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“The Empire Strikes Back”

How AT&T and Verizon¹ Will Beat the Cable TV Operators and Dominate the U.S. Telecom Market Again by 2012

Final Examination

The New Communications Industry: Public Policy & the Road to Convergence

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INTRODUCTION

At the end of Episode IV of *Star Wars*², the mighty Empire sustains a significant damage from the rebel forces. The mother ship of the imperial fleet, “Death Star” is almost completely destroyed by a young rebel pilot named Luke Skywalker. The rebels are celebrating their first major victory, but alas... under the leadership of Darth Vader, the Empire has already started to rebuild Death Star in a dark corner of the galaxy.

AT&T and the regional bell operating companies (RBOCs) were once feared and revered as the most powerful business entities in America, much like the Empire in *Star Wars*. Their monopolistic power and ability to generate consistent profit were both abhorred and admired by the American public. These Bell companies appeared to be invincible—they even withstood the attacks by the government regulators in the form of the forced divestiture of AT&T in 1984 and the new Telecommunications Acts of 1996, which contained many provisions to introduce competition in the local exchange markets and limit the power of the natural monopolies.

What the government couldn’t do in decades, however, was quickly done by the market forces that shook the industry. The disruptive new business models and technologies

¹ I also refer them as ILECs throughout this report. ILECs stands for Incumbent Local Exchange Carriers. For the purpose of this report “ILECs” are defined as those remaining RBOCs in their current forms, which may include long distance, broadband and wireless operations.

² Episode IV, subtitled “A New Hope” was the first and original film of George Lucas epic, *Star Wars*. It was released in 1977 and was followed by Episode V, “The Empires Strikes Back” released in 1980.

of the emerging players quickly started to challenge the business fundamentals of AT&T and the RBOCs starting in the mid-1990s. First, the cutthroat competition in the long distance market destroyed much of the profit margin traditionally enjoyed by AT&T. Then, the wide distribution of wireless services ate into fixed-line minutes and prompted a large number of consumers to abandon fixed-line local phone services altogether. Free VoIP services such as Skype along with email and instant messaging further eroded the traditional voice traffic. Net2Phone, Vonage and other phone-2-phone VoIP services made it fashionable to offer unlimited calling plans despite the fact that a significant portion of long distance call routing costs continued to be variable.

The Worldcom fiasco in 2002 was disgrace for the entire industry, but it also forecasted a punishing storm ahead for all industry players. As the over investment in network capacity became apparent, many fixed line carriers were forced to restructure or consolidate with other carriers--laying off tens of thousands of workers. The regulatory environment that favored non-facility CLECs and these resellers put added pricing pressure squeezing the margin further out of the incumbent players. And like "Death Star", the mother ship AT&T (often affectionately referred by the industry people as "Ma Bell") was almost completely destroyed and was salvaged only by its offspring, SBC, for meager \$16 billion in 2005.

Most recently, (much like young Luke Skywalker) the regional cable TV operators (a.k.a. Multi System Operators MSO) have emerged as the most significant threat to the ILECs, especially with the triple-play of broadband, video and VoBB. Complete with HDTV programming, DVR set top boxes and faster broadband Internet access, cable TV operators have been offering compelling reasons to completely get rid of the phone guys. The cable operators' monopolistic power was never seriously challenged and the cable operators continue to aggressively invest in their network capacity.

After a decade of setbacks, however, the Bell companies are slowly reorganizing their forces and mobilizing scattered resources for the next round of battles. First, the ILECs successfully challenged the FCC's TELRIC rules.³ Similarly, ILECs won a revision of the

³ TELRIC stands for Total Element Long-Run Incremental Cost. FCC used TELRIC to set the price at which RBOCs would provide unbundled network elements (UNEs) to competitive local exchange carriers (CLECs).

FCC mandate, which freed ILECs from offering wholesale network access to competitors on their new FTTx and other new network infrastructure. Then, there was a series of consolidations that reorganized the ILECs into two major camps: Verizon and AT&T. There are Sprint and Qwest remaining as well; however, Sprint has already announced its plan to divest its fixed-line local phone service and Qwest may be an acquisition candidate itself. Therefore, it is very conceivable that further consolidations will take place. By 2012, AT&T and Verizon will be the only remaining direct descendants of the original Bell System.

