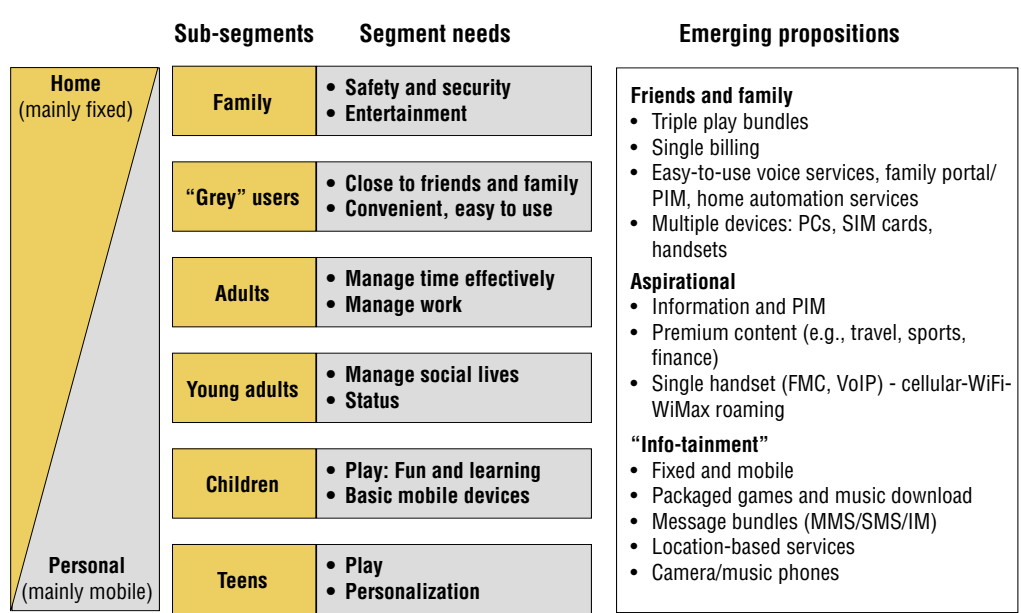


Source: IBM Institute for Business Value.

Customer segments are quickly evolving as customer needs become more distinct. Service provider offerings must match the connectivity needs of their customers' lifestyles. For instance, consumers of different age groups interact and communicate for different reasons (see Figure 3). Understanding not only how these consumer groups value, access and use content and applications, but how to build new propositions that target these users, will be critical to competitiveness. Consumer propositions should also reflect key differences in the needs of fixed-broadband based home users (leveraging DSL/CATV and WiFi home networks) and mobile personal users that require seamless roaming between cellular and fixed wireless networks whether they are at home, at the office, in the car or simply walking down the street.



**Figure 3. The needs of evolving consumer segments.**

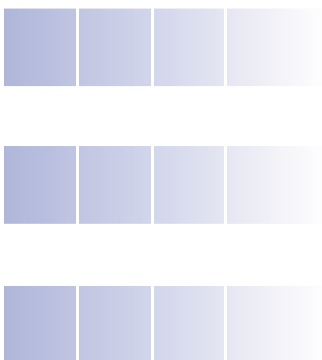


Source: IBM Institute for Business Value.

Small and medium-sized enterprises (SMEs) represent a lucrative opportunity for telecom companies. However, the disparity of SME size, revenue potential and technical expertise make it more difficult for large telecom providers to sell directly to this segment than to large enterprises. SMEs require reliability, flexibility of service and responsiveness to their business needs. Value for money is more important than simple low costs. Above all, SME customers want to be treated in a manner that reflects the reliance they have on telecom services for their own businesses to succeed.

To develop the SME market opportunity successfully, telecom providers need to keep offerings simple and streamlined, with end-to-end customer service and experiences tailored to SME needs. Stripped-down large enterprise solutions and repackaged offerings will no longer suffice. SMEs are very close to their own customers, and want the same from their suppliers: telecom marketing, sales and service must all connect with SMEs in ways that reflect how SMEs do business.

In contrast, many big businesses look to telecommunications as a necessary business tool, but also as an opportunity for reducing cost. In this context, the telecom industry must shift the focus from cost reduction to productivity improvement in order to succeed.



Convergence between telecom and IT services offers a very significant opportunity to develop applications targeted to the large enterprise that use converged products and services to increase efficiency and generate savings. Indeed, value from converged services must be created from the business impact of the service itself, not just the simple act of transferring voice or data from one device to another.

Finally, service providers are likely to use converged services themselves in interactions with their customers. Significant increases in self-service and speech-enabled technologies are forecast in contact center environments, combining voice and data to give customers greater choice in how they request and receive care, billing and other information from service providers. Trials to date have delivered substantial cost savings and significant increases in customer satisfaction.

