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Innovation Goes Home
A Growth Avenue
for MENA Telecom
Operators



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EXECUTIVE SUMMARY

Traditional voice and Internet access services, which for years constituted the telecom industry's foundation, progressively are becoming commodity businesses. Non-traditional players such as Google, Apple, and Facebook are increasing their share of what used to be exclusively the telecom sector's revenue and continue to threaten long-held business and customer-relationship models. These factors are driving telecom operators to seek new ways to sustain their business.

At the same time, broadband proliferation and the emergence of new technology are creating more sophisticated customers. Their level of engagement and demand for services have gained significantly and continue to grow. Inside homes, where they once required only a basic voice or Internet connection, customers now expect myriad multimedia applications, including video on demand (VoD), gaming and entertainment, shopping, and medical and educational services. As these applications advance, they give customers more control, turning them from passive recipients into interactive participants. Customers are better able to choose and have control over what they watch, listen to, and use.

Cognizant of the shift in consumer behavior and the growth potential in the applications space, telecom operators increasingly are embracing applications through their own offerings and by opening up their applications programming interfaces (APIs) to external developers to boost innovation. In that respect, operators are introducing new business models that will fit the emerging ecosystem. These business models promise to redefine the relationship between telecom operators and their customers as well as those between telecom operators and content and application service providers.

KEY HIGHLIGHTS

- Fixed voice and Internet access are becoming commodity businesses for telecom providers, forcing them to look for new revenue streams.
- Customers are becoming increasingly sophisticated, and advanced applications are emerging to satisfy their needs.
- Fixed telecom operators recognize the need to solidify their presence in the growing realm of advanced applications and are welcoming partnerships with third-party developers to secure a place in this new ecosystem.
- New business models continue to emerge among telecom operators, customers, and application service providers to stimulate demand, capture value, and foster innovation.

NEW OPPORTUNITIES IN HOME COMMUNICATIONS SERVICES

Fixed-communications telecom operators have been steadily pressured in recent years by competition from mobile and cable operators, the emergence of disruptive technologies, new applications players, new business models, and the new competitors that have cropped up due to market liberalization. However, telecom operators have inherent advantages that should hinder further erosion in the value of their business. They continue to hold sway over a large, captive customer base—from which they have gleaned a wealth of behavioral insights and customer analytics. Telecom operators also

have an unparalleled infrastructure and relatively significant investment capabilities. Combined, these constitute a powerful array of assets that telecom providers can use to compete in the race to offer next-generation telecommunication services and applications.

The applications space is another arena where competition is heating up. Social networking sites—Facebook, Twitter, and YouTube, among them—are drawing users by

the tens of millions across the globe, not least in the Middle East and North Africa (MENA) region. Their presence and explosive growth are a result of the increasing sophistication of consumers and pose a threat to the ties between telecom operators and their customers. A similar competitive threat has emerged from the likes of Apple and Google, which are certain to continue to disintermediate telecom operators by offering applications directly to users through their own or third-party handsets.

Operators recognize the challenge and realize that mounting competitiveness in their environment is a serious matter. Owning the consumer relationship is an essential element of their sustainability. To protect that relationship, telecom operators are scrutinizing and reinventing their home communication business—giving consumers the capacity to use services and applications that far transcend basic voice and Internet access services.

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THE CONSUMER EVOLUTION

For many years, home connectivity required little more than access to a rotary telephone—and then, as the Internet era bloomed, a line to the World Wide Web. But customers' growing sophistication, coupled with device and network convergence, has transformed demand for communication services and applications in the home. Plain connectivity has given way to myriad multimedia applications. Today, customers want high-quality, fully integrated services with ubiquitous access that covers their telecommunications, information, and entertainment needs.

Demand for these services is growing worldwide. The number of global broadband subscribers has been rising steadily and significantly and today there are approximately half a billion connections. In some markets—France, Germany, and the U.K., for example—broadband household penetration already exceeds 60 percent. In general, these broadband subscribers are not just looking for fast Internet; they also want the ability to run multimedia applications and value-added services (VAS).