In this paper, I argue that the ILECs, i.e., AT&T and Verizon, will prevail and become the uncontested dominant forces in the U.S. telecommunications industry again by 2012. I predict that the cable TV operators will eventually lose momentum and will not be able to keep the ground they gained from the ILECs with the broadband and VoIP offerings and; worse yet, their core business of delivering video will be seriously challenged by the ILECs and the Internet new media players like Google and Microsoft.

IS "FOUR PLAY" REALLY NECESSARY?

ILECs and cable TV operators are currently offering different combinations of triple plays. ILECs have their (1) traditional voice services, (2) the broadband offering largely through their own xDSL infrastructure and (3) the wireless/cellular services, which are also being consolidated. On the other hand, the cable TV operators have their (1) traditional video programming, (2) the broadband access via their upgraded digital cable network and (3) the voice services utilizing VoIP technologies over their broadband network.

The triple play offers by the cable TV operators seem to be gaining popularity in recent years. Whilst AT&T, BellSouth, Qwest and Verizon collectively lost some 4.8 million residential access lines in 2005 representing 5.7% of the residential fixed line service subscriptions; the cable TV operators effectively doubled their VoBB (voice over broadband) subscribers in the same year.⁴ Does this mean that an average consumer prefers to see his voice service bundled with other services? Many researches done on bundled service

In a 2002 ruling, the Supreme Court ruled TELRIC unconstitutional and eventually the FCC abandoned its UNEs efforts.

⁴ Data from the January 2006 report on US fixed-line networks & services.

offerings including the one conducted by Global Insight indicate that the average consumer does not prefer bundled telecommunication service offerings. Global Insight finds that the prospect of a lower bill is the main driving force behind the VoBB growth of the cable TV operators. In other words, an average consumer is not compelled to purchase bundled services as they are offered today, unless there is a significant discount. Therefore, it is unlikely that having the complete quadruple play will benefit either the ILECs or the cable TV operators.

But what about convergence? Wouldn't consumers prefer consolidated billing? What about the benefits of integrated communications solutions? It is true that some cable operators are already talking about an "amazing"⁵ application of convergence where a wireless handset is used to program the DVR at home. But a truly innovative convergence application seems to remain illusive at this time.

On the other side of the coin, there are some operational and economic issues associated with the quadruple plays as they are proposed today. In order to offer quadruple play, cable operators will most likely work with Sprint PCS for the wireless offerings. The Sprint-Cable alliance as it was announced by the cable operators in November 2005 would involve the network, which is owned by Sprint as well as a complicated joint venture that includes the four cable operators in different locations. The Reynor & Christensen article⁶ talks about the importance of value chain integration. The Sprint-Cable arrangement could not be further away from this concept of value chain integration. The quadruple play involving Sprint PCS by the cable operators is unlikely to add value to the customer experience other than simple discounts. Likewise, ILECs having the video component just for the sake of having a quadruple play is not going to help ILECs either. Verizon's current alliance with DirecTV (for the sake of offering TV) offers no service synergy and provides little value to the consumers unless there is a significant discount associated with the Verizon-DirecTV bundle.

On the other hand, the IPTV services being planned by the ILECs are likely to be a serious challenge for the cable TV operators. The FTTx and MBMS technologies employed by the ILECs will allow more personalized video content delivery and genuinely improve the

⁵ I am being sarcastic here.

⁶ Raynor, Michael E. & Clay Christensen. "Integrate to Innovate." Deloitte Research

viewing experience of the consumers. Along with the mobile TV delivered on the 3G or the separate mobile TV frequencies, ILECs are in a better position to support the two most important trends in TV viewing today: *time-shifting* that allows the user to consume the content at any time of his choosing (for example, TiVo, DVR, VOD); and *space-shifting* that allows the user to consume the content at different locations (for example, Sling Box, PMP, Sony PSP). In addition to the IPTV video contents delivered by the ILECs, the cable TV operators will increasingly compete with the video contents from the Internet new media players such as Google, Microsoft, AOL, Yahoo and Apple for its core video business.

