

# THE 2005 TELECOMMUNICATIONS INDUSTRY REVIEW

AN ANTHOLOGY OF MARKET FACTS AND FORECASTS

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## CHAPTER I

# EXECUTIVE SUMMARY

### **1.1 Telecommunications Industry Economic Conditions**

The modest growth of telecommunications services revenue enjoyed by carriers worldwide during 2004 is predicted to continue in 2005. Three quarters of a trillion dollars flowed into the telecom industry during the tech bubble of the late 1990s, but after several brutal years watching telecom industry fortunes being driven downward—with the attendant layoffs, bankruptcies, and even a few accounting scandals—in 2005 the telecommunications industry has turned the corner.

INSIGHT Research's carrier revenue projections by geographic region are provided in Table I-1. Worldwide carrier revenues are predicted to grow from under \$1.2 trillion in 2005 to just over \$1.5 trillion in 2010. While the overall compound annual growth rate (CAGR) is 5.9 percent there are, however, notable regional differences.

North America (NA) has the slowest growth rate at 3.9 percent annually, but maintains its position as the region with the largest telecommunications services revenue in 2005. As the most mature telecom services market, NA growth is most dependent on new services as opposed to subscriber growth. Europe/Middle East/Africa (EMEA) exhibits a slightly higher growth rate at 4.5 percent per year, due to growth in the wireless market and growth from less developed sub-regions of Eastern Europe, the Middle East, and Africa.

The faster-growing regions are Latin America and the Caribbean (LAC) and Asia/Pacific (AP). LAC is dominated by the fast-growing economies of Mexico and Brazil. Many of the countries in the LAC region have a combination of a rapidly expanding middle class and increased privatization of key industries. The resulting pent-up demand for telecommunications services, much of which is satisfied by wireless services, is reflected in its high CAGR relative to the worldwide composite.

The AP region is experiencing the highest five-year growth overall, at 9.3 percent, and will be the largest telecommunications revenue producer,

overtaking North America by 2007. The sheer size of its underserved populations, especially in China and India, and its generally higher GDP growth rates, combined with more developed countries such as Japan, South Korea and Taiwan whose economies rely heavily on high-tech industries, are fueling this growth.

At the end of the forecast period in 2010, Asia Pacific revenues will contribute 32.2 percent of all global telecommunications revenues, while North America's contribution will fall to 29.2 percent, and EMEA will fall to 31.9 percent of all global telecommunications carrier revenue.

**Table I-1 Global Carrier Revenue by Region, 2005-2010 (\$Millions)**

	2005	2006	2007	2008	2009	2010	CAGR
<b>NA</b>	375,980	390,526	401,726	417,701	435,516	455,735	3.9%
<b>AP</b>	322,416	356,869	396,441	431,236	465,386	502,371	9.3%
<b>EMEA</b>	400,226	416,421	440,856	462,053	479,182	498,123	4.5%
<b>LAC</b>	70,599	78,828	86,461	92,638	98,162	103,647	8.0%
<b>Total</b>	1,169,221	1,242,645	1,325,484	1,403,629	1,478,246	1,559,877	5.9%

In North America, cable TV (CATV) multiple system operators (MSOs) and traditional telephony providers are pitted against one another as both rush to create converged networks capable of providing voice, video, and high-speed data services to residential and business customers. The prospect of increased competition from cable providers taking share in the Bells' core residential phone business forced the ILECs to begin re-evaluating a fiber to the premises (FTTP) business case. Following a concerted lobbying campaign by the Bells, relief came in a precedent-setting order handed down in October, 2004 in which the Federal Communications Commission (FCC) ruled that the ILECs would not be required to lease new fiber installations to competitors. This regulatory ruling, which had been anticipated for several months, signaled that the Bells were ready to begin a new round of investment in fiber that just a few years before would have been unimaginable. One study predicted that the net capital expense of current FTTP deployment plans would run into the \$40-\$45 billion range.