Broadband proliferation has combined with end-user sophistication to

produce a significant shift in consumer behavior toward adoption of digital content. This shift is evident in behavioral insights about customers in accessing the digital content.

- The amount of time U.S. consumers spent watching videos and movies online soared from less than one billion minutes in 2003 to more than six billion minutes in 2009.
- Consumer spending is moving to the Web: U.S. online music sales, for example, recorded a compound annual growth rate (CAGR) of 35 percent since 2008, at the expense of offline sales.¹
- Social networks have emerged as the new “communications and sharing” platform, with 16 percent of online time in 2009 spent on social connections.²
- By 2009, the number of social networking accounts surpassed the number of e-mail accounts globally. The number of Facebook users, for example, multiplied from 50 million in 2007 to 400 million in 2009; more than 30 million of those users updated their status daily.

Customers' growing sophistication, coupled with device and network convergence, has transformed demand for communication services in the home.

- Twitter had 18 million active users by the end of 2009, 80 percent of whom accessed the service through mobile devices.
- By March 2008, 184 million people worldwide had started a blog. Additionally, there were 346 million people worldwide—77 percent of active Internet users—who read blogs.³
- In 2009, 25 percent of search results for the world's 20 largest brands consisted of links to user-generated content.

The rapid emergence of increasingly powerful digital devices also is contributing to global consumer sophistication. For example, tapes and

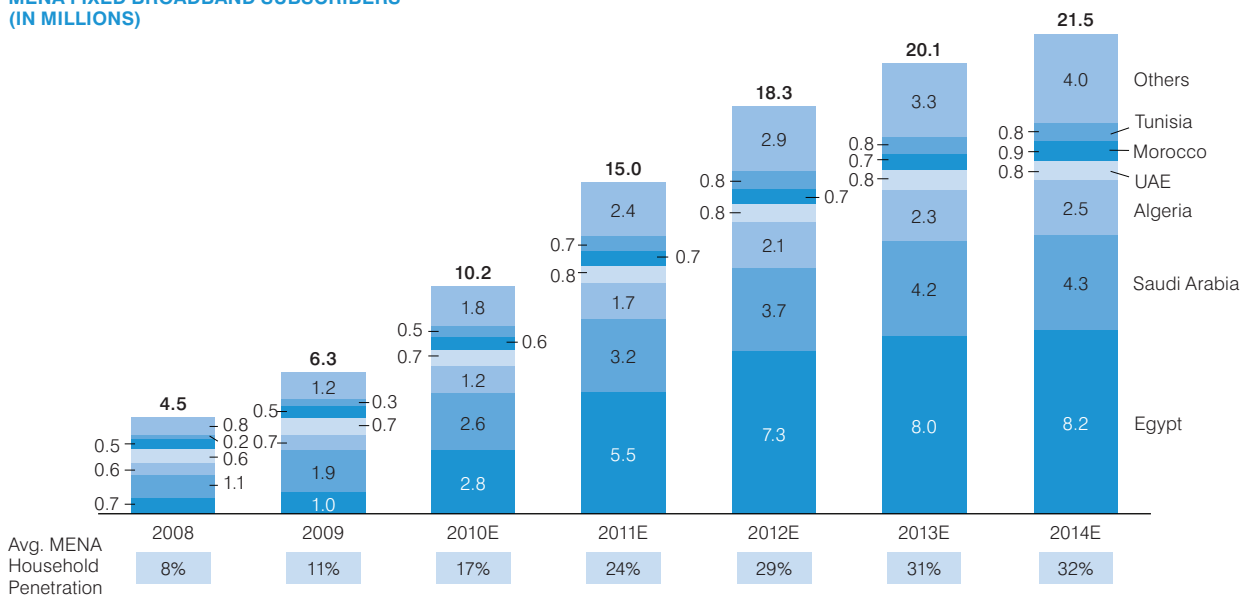
basic music storage devices that were once able to store a few music albums have been rendered virtually obsolete by mini-devices, such as Apple's iPod, with multiple gigabyte storage capacity and advanced functionality. Analog cameras have been replaced by multi-megapixel digital cameras with a wealth of features and controls. Old PAL TV sets are being replaced by high-definition digital TVs.