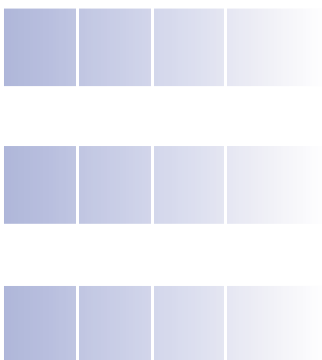
### **Challenge: New service creation**

Convergence enables growth through new services that benefit from converged technologies, increased customer intimacy and third-party content. Telecom executives in the EIU survey overwhelmingly see new products and services and expansion in wireless access technology as key sources of medium-term revenue growth.<sup>11</sup> But bringing complex converged services to market quickly depends on dramatically enhancing new product development processes. New services need to be innovative, customer-centric and priced to drive adoption.

Telecom providers must look for ways to utilize core capabilities to enter new markets and service areas. Using existing customer footholds, they can expand product and service propositions to better target particular customer segments.

### **France Telecom targets a key market segment with converged services<sup>12</sup>**

France Telecom recently made a shift toward converged solutions to fulfill the needs of a targeted segment: international enterprise customers. The company's new "Business Everywhere" service gives enterprise customers a software interface that allows them to connect remotely to their enterprise services and applications. The new service allows France Telecom customers to create a virtual private network (VPN) connection using General Packet Radio Service (GPRS), WiFi, DSL or dial-up. The service will add 3G access for French customers in 2005.



## Challenge: Devices

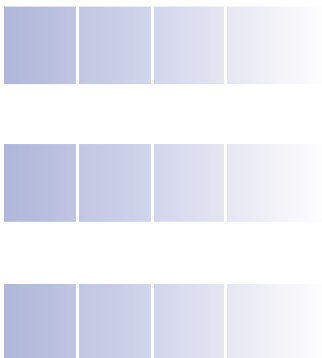
Contrary to what might be expected, the telecom executives surveyed do not currently view device convergence as particularly important to creating value, in comparison to other industry developments.<sup>13</sup> This may be because many of the respondents have a traditional view that maps service rollout to device capability, and also because devices are often an area of the telecom value chain over which service providers do not have the level of control they would like. Yet the success of new devices such as the Apple iPod is undeniable evidence that device developments can not only make the difference, but can actually be the primary driver of new service penetration – and can change the game quickly.

### Motorola enhances mobility<sup>14</sup>

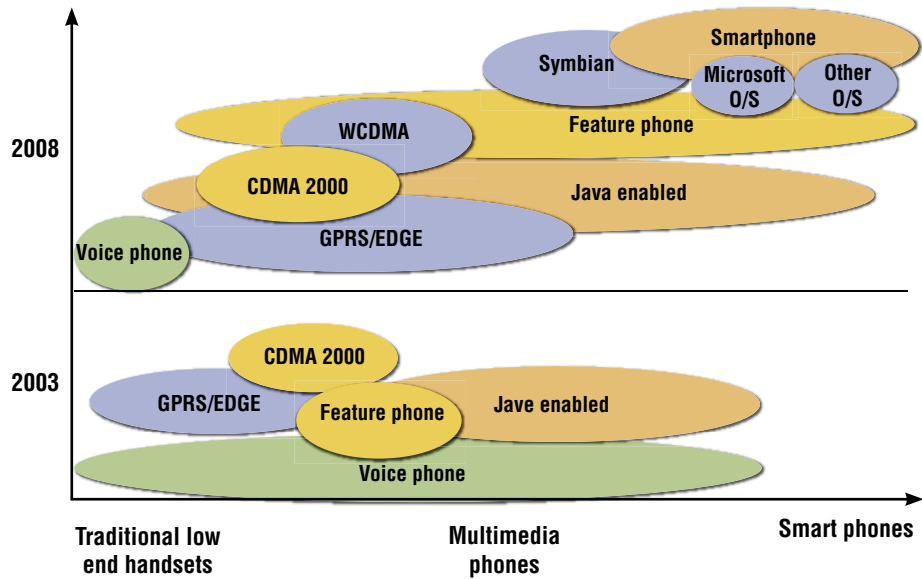
In an example of how new converged devices will make new services possible, Motorola recently announced a partnership with Apple to use iTunes on Motorola phones. iTunes can synchronize with a PC and the iTunes Music Store, and the phones incorporate the iPod interface for playing digital music. The new phones are expected as early as Q1 2005. This deal forms part of Motorola's wider "seamless mobility 2.0" strategy to boost mobile data usage by enhancing the customer experience, the goal of which is uninterrupted, anywhere access to digital content.

