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Cisco Systems

connections 2000

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Cisco Systems connections 2000

Success in an Internet Revolution

Kevin DeNuccio

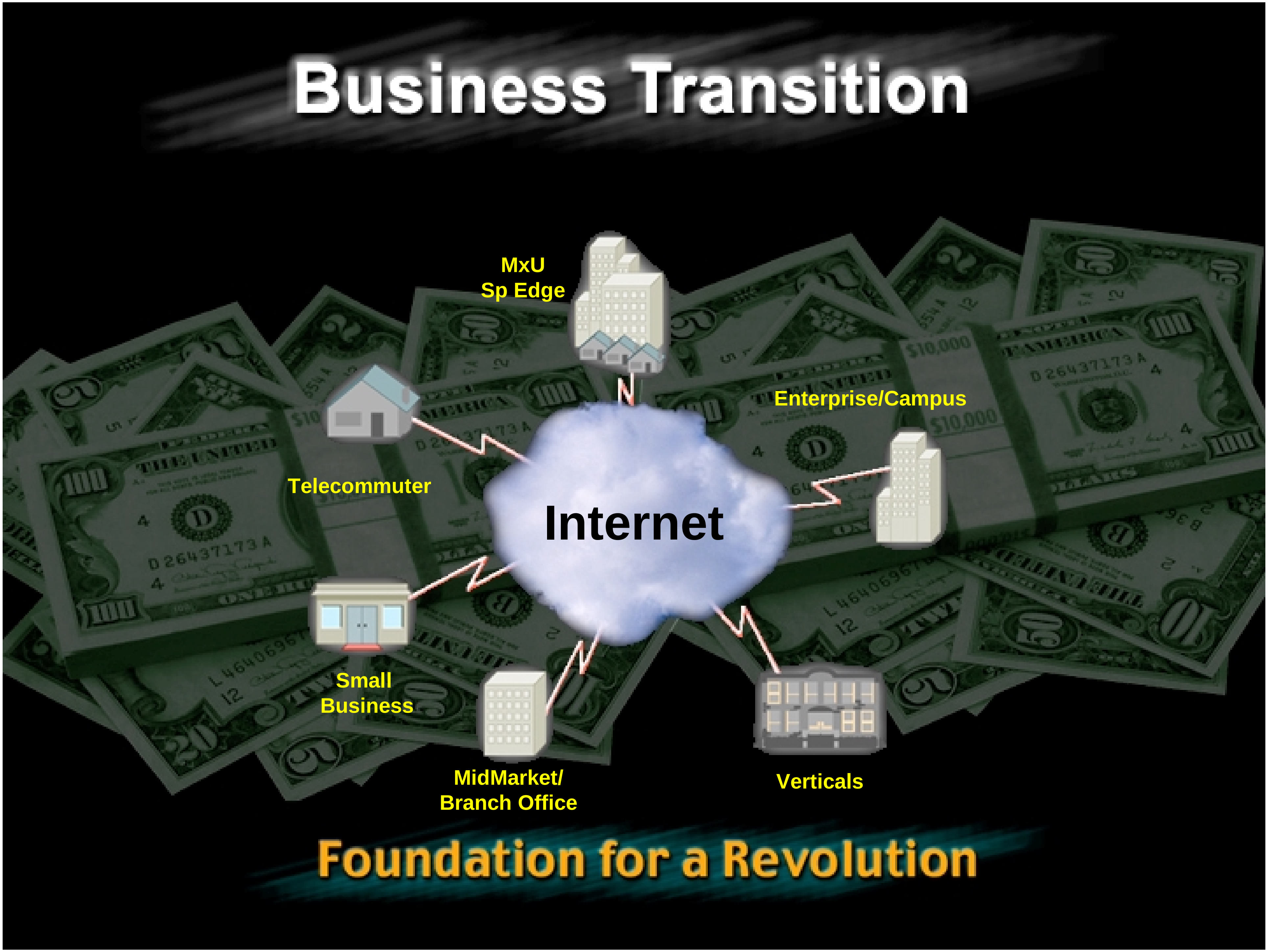
Sr. VP, WW Service Provider Operations, Cisco Systems

Success in an Internet Revolution

Network Success

Customer Success

Financial Success


Business Transition
MxU
Sp Edge
Enterprise/Campus
Telecommuter
Internet
Small
Business
MidMarket/
Branch Office
Verticals
Foundation for a Revolution

Success in an Internet Revolution

The ultimate question for you:

"How do we make money in the Internet economy?"

Answer: Internet Business Models

Transactional Revenue Streams
Radical Economics
Service Velocity
Disintermediation