In Asia, where GDP growth is two to four times that of the US or Western Europe, the telecommunications needs of business and residential subscribers is growing faster than any other region, pushing investment in broadband infrastructure to the top of the shopping list as middle-class expansion increases purchases of telecommunications and entertainment services. In Latin America and the Caribbean nations, many of the same forces are at work—albeit from a much smaller base considering that on the average, only a few percent of global Internet access comes from users in Latin America. Despite the economic and political problems of debt default, recessions, and currency devaluations in the recent past of Brazil, Mexico, Argentina, and Chile—the four largest economies in the region—the telecommunications services market is expected to grow at the healthy CAGR of eight percent through 2010 in the region.

The wireless telecommunications market has long been recognized as one of the most dynamic and fastest-growing segments of the global telecommunications industry, and worldwide is growing at a faster rate than wireline service. The uptake of wireless services in developing regions, and the ability to achieve reasonable wireless data rates, has resulted in unprecedented wireless services penetration and revenue growth. With the continuing rapid declines in wireless equipment prices, and the rise in the use of wireless devices as Internet appliances, wireless services growth will continue to outpace wireline services growth throughout the forecast period.

The penetration of wireless services in developing regions and the ability to achieve reasonable speeds for wireless data has resulted in continued wireless services penetration and revenue growth, often at the expense of wireline services. INSIGHT's research suggests that global wireless services revenues will exceed wireline services revenues by 2007, driven wholly by the continuing wireless penetration outside of NA, specifically in economically rising countries within the AP region. The AP region also has a “mobile phone” culture, where having the latest phone and using its capabilities is important to a person's image.

## 1.2 Report Structure

This report is segmented into six distinct chapters, each reviewing targeted areas of the overall telecommunications market. The broad segments covered in this report are:

- Telecommunications industry market trends,
- Network infrastructure,
- Broadband and narrowband access,
- Network support,
- Telecom services, and
- Enterprise telecom markets.

The **Background: Telecommunications Industry Markets** chapter lays the foundation for INSIGHT's forecasts and forward-looking analysis of the selected areas in the telecommunications industry. It provides an overview of industry-wide trends including international narrowband and broadband, wireless, and cable TV markets.

The chapter entitled **The Next-Generation Communications Network: Improvements to the Infrastructure** posits that continued technological advancement and the ongoing transformation of network infrastructure are ultimately driven by end-user demand for bandwidth. The migration of networks from electronic circuit switching to photonic packet switching is paramount to keeping pace with the transmission requirements of innovative, high-bandwidth services and applications. Accomplishing this requires carriers to update systems and equipment at all levels of the telecommunications network architecture—end-user, access, metro, and core. This report examines these issues as well as the migration path to Next Generation Network (NGNs) architecture and the role of NGN components such as softswitches, optical add-drop multiplexers (OADMs), digital and optical cross connects, wavelength division multiplexing systems, optical fibers, as well as discrete optical components such as transmitters, tunable lasers, and modulators. A discussion of wavelength service is also provided.

**The Access Network: Narrowband and Broadband** examines the interplay of narrowband and broadband technology in the access network. The advent of high-speed broadband access is not taking place without impacts on

narrowband; this chapter examines the US access line losses and the various options for broadband content delivery: digital subscriber line (DSL), hybrid fiber/coax (HFC), the new fiber builds underway in the US, fixed broadband wireless (FBW), and WiFi. As with advancements in underlying technologies, the demand for applications, notably higher-speed Internet services, is fueling the growing demand for broadband local access, which is also covered.

**Supporting The Infrastructure: Network And Customer Support** analyzes and the network support systems that lie behind the network infrastructure including the various operations support systems (OSSes) and business support systems (BSSes). Network operators' legacy support systems must be continually updated to accommodate new technologies, services, and applications. Business support systems include customer care, mediation, rating, and billing. Network support systems include engineering and planning, provisioning, trouble/repair, and network management.