As more short-range wireless technologies appear on handsets, the possibilities for digital media usage increase. For instance, Motorola, as part of its "Liquid Media" technology, has also demonstrated a radio frequency identification (RFID) tag that allows consumers to continue to play music or video files while they move between devices and locations.

Next generation mobile phones are expected to bridge the gaps between networks and devices, enabling users to access their digital content anywhere, using the device of their choosing. Device functionality and affordability are improving and converged devices – terminals that combine various wireless technologies in one product – are now emerging. As more multimedia and enhanced-data capabilities – such as the ability to stream media – become standard additions to mobile devices, users will increasingly be able to communicate in a multitude of ways. Ovum forecasts an increase in penetration of "feature phones" (voice-centric devices with multimedia capability that run on open platforms such as Java<sup>®</sup>) and "smartphones" (feature phones that run a full operating system such as Symbian OS or Microsoft<sup>®</sup> OS) between 2003 and 2008 (see Figure 4).<sup>15</sup>



**Figure 4. Improved device functionality at lower prices will help drive the uptake of converged services.**

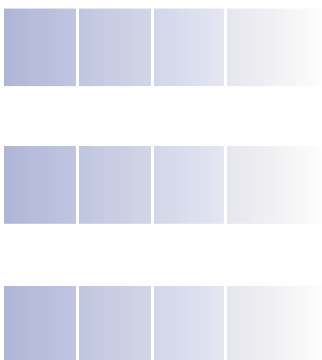


Source: IBM Institute for Business Value analysis; Ovum. Wireless Regional Forecasts. 2004.

Putting together the jigsaw puzzle of emerging devices, software and distribution systems will be a lucrative business. Only a tight ecosystem of content providers, hardware, software and telecom partners will transform the current complexity into a simple user experience. NTT DoCoMo has led the way for mobile operators in seizing control over device specifications while working with manufacturing partners, closely followed by Vodafone, leveraging its global scale in this area. We anticipate that this trend will continue, as the device becomes increasingly important in service delivery and adoption.

The first multimode cellular voice over WiFi handsets are starting to appear. According to The Shosteck Group, 15-20,000 of these converged handsets could ship this year.<sup>16</sup> While early phones will likely resemble mid-tier voice phones, multimodal functionality is expected in smartphones, which are forecasted to experience strong sales growth in the coming years. Converged devices are expected to prosper as short-term issues, such as WiMax spectrum licensing, are resolved.

The battle to dominate the digital home depends on the proliferation of wireless networks that transmit entertainment and media within the living room, and from room to room. New devices and software to store content are expected to be plentiful, from game consoles to PCs, TVs and other hybrid home gateways.



Recently, Vonage and UTStarcom, Inc. announced that they will partner to introduce a portable WiFi handset equipped with Simple Internet Protocol (SIP) and configured with Vonage's VoIP phone service. The product will offer Vonage's 400,000 customers mobility across 802.11b networks, and could be released as early as Spring 2005.<sup>17</sup>

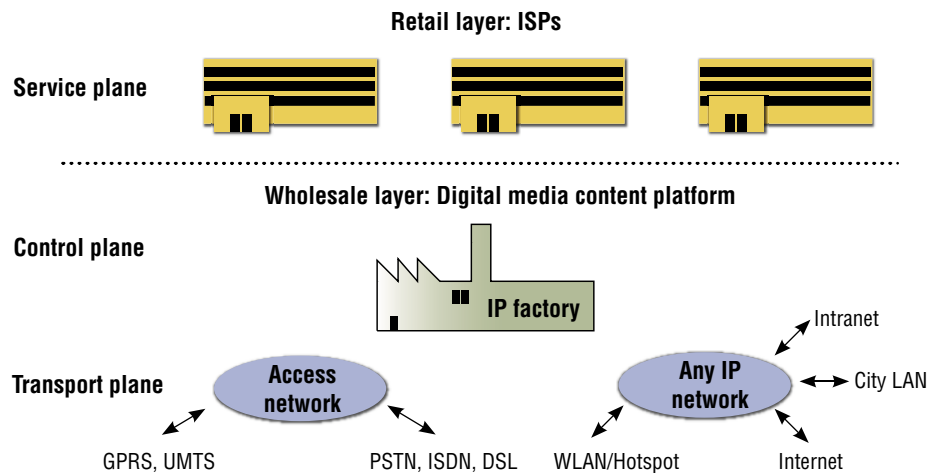
To date, only Microsoft has a comprehensive mix of software (including its Media Center PC with a special version of the Windows® operating system for handling digital content), hardware (the Xbox® games console) and consumer Internet services (MSN online music store).