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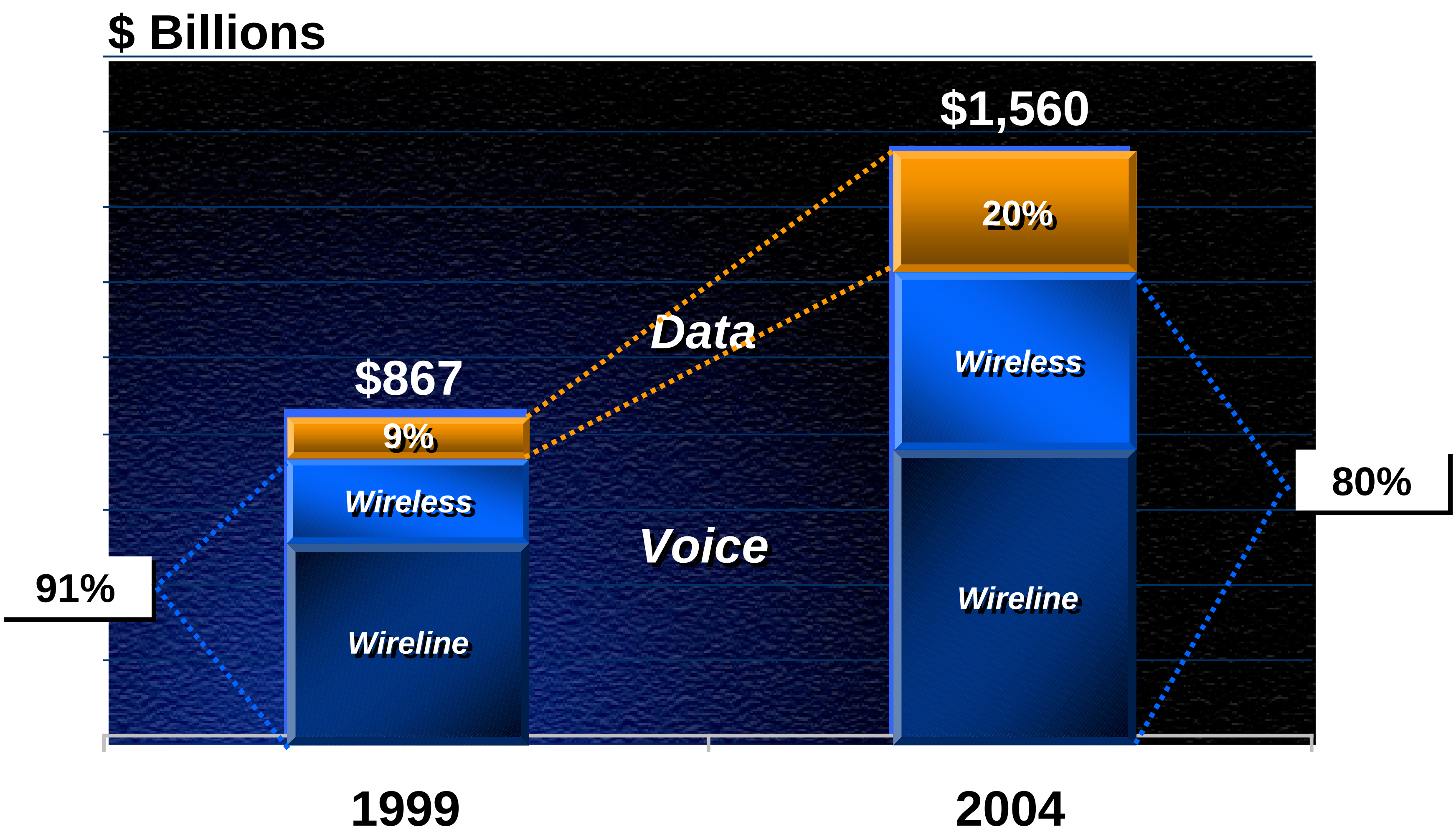
Global Telco Service Revenues



Sources: IDC; Dataquest; Internet Research Group; Forrester; Morgan Stanley Dean Witter; Veronis, Suhler & Assoc.; Cisco Analysis

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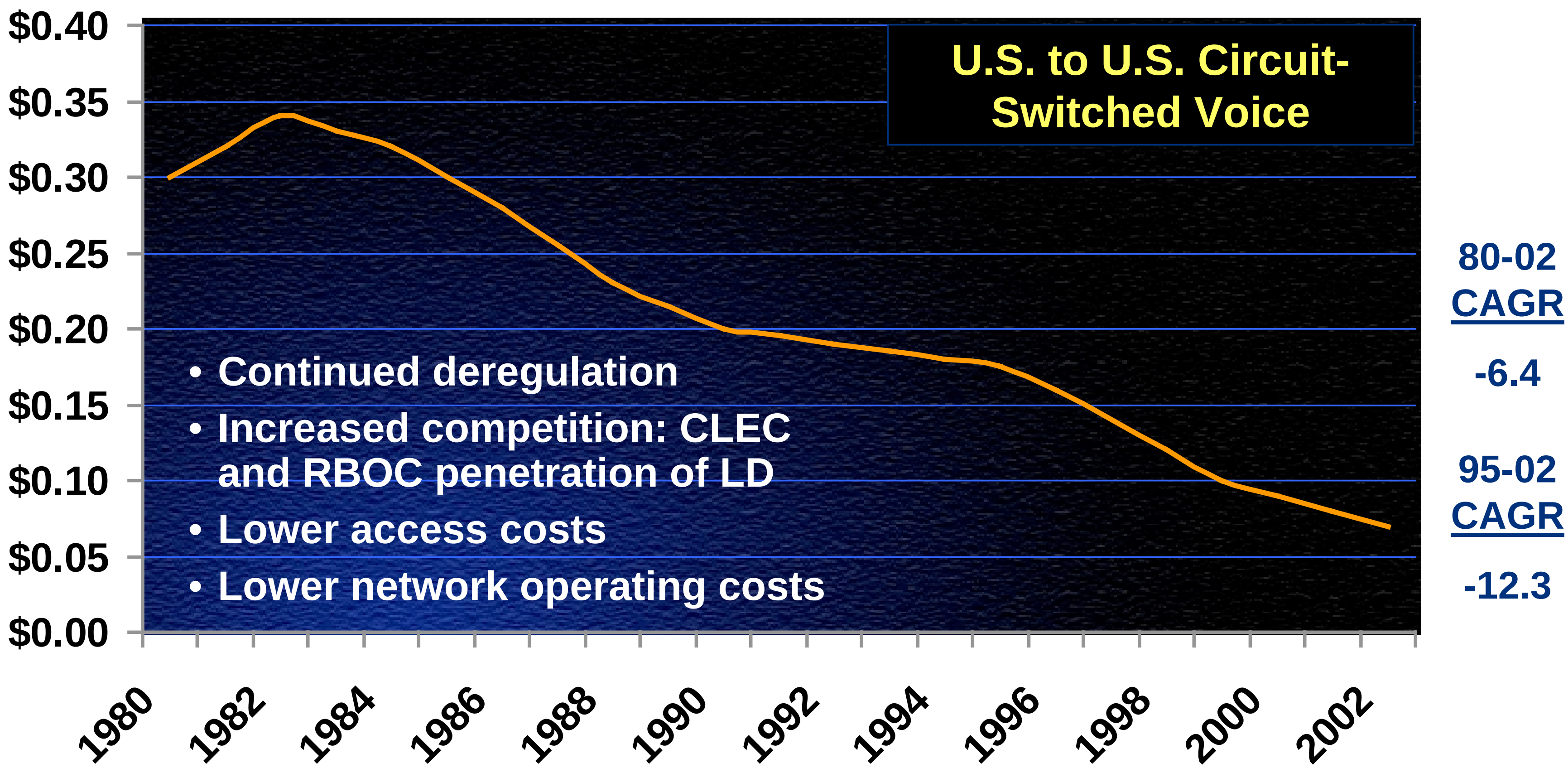
Falling Prices: U.S. Interstate Long Distance (Voice)