In the MENA region as well, customers have become far more sophisticated. MENA customers increasingly go online for communication, infotainment, and social media needs. The Twitter community in the MENA region grew by almost 300 percent during the first six months of 2009⁴ with 61 percent

of social networkers updating their Twitter status at least twice a day⁵ and 80 percent of them accessing Twitter through a mobile device. There are 10 million active Facebook users in the MENA region. In countries like the UAE, Jordan, and Lebanon, more than 40 percent of the online population uses Facebook.⁶ Regional broadband growth has been strong and will sustain its pace. According to one forecast, there will be 22 million fixed broadband telecom connections in the MENA region by 2014, representing a household penetration rate of almost 32 percent. This projection is based on anticipated growth that will significantly exceed the worldwide annual growth rate of 13 percent⁷ (see Exhibit 1).

Exhibit 1
The Number of Fixed Broadband Connections in the MENA Region Will Increase Substantially

MENA FIXED BROADBAND SUBSCRIBERS (IN MILLIONS)



Source: Informa Telecoms & Media, 2010

EMPOWERING THE CUSTOMER WITH INTERACTIVE APPLICATIONS

In this new environment, home customers demand high-quality, fully integrated services encompassing not only communications, but also information and entertainment needs—and they want to access these services easily and at the right price for the value they offer. Interactivity of video and entertainment applications, for one, is now a must. This is causing a vital transformation in telecom home offerings to provide customers with faster information exchange, expanding far beyond traditional services and entering into a complex ecosystem including multimedia real-time collaboration and virtualization of services—all centered on a home gateway device. This marks a substantive change for the consumer, who used to passively

receive and use services, but now is empowered at home with interactive multimedia and seamless fixed-mobile convergence applications.

Multimedia at Home: In an effort to elevate the television viewing experience, operators are offering customers a personalized and interactive Internet protocol TV (IPTV) service over the broadband connection, with access to thousands of VoD titles. IPTV typically comes with an electronic program guide that can search, rank, manage favorites, and establish parental controls. Customers can find and manage a vast array of digital content, including television programming, movies, Internet video, music, and photos in just a few clicks of their remote

Interactivity of video and entertainment applications is now a must for consumers.

control. They can also collaborate and interact with content—for instance, by rating talk shows or voting for contestants on a reality show. Interactive features also include catch-up TV, time shifting, media storage, personalization, and profile management capabilities. Over-the-top applications that run over TV include interactive advertisements, gaming, and remote shopping. Moreover, 3-D video allows users to zoom in and out and rotate the picture—enabling them, for example, to watch a soccer game from different angles. Verizon’s FiOS TV service offers a good example of IPTV: It has more than 400 broadcast channels in 14 genres, of which more than 130 are high-definition channels; a library of 14,000 VoD titles; and a TV program guide that gives viewers integrated onscreen control of several applications. Verizon customers can watch a movie about an action

hero, play a video game about the same character, and buy retail items associated with that character—all on the same home system. Moreover, Verizon lets customers view weather, horoscope, and traffic information while watching TV, and provides access to Facebook and Twitter over their FiOS IPTV service; similarly, AT&T has long provided access to Yahoo Mail and Flickr over IPTV. In the MENA region, only a few operators have launched IPTV; du’s TV+ service, for instance, offers more than 200 TV channels including sports, TV series, news, and music, as well as VoD features. The company is also working on a new digital service with the code name Fassel, which will offer games, music, sports, and streaming video that are specifically targeted to the Arab market.

Online gaming also is gaining momentum. New gaming platforms,

such as Yahoo, Comcast Games on Demand, and Atari On Demand, allow consumers to play games without any software installation or hardware configuration. Families can gather around the TV for a game of chess, or challenge friends remotely over an Xbox Live or Nintendo system. Interactivity and collaboration are becoming integral to gaming, changing the way consumers experience entertainment. In the MENA region, Etisalat, for example, developed its own gaming portal, offering users a multitude of games for download; this could eventually grow to become an online gaming collaboration platform.