Device convergence within vehicles is underway as well. An increasing proportion of high-end cars now feature wireless solutions that allow drivers to talk hands-free using a Bluetooth connection. In the future, cars may "talk" to one another using radio technologies, including WiFi. For instance, BMW has announced its "ConnectedDrive" solution, which could help alleviate long drive times through the use of WiFi. If caught in a traffic jam, the car can relay information to similarly equipped vehicles in the area, which then plot alternative routes to avoid the gridlock.<sup>18</sup>

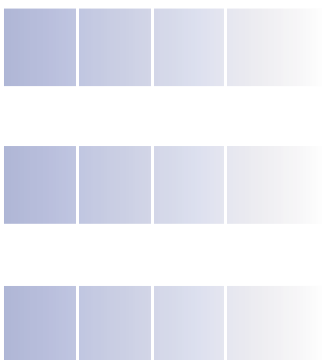
**Challenge: NGNs, operating support systems and business support systems (OSS/BSS)**

As access and network technologies multiply, it becomes increasingly important for telecom companies to invest in networks that are access-technology agnostic. In a converged environment, success comes from an IP core that can interact with any sort of access technology to provide customers with "anytime, anywhere" access to content, while allowing service providers to view and manage all customer information. An IP Multimedia Subsystem (IMS) enables operators to increase EBITDA performance, by driving revenue from converged voice and data services across multiple access technologies and by reducing cost (see Figure 5).

**Figure 5. Next generation: The IMS network.**



Source: IBM analysis.



Internally, telecommunications providers must move away from vertical product silos to a horizontal focus that cuts across silos to include network, applications and customer management. Addressing the demand for simple, converged services requires enterprises to align around customer needs and avoid disjointed operations. Disjointed operations and redundant capabilities can result in inefficient cost structures and inconsistent customer experiences. NGNs provide a framework that enables service providers to migrate to an enhanced service delivery capability (including OSS/BSS billing support services, seamless roaming across cellular and FWA networks and device management) and remove duplicate activities.

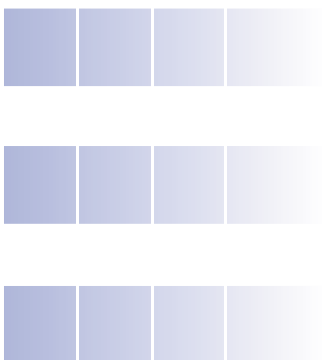
#### **Iceland Telecom leverages its open network<sup>19</sup>**

Telecom providers are starting to move beyond core voice and data services. Given that Iceland has one of the highest penetration rates for both Internet and mobile services, the country was ripe for new services. Sensing opportunity, Iceland Telecom joined forces with Thales and IBM to launch TV and Video On Demand. The solution combines Thales' SmartVision Broadband Service Platform with an IBM open architecture infrastructure and IBM WebSphere® middleware. The next generation open-standards architecture allows Iceland Telecom to run virtually any third-party software and introduce new value-added services to customers today and in the future.

Forty-one percent of executives surveyed agree that providing reliable and affordable services will be a key characteristic of their growth strategy over the next few years.<sup>20</sup> However, most telecom providers are currently squeezed between pricing their offerings competitively and the high cost of non-integrated business processes. These pressures are compounded by multiplying product and service categories and increased customer volume. To top it all off, billing inaccuracies breed customer dissatisfaction and can result in lost revenues.

Typically, telecom providers have attempted to solve these problems by consolidating applications within individual functions or working to address IT costs rather than end-to-end business process costs. To date, initiatives to improve the customer experience have had limited success: high project failure rates, cost overruns, customer dissatisfaction and high churn rates plague many telecom providers.

Most telecom providers are still vertically aligned when it comes to billing – they have different billing systems for different services. Cutting through the resulting complexity of the different system types and layers is time consuming, delays time-to-market and makes service bundling more difficult. Meanwhile, increasing complexity accelerates cost as companies struggle to keep pace with the market and offer new products and services. To become truly converged and reduce costs, telecom providers need to build one integrated, unified and automated billing system that supports all billing processes regardless of the product or service.