U.S. Interstate Long Distance Price per Minute



Source: FCC; Dataquest; IDC Packetized Voice Services (January 1998)

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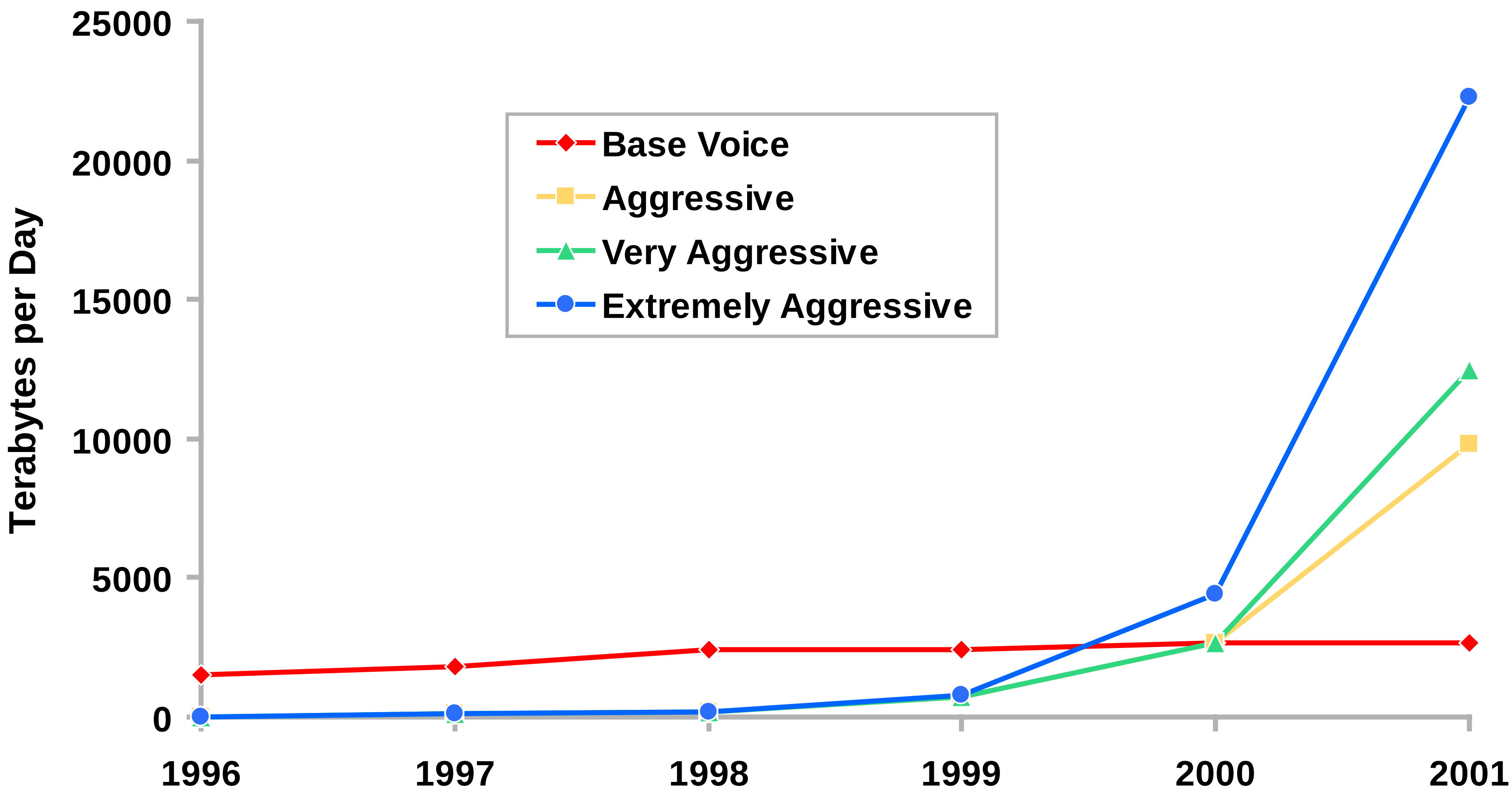
The Bandwidth Explosion Continues