**Present and Future Communications Services Markets** considers the changing nature of the telecom services landscape. This section begins with an overview of domestic US telecom spending before analyzing the impacts that residential wireless calling has exerted on the long distance network providers. The Voice over Internet Protocol (VoIP) market as well as IP-based application services (including IP-based conferencing and messaging applications as well as location-based services and Instant Messaging [IM]) are also presented. This chapter also includes a discussion of the carrier network requirements for streaming media network services revenue from such sources as encoding, digital right management (DRM), content hosting, performance-measurement services, and content delivery. The chapter concludes with a comparison of the relative attributes of growth impacting WiFi markets in Europe and US.

The final section of this report, **Enterprise Telecommunications Markets** examines the revenue contributions associated within three critical components of business services market: private line services; toll-free calling and corporate call centers; and the roll of premises-based voice switching via IP PBXs or a managed service alternative provided by an IP Centrex-type service.

# THE 2005 TELECOMMUNICATIONS INDUSTRY REVIEW

## TABLE OF CONTENTS

### Chapter I

#### **EXECUTIVE SUMMARY ..... 1**

1.1 Telecommunications Industry Economic Conditions .....	1
1.2 Report Structure .....	4

### Chapter II

#### **BACKGROUND:**

#### **Telecommunications Industry Markets ..... 6**

2.1 Telecommunications Market Conditions .....	6
2.1.1 Broadband Market Trends .....	10
2.1.1.1 N. American Wireline Broadband Revenue Trends .....	15
2.1.1.2 European Broadband Revenue Trends .....	16
2.1.1.3 Asia Pacific Broadband Revenue Trends .....	17
2.1.1.4 LAC Broadband Revenue Trends .....	19
2.2 Wireless Industry Markets .....	20
2.2.1 Analysis of Worldwide 2G, 2.5G, and 3G Wireless Markets .....	22
2.2.2 US Wireless Trends .....	26
2.3 Cable Television .....	27
2.3.1 History of Cable TV .....	27
2.3.2 Cable Telephony .....	28
2.3.2.1 Small Business Cable Telephony .....	31

### Chapter III

#### **THE NEXT-GENERATION COMMUNICATIONS NETWORK: Improvements to the Infrastructure ..... 35**

3.1 Overview of Network Topology .....	35
3.1.1 End-Users .....	36

3.1.2	Access Networks .....	37
3.1.3	Metro Networks.....	38
3.1.4	Core Networks.....	39
3.2	Transmission Improvements .....	39
3.3	Overview of Switching Technologies.....	42
3.3.1	Circuit Switching vs. Packet Switching.....	42
3.3.2	Switch Definitions.....	43
3.4	Telecommunications Networks.....	45
3.4.1	Evolution of the PSTN .....	45
3.4.2	Changes to the PSTN by 2006.....	47
3.4.3	Central Offices .....	47
3.5	Data Networks and Switch Growth .....	48
3.5.1	Broadband Switches .....	48
3.5.2	Data Core Networks .....	53
3.5.2.1	Changes in Data Core Networks by 2006 .....	56
3.5.3	Data Metro Networks .....	58
3.5.4	Data Access Networks.....	59
3.5.5	Signaling and Support Structures for Data Networks.....	61
3.5.6	Enterprise Data Networks.....	62
3.6	The Next Generation Network.....	63
3.6.1	Gateways .....	64
3.6.2	Softswitches.....	67
3.6.2.1	Economic Motivations .....	72
3.6.2.2	Softswitch Revenue Growth.....	77
3.7	Optical Networking.....	79
3.7.1	Overview .....	79
3.7.2	Add Drop Multiplexers.....	81
3.7.2.1	ADM Market Opportunity.....	84
3.7.3	Optical Cross Connects .....	86
3.7.4	Present and Future DWDM Systems.....	90
3.7.4.1	Long-Haul Systems .....	91
3.7.4.2	Metropolitan Systems.....	93
3.7.4.3	Wavelength Service Market Trends .....	96
3.7.5	Market Analysis of SONET/SDH & DWDM Systems .....	99
3.8	Optical Components .....	101
3.8.1	Optical Transmitters.....	101
3.8.1.1	Tunable Lasers Diodes.....	105
3.8.1.2	Modulators .....	109