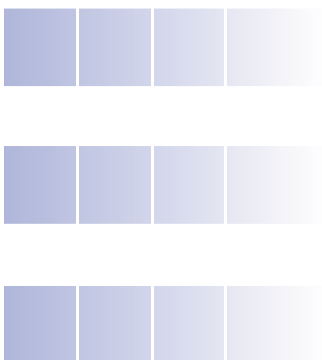
### **Svyazinvest invests in efficiency<sup>21</sup>**

Russian holding company Svyazinvest controls 93 percent of the Russian fixed line market. The company needs to consolidate 180 different billing systems, transform billing processes and operations, drive down cost and improve time-to-market across all 7 of their regional entities to better serve their 40 million fixed line subscribers across 11 time zones. Svyazinvest will work with IBM and Amdocs to standardize processes and to have the ability to share infrastructure and services across regional entities. As a result, Svyazinvest expects to be able to take lower-cost products and services to market to grow subscriber numbers, and eventually roll out converged services to compete with new entrant operators.

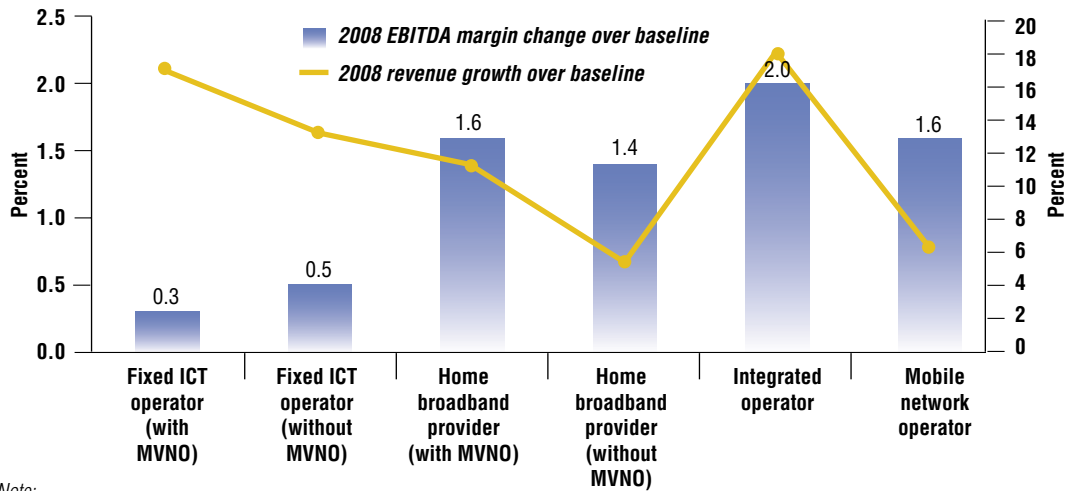
### ***Making a play: Building converged business models***

As the various forms of convergence take hold, established industry players face increasing competition, from each other as well as from insurgent business models such as virtual operators (e.g., mobile virtual network operators, VoIP service providers) and access utility players (e.g., FWA providers). Today's major players fall into four categories, fixed network operators with information, communications and technology (ICT) competencies, home broadband providers, integrated operators and mobile network operators. Each category must deal with their own challenges in building viable business models for the converged environment.

Convergence winners will be those companies within each category that leverage external reservoirs of rich content and applications in delivering well-packaged, focused propositions to customer segments, while embracing NGNs to streamline internal operations. When compared with business-as-usual, successful execution of convergence initiatives can drive significant EBITDA margin improvements (see Figure 6).



**Figure 6. Upside of convergence case versus baseline case, 2008.**



Note:

- Convergence initiatives vary by business model and include new revenue streams as well as the operating cost associated with generating new revenue (i.e., the cost of goods sold and other costs required for capability development).
- The fixed ICT convergence case includes core fixed line services, a share of ICT revenue and a share of mobile revenue (in the MVNO case).
- The home broadband provider case excludes the wholesale business, but retains core consumer fixed line services, including video-on-demand, VoIP, gaming, other media, fixed wireless access as well as revenue from a MVNO business (in the MVNO case).
- The integrated operator case includes core fixed and wireless businesses, including video-on-demand, VoIP, gaming, other media and fixed wireless access.
- The mobile network operator includes a fixed wireless access business in addition to its core cellular business (in which data usage is stimulated).

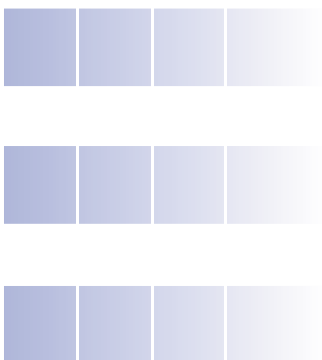
Source: IBM Institute for Business Value analysis.