The music scene is similar: Listening to music is no longer limited to iPods or CD players. Consumers today can integrate their music devices with their televisions without compromising quality. Music content

from Napster and Apple can easily be played through TV sets with great flexibility in navigating through music libraries, for a nominal subscription fee. Furthermore, global telecom operators are offering personal media-management solutions as part of their multimedia packages. These solutions allow consumers to view slide shows, listen to music, and create playlists stored on their computers, and connect them to the TV directly through a DVR.

Seamless Fixed–Mobile Convergence at Home: Consumers increasingly are demanding ubiquitous access to their voice, data, and multimedia services with seamless integration

across different home devices. Femtocells are emerging as a key enabling technology for the home convergence of both fixed and mobile telecom services. Femtocells are devices designed to give better indoor coverage of 3G mobile phone signals and higher data speeds, which historically have been problematic to obtain at home. They open up the potential to develop high-bandwidth, location-specific applications that enhance the user's experience: For example, "femto zone" applications involve Web and voice services that are triggered when the phone comes in range of the femtocell. As a result, customers of providers such as Japan's NTT DOCOMO can receive

SMS alerts that monitor when their children enter or leave the house. Other providers enable automatic "I'm at home" profile updates on social networking sites and automatic downloads of recent podcasts when customers walk through their front doors. Another example is "femto home" applications, in which the home telephone accesses the LAN via a femtocell, allowing it to share data with, and control, a range of home devices. Consumers can back up music downloaded on the phone to a PC, play a slide show of photos from the phone on the TV, stream videos from the DVR to the phone at high quality, and use their phone to control other devices in the home.

Femtocells open up the potential to develop high-bandwidth, location-specific applications that enhance the user's experience.

FROM INFRA-STRUCTURE CONTROL TO APPLICATIONS DOMINANCE

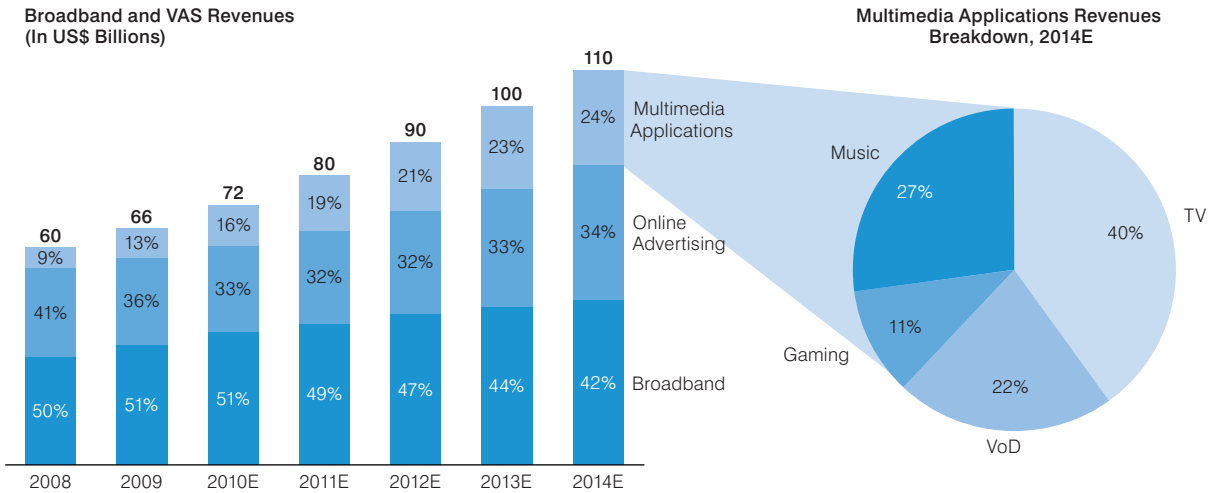
Multimedia applications have been stoking demand for high bandwidth and likely will continue to do so. Bundles of bandwidth-hungry applications such as high-definition IPTV, video conferencing, interactive gaming, home surveillance, and home automation could drive demand for tens of megabits per second (Mbps) in next-generation homes. Forecasts indicate that more than 35 percent of worldwide broadband connections will exceed 10 Mbps by 2012.⁸ Parallel to the increase in demand, bandwidth prices are dropping. In 2009, providers such as Telecom Italia reduced prices by approximately 30 percent. To date, the average monthly tariff per 1 Mbps in most developed

countries has already dropped to less than US\$5. The tariff per Mbps in Japan and Sweden, for example, is less than a dollar, with an average broadband speed of 60 Mbps and 18 Mbps, respectively.

