



# Telecom Market Research

from

## Millennium-Skyline Project

### New Reports

- **An Excess of Access: U.S. Access Equipment Market Brief, Issue 2**  
December 2003, 124 pages, 76 exhibits
- **A Switch To Packet: U.S. Central Office Switch Market Brief**  
December 2003, 102 pages, 57 exhibits

# An Excess of Access: U.S. Access Equipment Market Brief, Issue 2

“**An Excess of Access: U.S. Access Equipment Market Brief, Issue 2**” is a fresh look at the telco access market in the Internet Age. The Report identifies three key factors shaping the market: 1) The Telecommunications Act of 1996 and the Triennial Review; 2) The rise of the Internet; and, 3) The collapse of carrier capex. It looks at their impact and explains why the “*Next-Generation DLC*”, may be the “*Last-Generation DLC*”. Data, packet, and fiber are the new enabling technologies for triple-play services delivery.

Marketers and analysts rely on the FCC’s ARMIS database for market statistics. Several telcos have reported incorrect data, so the current ARMIS is flawed. The authors have traced the flawed data to its sources and conducted extensive primary research to correct it. The corrected data through year-end 2002 is supplemented and cross-referenced with data from other public and private sources.

The Report contains the only accurate statistics on the access market available today. Its key findings include: DLC penetration has saturated at 25% of total Working access lines; only 18% of access lines are on fiber, 53% of Equipped DLC line capacity is unused; 49% of loops are longer than 9 Kft; DLC RTs average about 200 lines; 84 % of RTs are 400 lines or less; only 8% of DLC lines are broadband-ready; 49% can’t be upgraded for broadband; DSL lines are growing at 32% a year, and FTTP will be available to over 13 million living units, 80% residential, by 2008.

The Report concludes that telcos must reshape their access infrastructures, designed and built for the POTS-Era, for the new market realities and Internet-Age competition. Equipment suppliers must revise their product plans and marketing priorities accordingly.

Published December 2003, 124 pages, 76 exhibits, **Table of Contents** enclosed.

## An Excess of Access: U.S. Access Equipment Market Brief, Issue 2

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# A Switch to Packet: U.S. Central Office Switch Market Brief

“**A Switch to Packet: U.S. Central Office Switch Market Brief**” takes a hard look at the U.S. central office switch market, on the brink of a massive conversion from legacy circuit-switched systems to packet switches for the Internet Age. The Report identifies three key factors shaping the market: 1) The current installed base of nearly 24,000 switches is at the end of its technology life-cycle. 2) Packet switches are needed to accommodate multimedia services that will drive new revenue streams for the telcos. 3) Telcos must find ways of reducing their high opex in order to win and retain residential and business subscribers in a new era of Internet-Age competition. The Report looks at the prospects for the circuit-to-packet (C2P) conversion in the aftermath of the Triennial Review, and explains why C2P will be the fastest switch replacement cycle in telecom history. CO capital investment could reach \$40 billion over the next 15-20 years.

The Report contains the only accurate statistics on the switching market available today, and is the first in-depth CO market report in 10 years. It's key findings include: POTS lines are no longer growing while broadband lines grow at 35% a year; the CO switch/end office (EO) installed base is static at about 24,000; 70% are small -- under-5,000 lines; 56% of small COs are in IOCs; 18% are in VZ\_GTE; only 21% of all EOs are over 10,000 lines, mainly in the RBOCs; host/remote associations account for 70% of all EOs, with standalone EOs at 26%; IOCs are likely to roll out C2P faster than RBOCs; incumbent vendors, Nortel and Lucent have over 80% of combined switch market share but their futures are not assured.

The Report concludes that C2P is a massive replacement cycle for which the industry is just at the threshold, and telcos have alternatives for how C2P is applied in their networks. Incumbent and upstart switch vendors alike must work closely with telcos to apply packet technology and products in their respective networks in a service-enhancing and cost-effective manner. Equipment suppliers must tailor product plans and set marketing priorities accordingly.

Published December 2003, 102 pages, 57 exhibits, **Table of Contents** enclosed.