Source: Merrill Lynch

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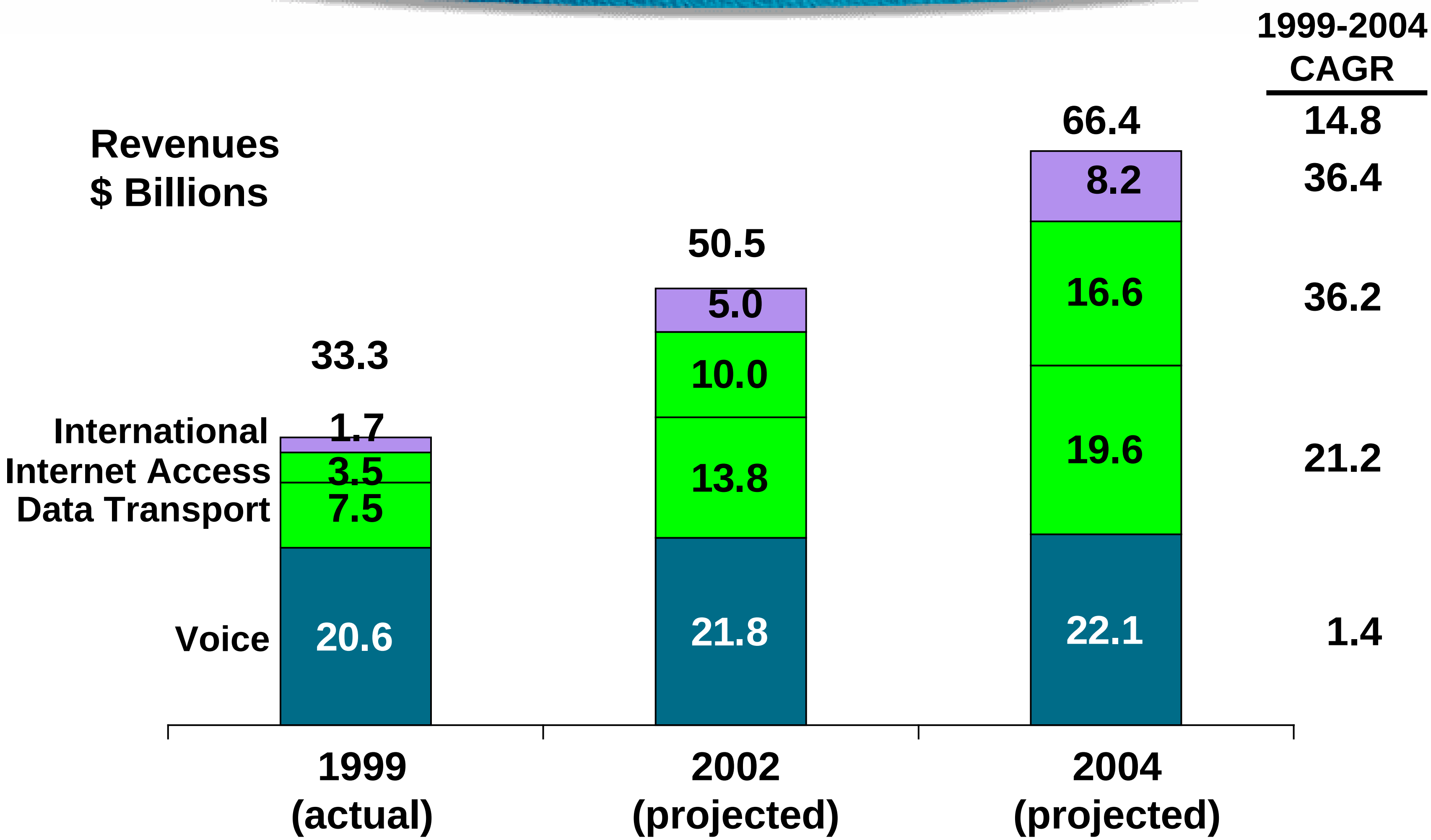
WorldCom: Revenue Growth in Data Transport, Access



Source: MCI Worldcom,
Salomon Smith Barney
Note: Excludes Skytel in 1999

Voice: Local and LD for residential, business, and carrier/wholesale
Data Transport: FR, ATM, private line for commercial and carrier/wholesale
Internet Access: Dial-up and dedicated, including hosting, security, VPN services
International: voice, data, internet for international

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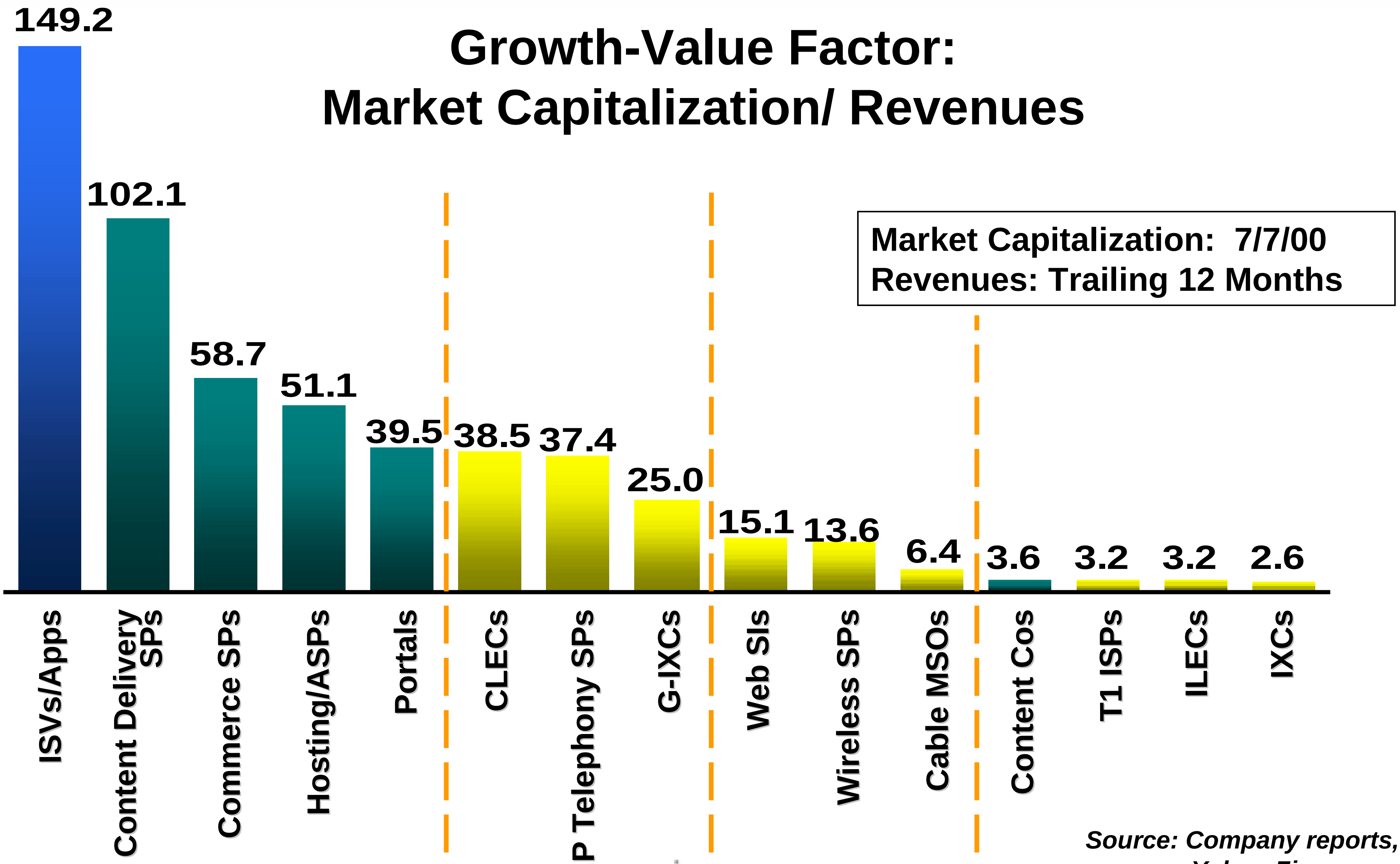
Market Values New World Solutions: The Growth-Value Factor