As a result of the declining prices for bandwidth, telecom operators are recognizing the content and application space as a source of future revenue growth. Multimedia applications will continue to grow broadband revenue: In North America, according to one forecast, revenue from these applications will account for 24 percent of total broadband revenue (see Exhibit 2). The telecom market in the MENA

Exhibit 2
Applications Constitute a Growing Portion of Broadband Revenues

NORTH AMERICAN BROADBAND AND MULTIMEDIA APPLICATIONS REVENUES



Source: Broadband forecast pack: 2009–14, Telco TV forecasts: 2009–14, Digital music forecast 2008–14, Ovum, 2009; "Global Entertainment and Media Outlook: 2009–2013," PriceWaterhouseCoopers, 2009

region likely will follow the same trend and see growth in broadband applications in the near future. Through premium content, interactivity, and personalization, IPTV could evolve as a key application in next-generation homes, despite the abundance of piracy and free-to-air TV channels. VoD could prove to be a huge regional success, given the popularity of DVD rental shops and the lack of movie theaters in countries such as Saudi Arabia. Forecasts indicate that roughly 10 percent of broadband connections in the region will be bundled with IPTV in the next few years (see Exhibit 3).

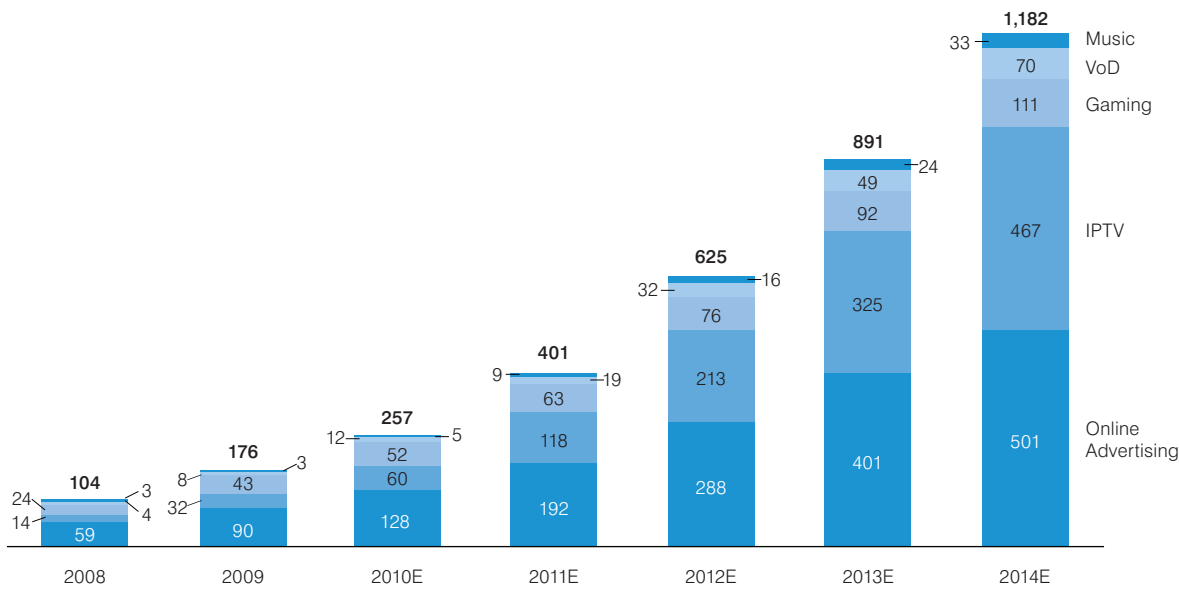
Similarly, online gaming in the MENA region could emerge as a strong growth opportunity, despite software piracy. This trend is expected mainly because of the region's large population of young people; 72 percent of the MENA population is below the age of 35.⁹ In addition, relatively few alternate entertainment choices are currently available, and the recent growth of collaborative online communities allows remote gaming between individuals. As a result, MENA online gaming revenue could reach \$111 million in 2014; furthermore, online music revenues are also expected to grow sharply at a CAGR of 60 percent, reaching

\$33 million in 2014. Other next-generation applications such as remote storage, 3-D TV, tele-presence, tele-medicine, and virtual sports will all likely follow.