ILECs WILL LEVERAGE NETWORK CONVERGENCE

The three most important things in telecommunications is volume, volume, volume. The Metcalfe's law teaches us the critical nature of economies of network: "The systemic value of compatibly communicating devices grows as the square of their numbers."⁷ ILECs must leverage its integrated network and the large customer base across platforms in order to prevent cable operators from gaining further ground.

For example, AT&T may allow its broadband customers unlimited VoBB calling to any AT&T phone number whether it's a VoBB, wireless or POTS number. This will have two main effects: first, it will attract new users to AT&T broadband offering since users can now call tens of millions of AT&T numbers at no additional charge; and secondly, it would have a certain viral marketing effect where one user of the AT&T broadband service would recommend the service to his family and friends. Since AT&T will incur no egress charges on calls terminating on its own network, there will be little marginal cost associated with this offer.

Separately, if a virtual provider like Vonage can offer unlimited domestic VoBB calling at \$24.99 while paying the ILECs egress charges on most calls, AT&T or Verizon can certainly offer a much more attractive unlimited calling plan to its broadband customers when a significant portion of usage will terminate on their own respective networks. If no one in 2012 is willing to pay for voice calls, at least Verizon and AT&T are in excellent position to

⁷ From the lecture notes.

use voice service to upsell other NGN services to its customers. The cable operators, with their 3 million VoBB customers divided on 4 different cable networks and no integrated wireless platform, simply will *not* be able to generate the same type of network effects.

This type of cross-platform strategy creates additional urgency for Verizon to buy out Vodafone from its wireless affiliate, Verizon Wireless. And it also makes the ILEC business of Sprint and Qwest a bit more attractive for AT&T and Verizon as acquisition targets. Verizon and AT&T may even consider opening the networks to each other's VoIP traffic for termination in order to decimate other VoBB providers including the cable operators. The alliance between Verizon and AT&T makes sense since they are not directly competing with each other for the local access business.

Skype and other PC2PC VoIP services will continue to satisfy the need of travelers and international callers. The PC2PC services will not compete directly with the ILECs and PC2PC VoIP will continue to fuel broadband consumption for the ILECs.

CUSTOMER CARE CAPABILITY IS ILECs' CORE COMPETENCY

Everyone hates his cable TV company—there is even a movie about an annoying psychopath "Cable Guy". More scientifically, the latest survey by the American Customer Satisfaction Index shows that the ILECs consistently scored higher over cable TV operators in customer satisfaction.⁸ A non-working TV is annoying, but a non-working phone or broadband access can be quite critical. ILECs seem to understand the mission-critical nature of the telecom services a little bit better than the cable TV operators. ILECs also have organizational structure and operational processes in place that can deal with mission-critical service products. ILECs must realize that customer care is one of their important core competencies and think twice before any outsourcing decision is made.

⁸ Noguchi, Yuki. "Customers Frustrated with Static on the Service Line". *The Washington Post*. August 12, 2005

Already, the cable operators are experiencing a high rate of attrition among its VoBB customers. A survey completed by IDC⁹ in December 2005 estimates the cable VOBB attrition rate being as high as 12.3% in certain regions with a national average at 6.5%. "Poor customer service" was listed by the survey respondents as one of the top reasons for disconnecting cable voice service.

The new FTTx services will require an army of field technicians specially trained in new fiber optics equipment for the ILECs. The roll-out of the service must be carefully coordinated with the adequate number of field technicians and engineers in order to provide effortless transition for the consumers.