Source: Company reports, Yahoo Finance

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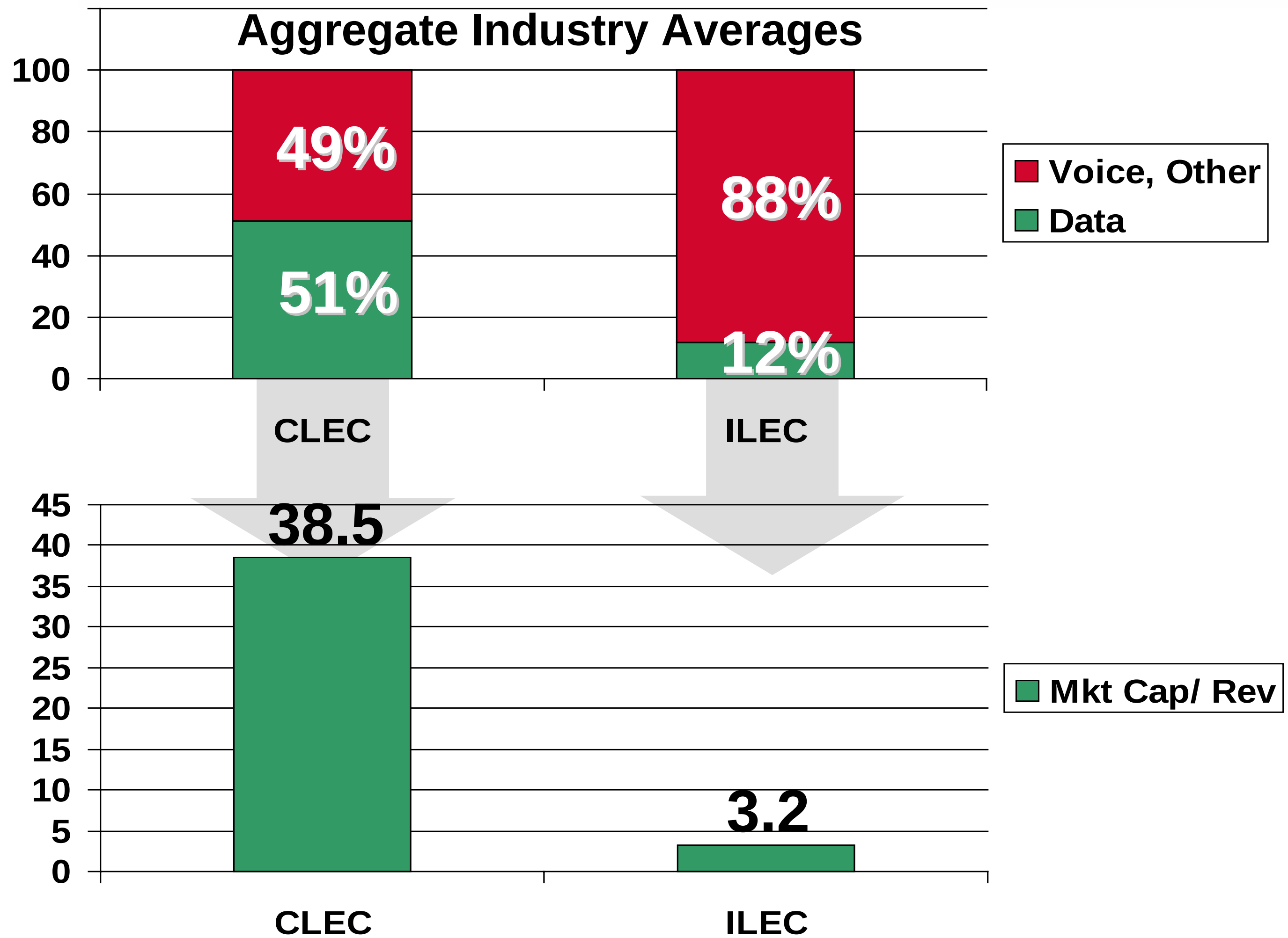
Market Values Data-focused CLECs more than ILECs

Data as Percent of Revenues

Market Cap over Revenues



Sources: New Paradigm Resources Group, Paine Webber, Yahoo Finance
Represents aggregation across CLEC industry and ILEC industry
Note: Market Cap for 7/7/00; trailing 12 month revenues (usually through 12/31/99)