3.8.2	Optical Receivers .....	111
3.8.3	Market Analysis of Optical Subsystem and Components.....	115
3.9	Optical Fiber .....	116
3.9.1	Development of Fiber.....	117
3.9.1.1	Dispersion-Shifted Fiber .....	117
3.9.1.2	Non-Zero Dispersion-Shifted Fiber.....	119
3.9.2	Future Fiber Design.....	120
3.9.3	Market Analysis of Fiber Deployment .....	122

## Chapter IV

### **THE ACCESS NETWORK: Narrowband and Broadband..... 126**

4.1	Narrowband Access Networks.....	126
4.1.1	Primary and Secondary Access Line Growth.....	126
4.1.2	Narrowband Access Line Forecast .....	128
4.2	Broadband Access Networks .....	130
4.2.1	Broadband Access Forecasts .....	133
4.3	Access Network Technology Options.....	136
4.3.1	DSL .....	136
4.3.2	Cable.....	139
4.3.3	Fiber .....	142
4.3.4	Fixed Broadband Wireless .....	145
4.3.5	WiFi.....	148

## Chapter V

### **SUPPORTING THE INFRASTRUCTURE: Network and Customer Support..... 152**

5.1	Operations Support Systems Overview .....	152
5.2	Operations Support Applications.....	154
5.2.1	Business Operations Support.....	155
5.2.1.1	Customer Care.....	156
5.2.1.2	Service Orders.....	157
5.2.1.3	Billing Mediation .....	157
5.2.1.4	Rating.....	158

5.2.1.5	Billing.....	158
5.2.2	Network Operations Support.....	160
5.2.2.1	Engineering and Planning .....	160
5.2.2.2	Provisioning .....	160
5.2.2.3	Trouble/Repair .....	161
5.2.3	Network Management .....	162
5.2.4	OSS Market Structure: Demand Side View .....	166

## **Chapter VI**

### **PRESENT AND FUTURE COMMUNICATIONS SERVICES**

### **MARKETS ..... 172**

6.1	Changing Patterns of Telecommunications Usage.....	172
6.1.1	US Business vs. Residential Wireline Markets .....	173
6.1.2	The Impact of Wireless on Wireline Residential Market .....	175
6.1.2.1	Wireline Residential LD Usage.....	175
6.1.2.2	Total Residential LD Usage .....	176
6.1.2.3	Residential Call Distribution and Duration .....	178
6.1.2.4	Residential Monthly Telecom Usage .....	179
6.1.2.5	Other Factors Impacting Long Distance Usage.....	181
6.1.2.6	Residential Telecommunications Spending Trends.....	183
6.2	VoIP.....	184
6.3	IP-Based Application Services.....	187
6.3.1	Conferencing Services.....	189
6.3.2	Unified Messaging.....	191
6.3.3	Instant Messaging.....	193
6.3.4	Mobility Management .....	195
6.3.5	Overall Enhanced IP Services Revenue Forecast .....	196
6.4	Streaming Media.....	197
6.4.1	Infrastructure Requirements for Streaming Media .....	199
6.4.2	Streaming Media Markets Analysis .....	199
6.5	WiFi.....	202
6.5.1	Comparing WiFi in NA and Europe.....	204
6.5.2	WiFi Market Drivers .....	206
6.5.2.1	Internet Growth .....	206
6.5.2.2	Home Computing Devices .....	208
6.5.2.3	Mobile Computing Devices.....	209