**A Switch To Packet: U.S. Central Office Switch Market Brief**  
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<p><b>1.0 Executive Summary</b>  Key Findings  Strategic Marketing Considerations  Purpose, Scope and Methodology</p> <p><b>2.0 Introduction</b>  Switches and Switching Industry Structure  Switching Technology Evolution  Circuit-to-Packet Demand Determinants  CO Market Outlook  ILEC Capital Expenditures  CALEA Implications</p> <p><b>3.0 ILEC Switching Analysis</b>  BellSouth  Qwest (US West)  SBC_Southwestern Bell  SBC_Pacific Telesis  SBC_Ameritech  Verizon_Bell Atlantic  Verizon_GTE  Independent Telcos  Sprint LTD  The Other IOCs</p> <p><b>4.0 CO Switch Market Analysis</b>  Small Switch Market  Host/Remote Relationships  Switch Technology Life Cycles  Replacement Drivers  Access Gateways  Space and Power Implications  Switching Equipment Suppliers  C2P Is Already Beginning</p> <p><b>5.0 Strategic Marketing Considerations</b></p>	<p><b>Exhibits</b>  <b>COs in the U.S.</b>  ILECs, On A Scale Of  Realignments and Consolidations  A Telco's Local Network  Major Telco Switches By Application  Circuit-to-Packet  ILEC Network Before C2P  ILEC Network After C2P  CO Switch Demand Determinants  Access Line Growth  ILEC CapEx, 2000-2004e  BellSouth_Quick Stats  BLS Total Switches &amp; Lines  BLS Switches By Technology  BLS Switches By Application  BLS Switches By Application, 2002  Qwest_Quick Stats  Q Total Switches &amp; Lines  Q Switches By Technology  Q Switches BY Application  Q Switches By Application, 2002  SBC Communications_Quick Stats  SBC_SWB Total Switches &amp; Lines  SBC_SWB Switches By Technology  SBC_SWB Switches By Application  SBC_SWB Switches By Application, 2002  SBC_PT Total Switches &amp; Lines  SBC_PT Switches By Technology  SBC_PT Switches By Application  SBC_PT Switches By Application, 2002  SBC_AIT Total Switches &amp; Lines  SBC_AIT Switches By Technology  SBC_AIT Switches By Application</p>	<p>SBC_AIT Switches By Application, 2002  Verizon Communications_Quick Stats  VZ_BA Total Switches &amp; Lines  VZ_BA Switches By Technology  VZ_BA Switches By Application  VZ_BA Switches By Application, 2002  VZ_GTE Total Switches &amp; Lines  VZ_GTE Switches By Technology  VZ_GTE Switches By Application  VZ_GTE Switches By Application, 2002  IOC Working Access Lines (at December 31, 2002)  Sprint LTD  Sprint LTD Network Profile Summary  ILEC Revenue Streams  Switch Installed Base By Line Size  Switch Line Size By ILEC  Average EO Switch Size  REOs per HEO In Major ILECs  ILEC Switches by Technology  EO Replacement Cycles  A2D: 1984 through 2002  Switch Market Players  C2P Supplier Potential  CALEA Reference Model</p> <p><b>Appendices</b>  I. Communications Assistance for Law Enforcement Act (CALEA)  II. RBOC/IOC CapEx Data, 2000-2004e  III. About Millennium-Skyline Project</p>
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# About Millennium-Skyline Project

## Mission

Millennium-Skyline Project is a collaboration of two seasoned and experienced telecommunications industry consultants.

We formed Millennium-Skyline Project to provide hard data for sound marketing and management decisions in these challenging times.

Our mission: to produce the most accurate, and actionable telecom market intelligence available anywhere. In every report, we bring to bear the full scope of our extensive industry knowledge and experience. Our focus and expertise is in the local exchange equipment market. We are systematically developing a series of research reports that encompass local exchange infrastructure. Local exchange networks are undergoing the most dramatic transformation in the telecom industry's 125+ year history. Moreover, local exchange networks will be the focus of telco capital expenditures for at least the next decade. We already cover the Access and CO Switch equipment markets in our current reports. Upcoming reports will cover:

- Independent Operating Companies
- Telecom Market In Canada
- Major Telco Profiles
- Vendor Strategic Analyses

## Principals

### John M. Celentano

John is founder and President of Skyline Marketing Group, a research and consulting firm that focuses on public network infrastructure markets.

John has more than 32 years experience in telecommunications engineering, marketing/sales, management, and consulting beginning at Bell Canada and continuing through Nortel Networks and Northern Business Information (now Gartner).

He founded Skyline Marketing Group in 1990.

### Kermit L. Ross

Kermit is founder and Principal of Millennium Marketing.

Kermit has over 39 years in the telecommunications industry, beginning with 10 years at Indiana Bell. He later served in sales, marketing and executive positions at Raychem, Danavox (now GN Netcom), Seiscor Technologies, Optilink (now Alcatel), Teltone, Teledata (now ADC) and Taqua Systems.

He founded Millennium Marketing in 1996.

# MSP Report Prices and Ordering Information

## An Excess of Access: U.S. Access Equipment Market Brief, Issue 2

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## A Switch to Packet: U.S. Central Office Switch Market Brief

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