Telecom operators, thus, need to reposition themselves to be able to capture value from the explosive growth in the realms of content and applications. It is imperative that operators define appropriate business models and content that allow them to match the regional requirements of consumers and secure their position in the emerging ecosystem.

Exhibit 3
Video Represents the Lion's Share of Applications Revenues in the MENA Region

**MENA BROADBAND VAS REVENUES
(IN US\$ MILLIONS)**



Source: Digital music forecast 2008–14, Telco TV forecasts 2009–14, Ovum, 2009; "Global Entertainment and Media Outlook 2009–13," PWC, 2009; PARC 2009; and Booz & Company analysis

INNOVATIVE BUSINESS MODELS

With the anticipated surge in broadband applications and revenues, telecom operators are changing their business models to create new methods of interaction with customers as well as with content and application service providers. In some business models such as subscription-based, pay-per-view, and other à la carte scenarios, subscribers pay for services; these models continue to be key for revenue generation. So-called “free” or advertising-based models are key for traffic generation and demand stimulation and could only become lucrative with a critical mass. Telecom operators also need to consider a variety of business models with service providers as they seek to position themselves to capture value in the applications space.

Telecom Operators and Consumers

Telecom operators have three main methods through which they can interact with customers.

Subscription: Telecom operators traditionally have favored subscription-based business models with their customers. This approach likely will extend to broadband applications. Orange, for example, offers IPTV for a monthly subscription and as part of a triple-play bundle. Netflix offers its subscribers access to approximately 12,000 titles for on-demand IPTV viewing as part of their subscription, using its “Watch Instantly” service. Subscription-based models continue to be a key source of revenue generation for telecom operators.

Pay-per-view or À la Carte: Another evolving business model with customers is the pay-as-you-go approach. For instance, Verizon provides access to its VoD library, charging customers for each title they access. Apple TV employs a similar concept, offering customers a variety of programming on a pay-per-view basis. In principle, this approach

resembles the model of a video-rental store, in which the operator substitutes real estate and staffing expenses with network costs. Micro-transactions are an emerging variant of the pay-as-you-go business model, especially in the gaming space; users pay a small amount of money on an as-needed basis to enhance the game by altering their character or getting additional game resources. Such micro-transactions can augment operators' revenue from gaming.

Free or Advertising-based: Another popular option is the advertising-based business model, which offers services to consumers for free. Hulu and ZillionTV are among those that use advertising as a revenue-generating business model. Targeted

and interactive advertising models are an emerging variant of this model that might prove appealing and could emerge as a popular business model. Many broadband applications such as VoD and games-on-demand allow advertisers to home in on specific audiences, which could increase significantly the value of advertisement. Telecom operators are well positioned to offer targeted and interactive advertising because of the abundance of information they can gather about their users, and the availability of a return channel through the broadband connection. Three of the U.K.'s biggest Internet service providers—BT, Virgin Media, and TalkTalk—recently have signed targeted advertising deals with advertising technology

company Phorm to use its Open Internet Exchange (OIX) service to fund applications on their portals. OIX monitors every website that a customer visits and sends this data back to a central advertising hub. Cablevision is another operator that uses targeted advertising to fund its TV services.

Although advertising-based business models stimulate demand and increase traffic, they can only be viable with sufficient scale. A combination of business models involving free advertising-based access to restricted applications to drive traffic, complemented by one or more of the pay models through the up-selling of more advanced features, could ultimately prevail.

A combination of business models that involves free or advertising-based to drive consumer traffic, complemented by pay models up-selling more advanced features, could ultimately prevail.