DISRUPTIVE TECHNOLOGY: WI-MAX AS POOR MAN'S LOCAL LOOP

There is a great deal of hype about Wi-Max in 2006. The purveyors of the Wi-Max technology are some of the most powerful players in the computer industry with Intel being one of them. It is widely accepted by technical experts that the service range and the data transmission speed of Wi-Max will be much more limited than what Intel is claiming it would be. For example, a Forrester research predicts that Wi-Max will have a service radius of about 10 miles with 13.5Mbps of speed—a far cry from a 30-mile radius with 70Mbps of data speed routinely mentioned by Intel.¹⁰

Notwithstanding the disappointing actual performance, Wi-Max devices will be prevalent in the market by 2012. Many industry analysts point to the sparsely populated rural areas as the most suitable application for Wi-Max. The logic behind this prediction comes from the fact that Wi-Max is the cheapest local loop alternative in remote areas where xDSL, FTTx or coaxial options would not be economically viable. However, I predict that Wi-Max will be most widely used in inner-city, low-income areas.¹¹

⁹ Zhou, Wu. "2005 U.S. Consumer Telecommunications Demand Survey and Analysis". IDC survey. December 1, 2005.

¹⁰ Golvin, Charles S. et al. "Let's Get Real about Wi-Max". A Forrester Research. July 13, 2005.

¹¹ Based on a product-concept study conducted by The Research Associates, a New York-based market research firm.

Why use Wi-Max in such high population density areas? It is because the wireless component of Wi-Max suits the usage pattern of the target consumers. These consumers tend to be quite mobile in their daily routine, though the movement is largely limited to the boundaries of their neighborhoods. Also, the limited level of disposable income makes it difficult to provide fixed-line broadband access to this group of consumers as the availability of fund to pay for the service will vary from month-to-month. A wireless broadband service, such as Wi-Max with a prepaid billing will resolve both of these issues. In a typical scenario, a user will purchase a Wi-Max phone or Wi-Max enabled laptop in addition to a certain quantity of Wi-Max airtime upfront. When the Wi-Max airtime runs out, the service is suspended temporarily until the user replenishes additional Wi-Max airtime to his prepaid account.

In a typical major city in the U.S., just a handful of Wi-Max transmission towers can provide VoIP and broadband access to tens of thousands of customers, who were previously counted out of the broadband market by the phone companies and cable operators. The ILECs are best suited to provide Wi-Max services in these inner-city markets since they already have local loop facilities to the potential tower sites and have access to the local distribution network.

PLAYING THE REGULATOR'S GAME AGAIN

Since the PSTN service will virtually disappear by 2012, most telephone era regulatory requirements will be lifted for the ILECs. However, it is likely that the state PUCs will attempt to categorize ILECs as natural monopoly and regulate broadband access offerings. The efforts of the state PUCs will intensify as the cable TV operators continue to lose their competitiveness against the ILECs in providing broadband and telephony services.

On the IPTV front, the coalition of AT&T and Verizon will have secured a federal legislation that allowed them to avoid individual TV franchise license negotiations with municipal governments.

CONCLUSION

At the time of this paper in May 2006, the surviving American ILECs are fighting a tough battle against the cable TV operators and emerging VoIP players. The ILECs have been, however, preparing for a full scale counter-attack on the cable operators by settling regulatory issues and consolidating fixed-line and wireless assets of the industry. By 2012, the remaining ILECs, namely AT&T and Verizon will dominate the U.S. telecommunications market again. ILECs will achieve their dominant positions by:

1. Providing compelling video and multimedia contents over its Next Generation Networks. Such video and multimedia offerings by the ILECS will put the cable operators on the defensive for their core TV business.
2. Leveraging the existing customer base and network assets. Only the ILECs are in position to deliver integrated network access across the broadband IP, PSTN and wireless platforms.
3. Providing superior customer care. The ILECs must recognize their customer care capability as a core competence and strive to reach a higher level of customer satisfaction.
4. Utilizing Wi-Max to capture incremental markets in inner-cities. Wi-Max represents a real opportunity to close the gap in the digital divide.
5. Carefully maneuvering regulatory issues at the local, state and federal level. Securing the federal legislation for a national TV license for the IPTV offerings, along with keeping CLECs clear of the NGN will be critical for ILEC's future.

Of course, it will be the end of just another episode in the continuing epic. Episode VI may be titled, "The Return of the Cable Operators."