6.5.2.4	Wireless Internet Access .....	211
6.5.3	WiFi Market Segments.....	211
6.5.4	WiFi Market Forecasts .....	213

## Chapter VII

### **Enterprise Telecommunications Markets ..... 215**

7.1	Private Lines .....	215
7.1.1	Evolution in the Private Line Services Market .....	215
7.1.2	Circuit Types .....	217
7.1.2.1	56 Kbit/s Circuits .....	217
7.1.2.2	64 Kbit/s Clear-Channel Circuits (DS0).....	217
7.1.2.3	Fractional T1 Circuits.....	217
7.1.2.4	T1 Circuits (DS1).....	218
7.1.2.5	Fractional T3 Circuits (Fractional DS3).....	218
7.1.2.6	T3 Circuits (DS3).....	219
7.1.2.7	Optical Carrier Circuits .....	220
7.1.3	SONET, IP and Private Lines.....	220
7.1.4	Private Line Circuit Layout .....	223
7.1.5	Redundancy & Restoration.....	224
7.1.6	Private Line Market Analysis .....	227
7.2	800 Services & Call Centers .....	232
7.2.1	The Growth of Toll-Free Calling.....	232
7.2.2	Call Centers and Toll-Free Calling.....	236
7.2.3	The Rise of the Contact Center.....	240
7.2.4	Toll Free Market Forecast .....	240
7.3	Enterprise Adoption of IP PBX and IP Centrex.....	242
7.3.1	Market Segments .....	245
7.3.2	Centrex .....	246
7.3.3	IP PBX.....	250
7.3.4	IP PBX and IP CENTREX Market Analysis.....	253

## Appendix

### **GLOSSARY ..... 256**

## TABLE OF FIGURES

### Chapter II

II-1	Broadband Services Revenue Distribution, 2005-2010 (Percentage)	12
II-2	EMEA Broadband Wireline Revenue, 2005-2010 (\$Millions)	17
II-3	Asia-Pacific Broadband Wireline Revenue, 2005-2010 (\$Millions)	18
II-4	LAC Broadband Wireline Revenue, 2005-2010 (\$Millions)	20
II-5	Impact of New Wireless Data Service Usage on Average Revenue per User	25
II-6	Cable Service Provider Telephone Service Delivery Model: Total Potential for Small Businesses, 2003 and 2009 (\$Millions)	34

### Chapter III

III-1	Public Communication Network Architecture	36
III-2	SONET Ring Configuration	41
III-3	Hierarchy of Broadband Switch Functions	49
III-4	US Broadband Switches Compared with Increase in Throughput, 2000-2006	52
III-5	US Broadband Switch Revenue, 2001-2006 (\$Millions)	53
III-6	Typical National Data Core Network	54
III-7	Core Network Configurations by Type of Traffic Pattern	57
III-8	Worldwide Gateway Revenue Forecast, 2003-2008 (\$Thousands)	67
III-9	Softswitch Architecture Diagram	69
III-10	Circuit vs. Packet Switching of Internet Traffic	74
III-11	Switched Optical/Electrical Networks vs. All-Optical IP Meshed Networks	80
III-12	Total ADM Revenue, 2003 and 2008 (\$Millions)	85
III-13	Origins of the Digital Cross Connect	87
III-14	Evolution of the Digital Cross Connect	87
III-15	Long-Haul DWDM System	91
III-16	Two Ways to Expand DWDM Capacity	92
III-17	Total SONET/SDH Terminal Market, 2000-2008 (\$Billions)	99
III-18	Total DWDM Sales, 2000-2008 (\$Billions)	101
III-19	ITU-T Wavelength Spacing Grid for DWDM Systems (Nanometers)	104
III-20	DWDM Bands Around 1550 Nanometers	105
III-21	Worldwide Optical Components Market, 2000-2008 (\$Billions)	115
III-22	Four-Wave Mixing	118
III-23	Fiber Deployment Percentage of Total by Region, 2000 vs. 2008	123