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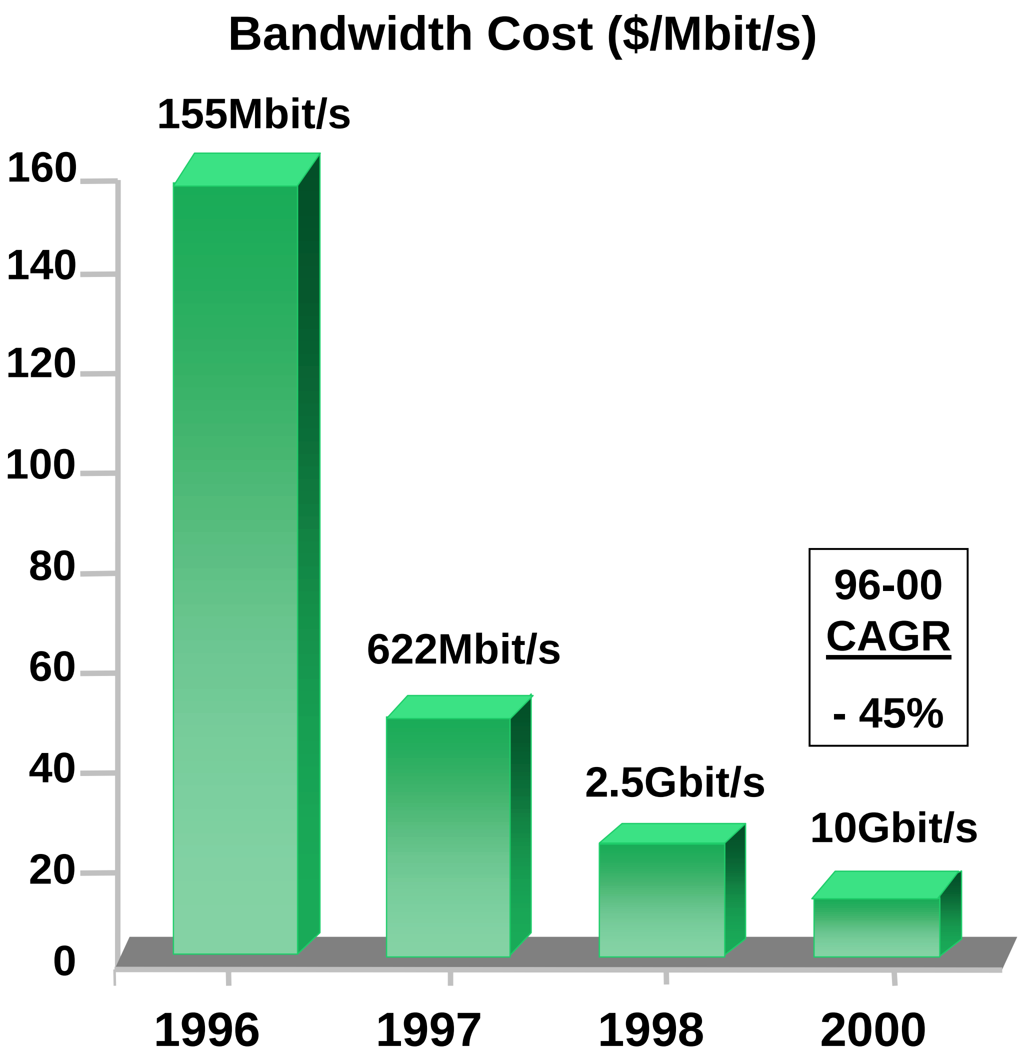
Falling Prices: The Dropping Costs of Bandwidth



Source: Ryan, Hankin and Kent and Internal Data

"… the combination of fiber and DWDM—is doubling in price/performance 100 percent a year, which makes Moore's Law look slow in comparison. Routing is improving at roughly the same rate as microprocessors—doubling every 18 months, 67 percent a year. If your internal cost to move a bit a mile in a second drops at 50 to 60 percent a year, then you ought to be dropping your prices at about that same rate."

James Q. Crowe, CEO Level (3)
tele.com, September, 1998

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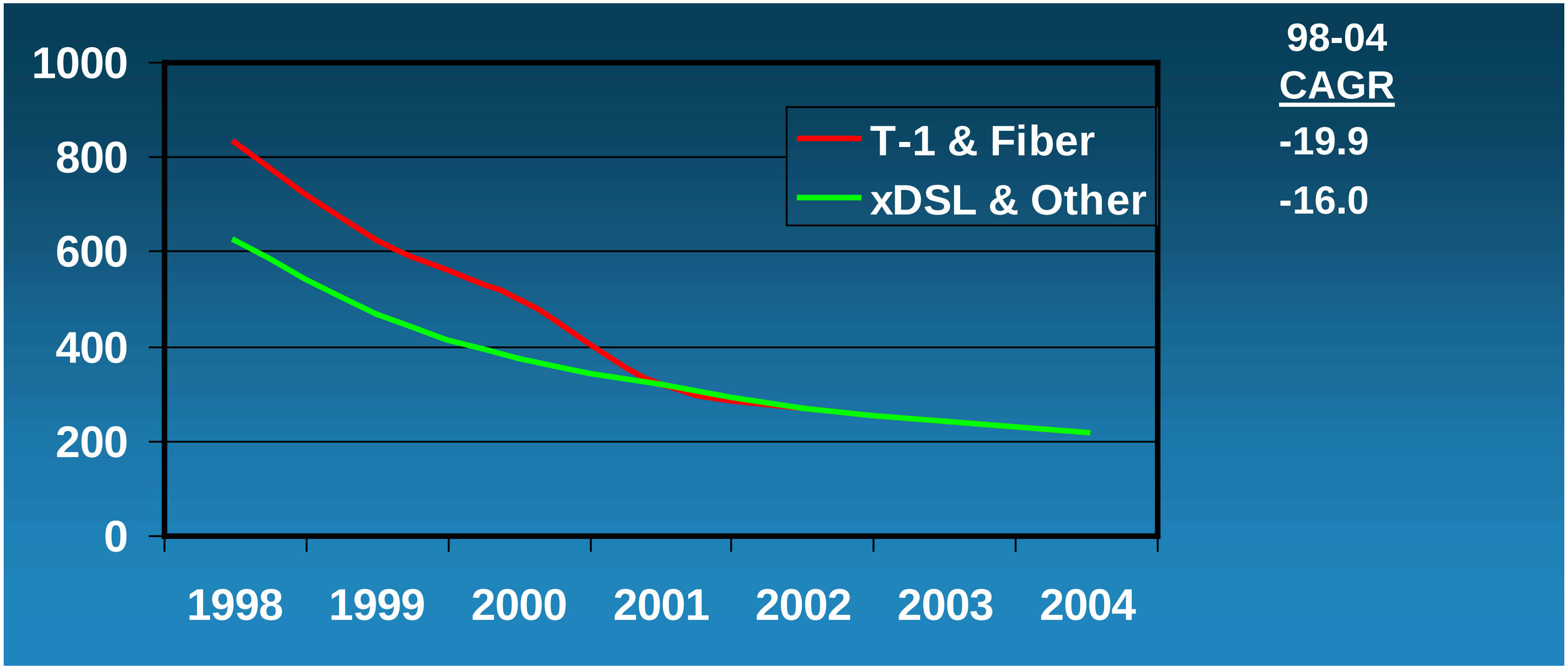
Falling Prices: Internet Access for U.S. Businesses