Telecom Operators and Service Providers

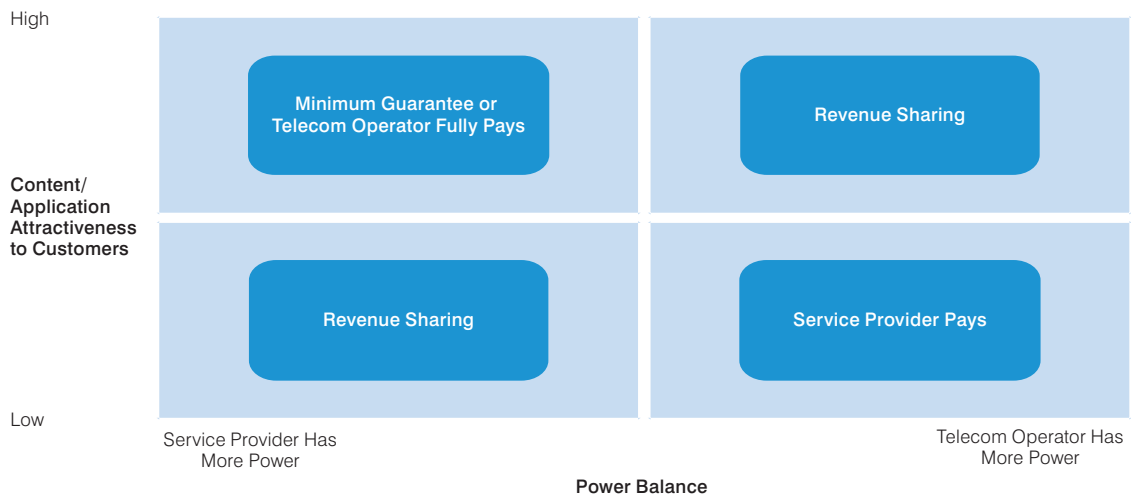
A number of business models also are emerging between telecom operators and third-party service providers. A few factors loom large in determining which business model service

providers and telecom operators will ultimately adopt (*see Exhibit 4*). If service providers offer “must-have” applications, they will be in a better position to dictate terms, including potentially insisting on a model in which telecom operators pay them outright to give customers access to

these premium applications or set minimum guaranteed payments for access. The balance of power shifts to the telecom operator if it has a large customer base, relevant customer segments, sophisticated infrastructure, and good customer insights. Then, the telecom operator will be in a

Exhibit 4
The Balance of Power between Operators and Service Providers Will Determine the Business Model

TELECOM SERVICE PROVIDERS' LIKELY BUSINESS MODELS



Source: Booz & Company

prime position to negotiate revenue-sharing terms or, in more extreme cases where it has even more power, it can even charge service providers a fee for access to its infrastructure and customer base.

Revenue Sharing: Telecom operators typically have not been directly involved in producing content and applications. When acquiring content or applications, operators seek to ensure a balanced trade-off between risk and profitability. Historically, revenue sharing has been the business model adopted by telecom operators and service providers. Telecom operators typically seek at least 15 percent to 30 percent of the premium content and application

revenues, and as much as 50 percent in some cases. Service providers, on the other hand, tend to impose minimum guarantees on telecom operators to absorb the high cost of premium content acquisition and hedge against operators' challenges in promoting these new applications. New variations of this model are still emerging. Diverging from the traditional telecom and service provider revenue-sharing relationship, which heavily favors the telecom operator, some telecom operators are flipping the model around, requiring the lowest revenue share of around 10 percent, similar to the i-mode model of DOCOMO, giving the service provider the lion's share of the revenue, and thus,

boosting innovation by promoting more development of content and applications.

Service Provider Pays: In another business model, telecom operators could charge service providers for traffic, or priority access on their networks. This model raises debates over the controversial issue of net neutrality. Regulators and application providers argue that the imposition of such charges would limit innovation and stall development of nascent services.

Telecom Operator Pays: A final business model is one in which service providers charge telecom operators to access their content or application—a

reverse of the net neutrality debate. For example, ESPN, the Disney-owned sports broadcaster, has been charging U.S. telecom operators to offer their customers its ESPN360 Internet video service. Customers of the operators that pay for the service are able to access its content; customers with networks that have declined to subscribe are denied access. Telecom operators likely

will resist this model which would only work if the service provider has significant market power.