### Fixed network operators and Information, Communications and Technology (ICT) providers

Companies such as BT, Cable & Wireless, MCI and AT&T have targeted the ICT market to create value beyond simple connectivity for enterprise customers, in addition to driving traffic over their high-capacity networks. We expect that many of these players will seek to provide full-service managed solutions, including mobility services, through wholesale capacity from other network owners.

To focus on providing “total solutions” to customers, these companies should:

- Work to develop NGNs that dynamically support new value-added services that improve the customer experience
- Form partnerships with companies that have strong system integration skills and assets



- Develop more and varied retail distribution channels to target different industry verticals
- Build a wide geographic presence, potentially with partners, to provide global service to large corporations and multinational corporations (MNCs).

### **Home broadband providers**

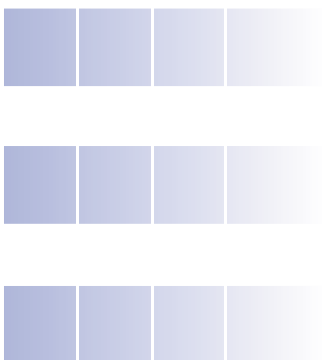
Cable companies and DSL providers dominate this space, delivering a triple play of voice, Internet and entertainment (possibly enriched by mobile services). These companies pose a significant threat to incumbent fixed network operators (DSL providers). Both cable and DSL providers face competition from new content providers such as AOL, Microsoft, and Yahoo!, with the result that most have either bought or developed capability in this area (e.g., Time Warner-AOL, France Telecom-Wanadoo) or allied with a major player (e.g., BT, SBC alliances with Yahoo!).

To drive further success, home broadband providers should:

- Use their anchor points in the residential market to deploy home gateway solutions
- Build and nurture their content relationships to drive service bundles
- Transition to all-digital broadband networks from narrowband
- Improve the customer experience by providing a simple and easy-to-use content navigation interface and seamless transfer to digital content between different devices (e.g., music from iPod to Hi-Fi)
- Investigate the benefits of a mobility play and fixed-mobile converged services (e.g., BT Bluephone).

### **Mobile network operators**

The mobile pure-play is currently characterized by consolidation of competitive position, continued growth in mobile voice usage and revenues, and a strong desire to succeed in the more challenging area of mobile data. These companies have strong positions in the consumer market, focused in particular on individuals (as opposed to households), but are struggling to address the growing opportunity of enterprise mobile data services.



As they aim to offer ubiquitous bandwidth, these companies should:

- Build a flexible, open network platform designed to integrate new technologies more easily as they become available
- Create new pricing models to drive 3G/data penetration and service adoption
- Differentiate with an end-to-end customer experience that drives customer loyalty and revenue.

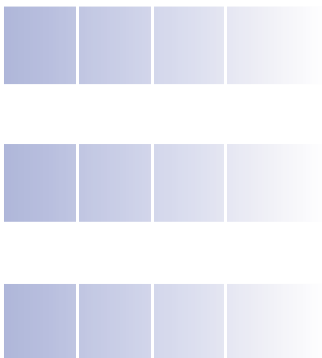
### **Integrated operators**

This term is applied to those companies owning both fixed and mobile networks, although most such companies have not yet fully integrated the diverse parts of their businesses. These companies will be afforded perhaps the greatest opportunities from convergence, but also face the biggest hurdles to unlocking value, namely operational, regulatory and cultural challenges. To succeed, these operators will need to fully integrate not only their customer-facing processes, but also their network and their back office as well. They should:

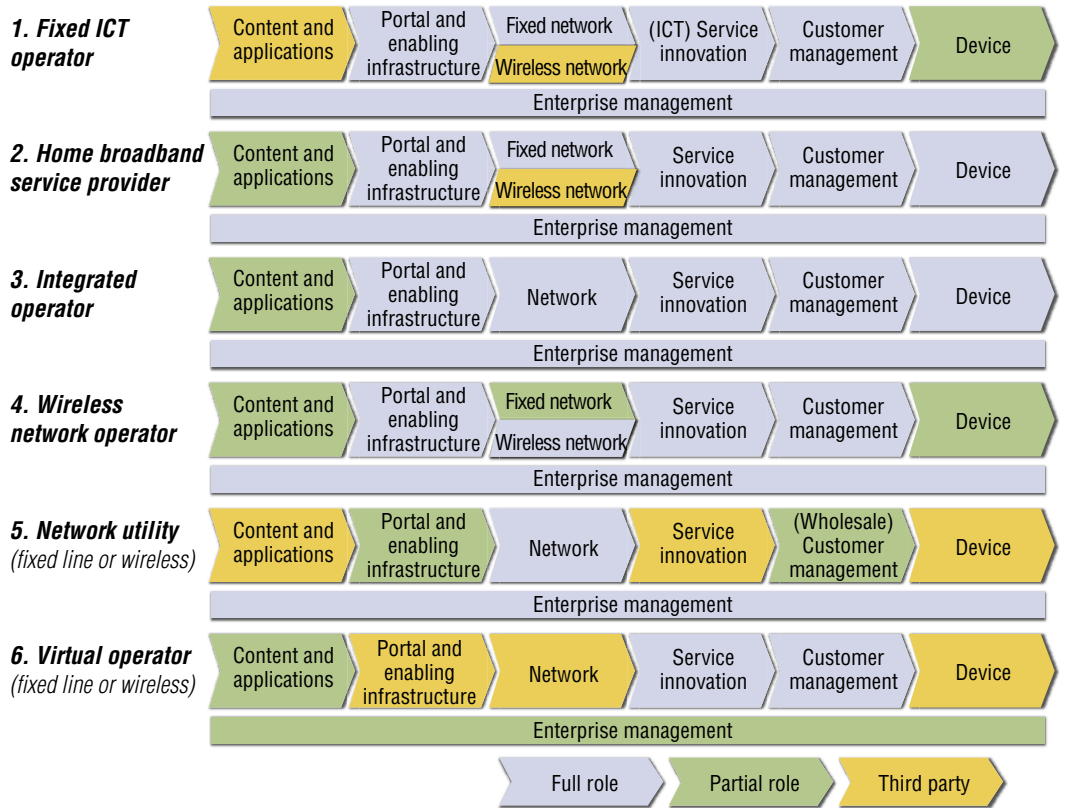
- Drive the integration of fixed and mobile businesses and processes to reduce capital and operating expense (e.g., OSS/BSS, NGN)
- Deliver integrated customer experiences and services
- Develop integrated propositions to target the combined needs of both the individual and the household as a single customer (quadruple play)
- Investigate the outsourcing of network operations and maintenance.

### **Converged capabilities: Partnering to create value**

Forty-six percent of executives surveyed stated that new products and services will primarily be developed in-house.<sup>22</sup> However, IBM believes that in a converged marketplace, telecom companies will increasingly need to look outside the enterprise to create differentiating products and services. Once telecom providers decide which business model and capabilities will help them make the most of convergence, they need to choose the strategic partners that can best help them deliver cutting-edge products and services (see Figure 7). Though building partnerships has not traditionally been a key focus for telecom companies, in a converged future, many may find that partnering is necessary to create value. Successful partnerships are an essential ingredient in allowing telecom providers to help satisfy customer needs and deliver a seamless customer experience.



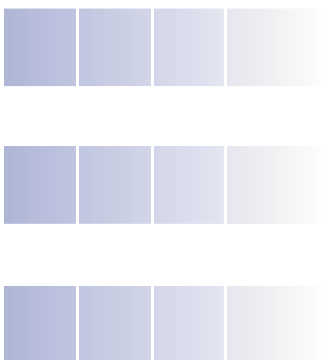
**Figure 7. Telecom providers must determine where they will play a full or partial role, and which non-core activities should be outsourced to third parties.**



Source: IBM Institute for Business Value.

**Convergence case in point: Telecom Italia and Telecom Italia Mobile merge<sup>23</sup>**

Sensing that the future lies in the convergence of fixed line and mobile, the boards of directors for both Telecom Italia and Telecom Italia Mobile (TIM) recently approved a US\$19.4 billion merger to integrate their fixed line and mobile platforms. Telecom Italia stated that the decision was due to the fact that technological advances are breaking the barriers between different networks to bring about the convergence of telecommunications services with other sectors. The group's reorganization is aimed at capturing the benefits of integrating platforms and services.



## What is your convergence quotient?

### Completely converged: Cool and connected

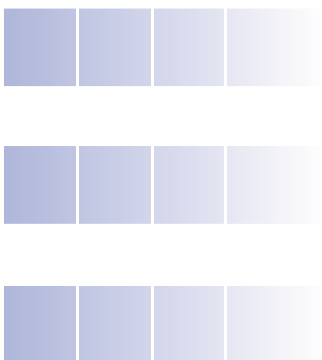
At 7:00 a.m., our virtual worker Charles checks his home IPTV to see if he has an update of the latest sales presentation. But there is only a message from work: "Sorry, not quite finished yet, will be done within 3 hrs." Some things never change. However, Charles is confident he will be able to download the presentation on his way to London for this month's Board meeting. The airline he is flying has just announced that they have signed his telecom service provider as a partner for its in-flight high-speed wireless Internet service. Now Charles can download the presentation to his laptop while in flight.