## Chapter IV

IV-1 US Access Line Annual Additions, 1985-2002 (Millions) .....	126
IV-2 US LEC Access Line Quarterly Additions, 1999-2003 (Thousands) .....	128
IV-3 US Wireline Access Annual Reductions, 2001-2008 (Thousands).....	129
IV-4 Online Computers: Residences vs. SMEs, 2004-2008 (Thousands).....	134
IV-5 Online Residences, Broadband vs. Narrowband Connections, 2004-2008 (Thousands).....	135
IV-6 HFC Architecture Providing Video and Voice Services.....	140
IV-7 Total RBOC Cash Expense Per Line In Service .....	145
IV-8 WiFi Hotspot Locations by Gloal Region, 2003-2008 .....	149

## Chapter V

V-1 OSS Dataflow .....	155
V-2 Business Operations Systems Dataflow .....	155
V-3 Worldwide Total OSS Sales Revenue Forecast 2005-2010 (Thousands).....	166

## Chapter VI

VI-1 US Total Wireline Revenue, 2003-2008 (\$Billions).....	172
VI-2 US Wireline Expenditures by Business vs. Residential, 2003-2008 (\$Billions).....	174
VI-3 Residential Wireline LD Minutes per Month, 1997-2003 .....	175
VI-4 Residential Wireless LD Minutes per Month, 1998-2003 .....	176
VI-5 Total Residential LD Minutes per Month, 1998-2003 .....	177
VI-6 Distribution of Residential Wireless LD in Minutes, 1998-2003 .....	178
VI-7 Distribution of Residential Wireline LD in Minutes, 1997-2003 .....	179
VI-8 Residential Wireline LD Call Duration, 1995 to 2003.....	180
VI-9 Residential Wireline Monthly Usage 1998-2003.....	181
VI-10 Average Monthly Residential Telecommunications Spending, 1995-2003 .....	183
VI-11 LD Price per Minute, 1992-2003 .....	184
VI-12 Worldwide Voice Revenues, VoP vs. Circuit, Wireline vs. Wireless, 2002-2007 (\$Millions).....	186
VI-13 US Total Streaming Media Market, 2003-2008 (\$Millions).....	201
VI-14 Years to reach 50 Million Users (Radio, TV, PCs, Internet) .....	207
VI-15 Global Internet Usage by Region, 2003-2008 (Millions of Internet Users).....	208
VI-16 Growth of Global Mobile Computing Usage by Region, 2003-2008 (Millions of Mobile Computing Devices).....	209
VI-17 Global Handheld Usage by Region, 2003-2008 (Millions of Devices in Use) .....	210

## Chapter VII

VII-1 Capacities of 64 Kbit/s, T1, and T3 Circuits.....	219
VII-2 Typical Layout for a Full Circuit .....	223
VII-3 ISDN Switched Backup .....	224
VII-4 SONET Rings .....	225
VII-5 Fiber-to-Fiber Redundancy .....	226
VII-6 Cable-to-Cable Physical Redundancy (Diverse Cable Redundancy).....	227
VII-7 Milestones in Toll-Free Services, 1967-2004 .....	233
VII-8 Spare Toll-Free Numbers, 1993-2002 (Numbers Millions).....	235
VII-9 Single Site Call Center Components.....	237
VII-10 Multi-Site Call Center Components .....	238
VII-11 Total Toll-Free Revenue, 1997-2009 (\$Billions) .....	242
VII-12 Legacy Centrex Installed Base, 1995-2003 (Extensions Millions).....	247
VII-13 Comparison of Total Premises vs. Centrex Installed Base 1995-2009 (Extensions Millions).....	254
VII-14 Total Addressable Market: Premises Equipment Revenue (\$Billions).....	255

## TABLE OF TABLES

### Chapter I

I-1 Global Carrier Revenue by Region, 2005-2010 (\$Millions).....	2
---	---

### Chapter II

II-1 Global Carrier Revenue by Region, 2005-2010 (\$Millions).....	7
II-2 2005 and 2010 Distribution of Global Carrier Revenue by Region.....	7
II-3 Service Provider Revenues (\$Millions).....	8
II-4 Worldwide Telecom Revenue Forecast by Services Category, 2005-2010 (\$Millions).....	11
II-5 Broadband Consumer Applications and Required Bandwidth.....	14
II-6 N. American Broadband Wireline Revenue By Market Segment 2005-2010 (\$ Millions).....	16
II-7 Revenue for 2G, 2.5G, and 3G Market Segments by Region, 2005-2010 (\$Millions).....	22
II-8 Examples of 2.5G and 3G Services.....	23
II-9 Four MSO Voice Delivery Options.....	31
II-10 Top 30 Cable Service Providers: SME Businesses in All US Markets.....	32