U.S. Business Internet Access Market Forecast
Average $ per Mb per month



Source: Morgan Stanley Dean Witter, August 1999

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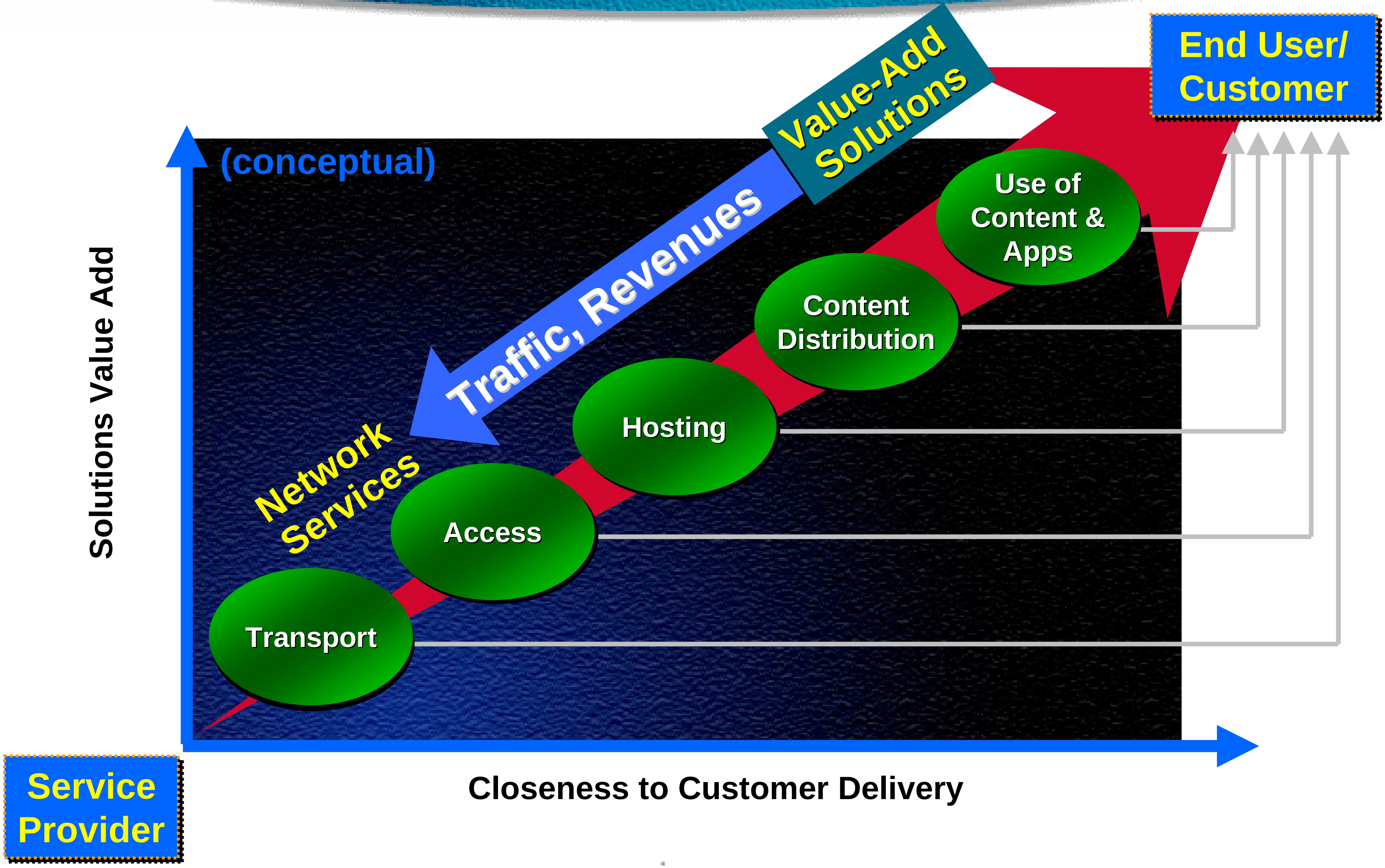
The Main Point: Get Closer to the Customer



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SP Industry Disruption: Waves of Opportunity