With a little time on his hands, Charles indulges himself. On the way to the airport, the on-train public WLAN allows him to pick up a video clip of the European football highlights from the night before on his "3G-WLAN" handset. Ajax of Amsterdam won, which puts him in a great mood. During the flight, Charles downloads the presentation as planned from his corporate e-mail account, without having to fumble around for the right currency to pay for it. The cost is automatically added to his work communications account. He has plenty of time to digest the new sales figures on the way to Heathrow.

When he arrives, Charles receives a video message from the London secretary advising him of a new meeting time and office venue. He is not too sure of this new location, but no problem – he has also been sent a multimedia map that he "Bluetooths" to his taxi driver's navigational screen. Charles makes it to the meeting venue with five minutes to spare. While waiting for the other executives to arrive, a multimedia message (MMS) notifies him that a new music album and video from his favorite artist has been released in the UK (ahead of the Netherlands) – does he want to preview and buy? He replies yes, but uses the voice-controlled menu to redirect the track to his home DSL service so he can enjoy it later.

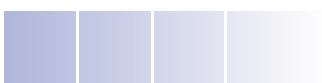
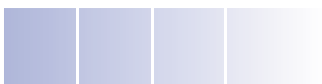
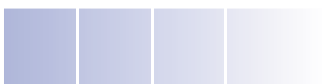
The meeting is successful, and Charles feels that he was well prepared and that the Board members are happy. It is 5:00 p.m. and time to get to the airport. In the taxi, Charles decides to check out that album. Now that the City of Westminster has deployed a metro WiMax network, there is no need to wait to access the music – and he'll have some well-earned entertainment for the flight home.

Is your company prepared to offer customers this kind of seamless connectivity to the content they value? Executives responding to the EIU study agreed that for them, profiting from convergence will first require the resolution of key demand, operational and supply challenges. Those surveyed saw competition (87 percent), regulation (79 percent), understanding customer demand and improving segmentation (62 percent) and operational challenges (61 percent) as significant barriers to growth.<sup>24</sup> Which are the obstacles holding your company back?



The following questions are designed to help executives assess their current weaknesses and begin to determine which strengths will be their best assets in a converged environment.

- Are you segmenting your customer base according to their communications needs? Do you design new products and services to meet these needs?
- Is your product development cycle fast enough to respond to changing customer needs?
- Do you understand and monitor profitability at the customer and product levels?
- Do you provide a differentiated customer experience? Do you have a “single view” of your customers and all their interactions with your company?
- Is your IT strategy based on flexible, scalable platforms that can integrate all customer-facing processes across your business?
- Is your network design strategy based on open IP standards that will allow integration of multiple future access technologies?
- Is your business “marketing-led” as opposed to “technology-driven”?
- Does your company’s organizational structure reflect your focus on customers and their needs?
- Do different parts of your business (i.e., fixed network business, mobile network business) work together to best serve the needs of your customers?
- Have you integrated common functions (e.g., sales, marketing, billing, customer service, distribution, etc.) across different areas of your business to drive revenue and reduce cost?



## **Conclusion**

For telecom providers, convergence means doing business differently. Gone are the days of going it alone. To provide products and services with the functionality and reliability customers expect, telecom companies must pick where they will play and then team up – leveraging what they do best and looking to partners and third parties to round out their offerings.

Understanding how convergence will impact customers, technology requirements, new service creation and current business models is essential for telecom companies to position themselves to differentiate from the competition. For those companies that are able to streamline their organization internally and tailor services externally to quickly evolving and increasingly distinct customer segments, the era of convergence can be one of profitable growth.

Convergence is moving quickly, leaving the unprepared in its wake. To explore the ways we might assist you in planning how your company can profit in the converged future, please contact us at [iibv@us.ibm.com](mailto:iibv@us.ibm.com). To browse other resources for business executives, visit our Web site:

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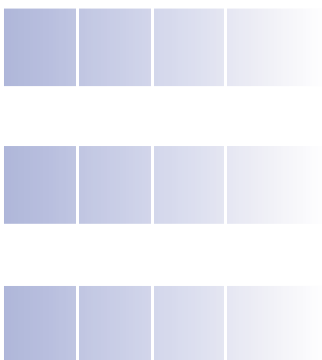
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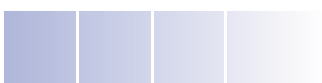
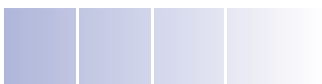
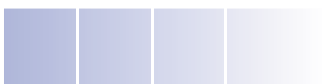
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