### Chapter III

III-1 Definitions of Digital Private Line Services.....	40
III-2 SONET Data Rates.....	41
III-3 Characteristics of Network Switching Methods.....	44
III-4 Distinctions between POTS and Data Networks.....	45
III-5 Network Locations of Broadband Switches.....	50
III-6 Gateway Functions.....	66
III-7 Softswitch Advantages/Disadvantages.....	70
III-8 Economic Benefits of Softswitch Technology.....	73
III-9 Strategies to Increase Network Service Margins.....	75
III-10 Softswitch Revenues and Estimated Growth, 2000-2007.....	77
III-11 OADM Applications.....	84
III-12 Typical Features of First Generation Metropolitan vs. Long-Haul DWDM Networks.....	93
III-13 Wavelength Market Segments.....	96
III-14 Typical Service Providers Offers for Native Wavelength Services.....	97
III-15 Typical Service Providers Offers for Wavelength Services Over SONET.....	98
III-16 Wavelength Services Revenue Totals, 2001-2009 (\$Millions).....	98
III-17 ITU-T Frequency and Wavelength Grid for DWDM Systems.....	104
III-18 Fiber Deployment by Region, 2000-2008 (Gigameters).....	123

## Chapter IV

IV-1 Broadband Communication Network Access Solutions .....	131
IV-2 Slowing Growth in High Speed Access Services, 1999-2003 .....	133
IV-3 NA Broadband Connections, Residences vs. SMEs, 2004-2008 (Thousands) .....	134
IV-4 NA Residential Broadband Connections by Service Type, 2004-2008 (Thousands) .....	136
IV-5 NA SME Broadband Connections by Service Type, 2004-2008 (Thousands) .....	136
IV-6 The Versions and Features of xDSL .....	138
IV-7 FBW Unlicensed, Licensed Microwave, and Licensed Millimeter Spectrum .....	147

## Chapter V

V-1 OSS Definitions Summary.....	153
V-2 Characteristics of Broadband Network Management .....	164
V-3 Distinct Characteristics of Packet Broadband Network Management .....	165
V-4 Worldwide OSS Sales by Region, 2005-2010 (\$Millions) .....	168
V-5 Worldwide OSS Sales Distribution by Region, 2005 and 2010.....	168
V-6 Worldwide OSS Sales Revenue, Wireline vs. Wireless, 2005-2010 (\$Millions) .....	169
V-7 Worldwide OSS Sales Revenue by Service Type, 2005-2010 (\$Millions).....	170

## Chapter VI

VI-1 US Total Wireline Revenue by Type of Provider, 2003-2008 (\$Billions).....	173
VI-2 US Business Wireline Revenue by Type of Provider, 2003-2008 (\$Billions).....	174
VI-3 NA IP Applications Services Revenues by Type, 2002-2007 (\$Millions) .....	197
VI-4 US Total Streaming Media Market, 2003-2008 (\$Millions).....	201
VI-5 802.11 Standards Definitions.....	203
VI-6 Total Worldwide WiFi Revenue, 2003-2008 (\$Billions).....	213

## Chapter VII

VII-1 Digital Services Hierarchy .....	221
VII-2 SONET/Optical Carrier Hierarchy.....	222
VII-3 Total Private Line Revenue 2000-2009 (\$Millions) .....	230
VII-4 Call Center Toll-free Usage by Transaction Type .....	239
VII-5 Total Toll-Free Revenue, 1997-2009 (\$Billions).....	242
VII-6 Pure IP Centrex Service Provider Comparison .....	248