The model likely to prevail will be a win-win for both sides, in which operators open up their APIs to the developers' community and compromise by giving them ample margin so they can continue to innovate over the operators' APIs,

while maintaining a stake in this fast-growing, important sector. This will drive the development of targeted applications, such as those with Arabic language content. Although telecom operators could attract developers over their online channels due to high penetration and heavy traffic, they will have to build a critical mass on IPTV to attract developers over the TV platform.

By opening up their APIs to the developers' community, operators will drive the development of targeted applications, such as those with Arabic language content.

CONCLUSION

The boundaries between telecom operators, Internet players, and entertainment providers continue to blur, and almost every telecom operator faces a rapidly changing competitive landscape rife with opportunities and challenges. A critical component of the operators' business going forward will be their ability to meet customer demands for advanced home services. Three key priorities have emerged for fixed operators to reinvent their home communications business and capture the opportunity in next-generation homes: preparing their infrastructure, ensuring a high-quality experience for consumers, and developing a clear applications road map with the right partnerships and business models to foster innovation while securing their own position in the emerging ecosystem.

Technology readiness: The proliferation of bandwidth-hungry broadband applications in the digital home ecosystem will significantly increase bandwidth requirements. It is likely that next-generation homes with an advanced service bundle that accounts for multiple parallel sessions and applications would require a connec-

tion of 60 Mbps or more. To meet that demand, it is paramount that operators prepare their networks, as well as their billing, customer relationship management (CRM), and provisioning systems. Networks have to support high data capacity, flexible routing, and a high quality of service with low packet drop. Next-generation homes will require operators to deploy next-generation access networks using fiber as fixed and LTE as mobile technologies. The service delivery platform, including the billing system and CRM, should be flexible enough to support the rapid launch of new services. In addition, telecom operators should prepare their infrastructure to handle the convergence of fixed and mobile systems. The most innovative home services in the near future will be those that leverage the quality and cost-effectiveness of the fixed network and the convenience of mobile.

Quality of experience: Although telecom providers traditionally have focused on quality of service measurements, customers are in fact sensitive to the quality of experience. This encompasses excellent service quality, reliability, and availability, as well as advanced customer-service capabilities. Customers, for example, are sensitive to video applications impairments such as blurriness, jitter,

latency, and audio sync errors. It is imperative that telecom operators extend their capabilities to ensure customer satisfaction.

Partnerships that foster innovation in applications: Telecom operators need to have a rich and innovative selection of applications to satisfy different customer segments. To create this diversity, they should consider opening up their APIs and developing partnerships that complement their capabilities along the entire value chain so that they can acquire and deliver next-generation applications with optimal efficiency and effectiveness. To accomplish this, operators will need to assess and define the appropriate business model that fosters innovation—and then act to optimize their return. To secure their position, operators will need to leverage their key assets: their customer relationships, customer analytics, investment capabilities, and infrastructure.

For telecom operators, the mounting business generated by applications is more than just another growth opportunity. It is an imperative—a necessary component of the future of the business, in which telecom operators must actively participate in order to thrive and not just become utility-like operators of pipe.

Endnotes

¹ Digital music forecast 2008–2014, Ovum, May 2009.

² “World Digital Media Trends 2009,” WAN-IFRA; Internet World Stats, Nielsen Online; International Telecommunications Union 2009.

³ Ibid.

⁴ Spot On Public Relations, “Middle East & North Africa Twitter Demographics & User Habits Survey,” September 2009.

⁵ “Middle East & North Africa Twitter Demographics & User Habits Survey,” August 2009; “Arab Media Outlook 2009–2013,” Dubai Press Club.

⁶ www.checkfacebook.com.

⁷ TeleGeography research, 2009.

⁸ Ovum 2009.

⁹ “Middle East & North Africa Twitter Demographics & User Habits Survey,” August 2009; “Arab Media Outlook 2009–2013,” Dubai Press Club.

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