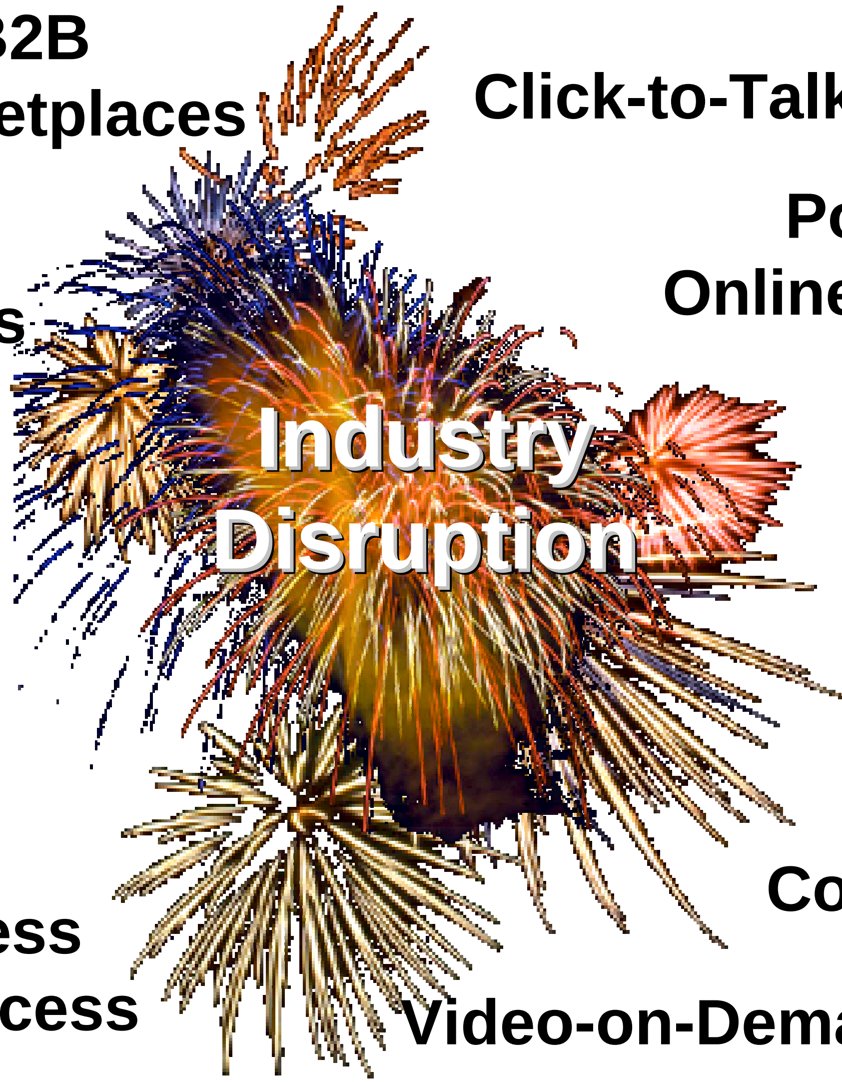
B2B
eMarketplaces

Click-to-Talk

eCRM

Portals/
Online Services

Hosted
Applications



IP Telephony

Web
Conferencing

eCommerce

Unified
Messaging

Online
Communities

Wireless
Web Access

Video-on-Demand

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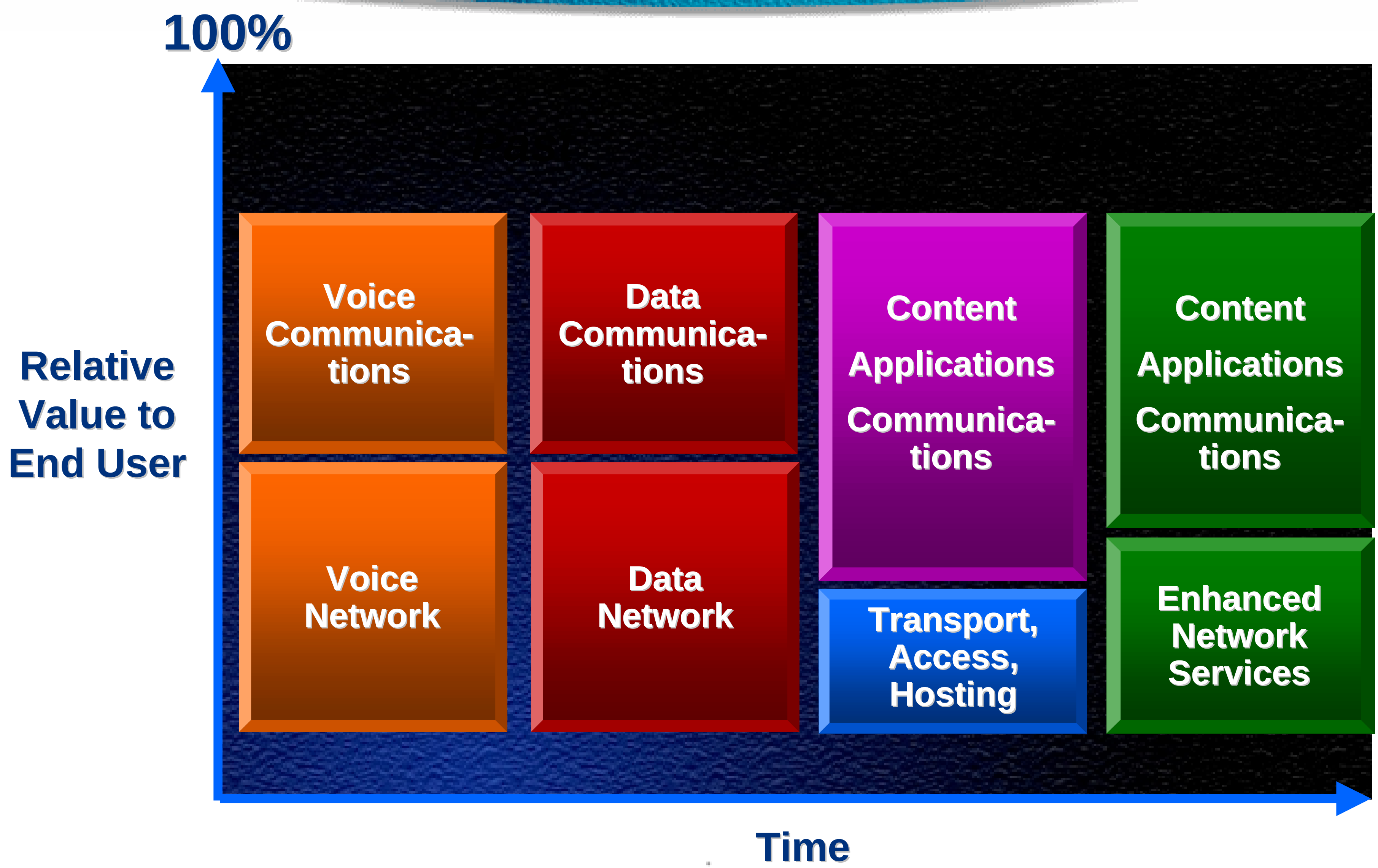
More Value Delivered Over the Network



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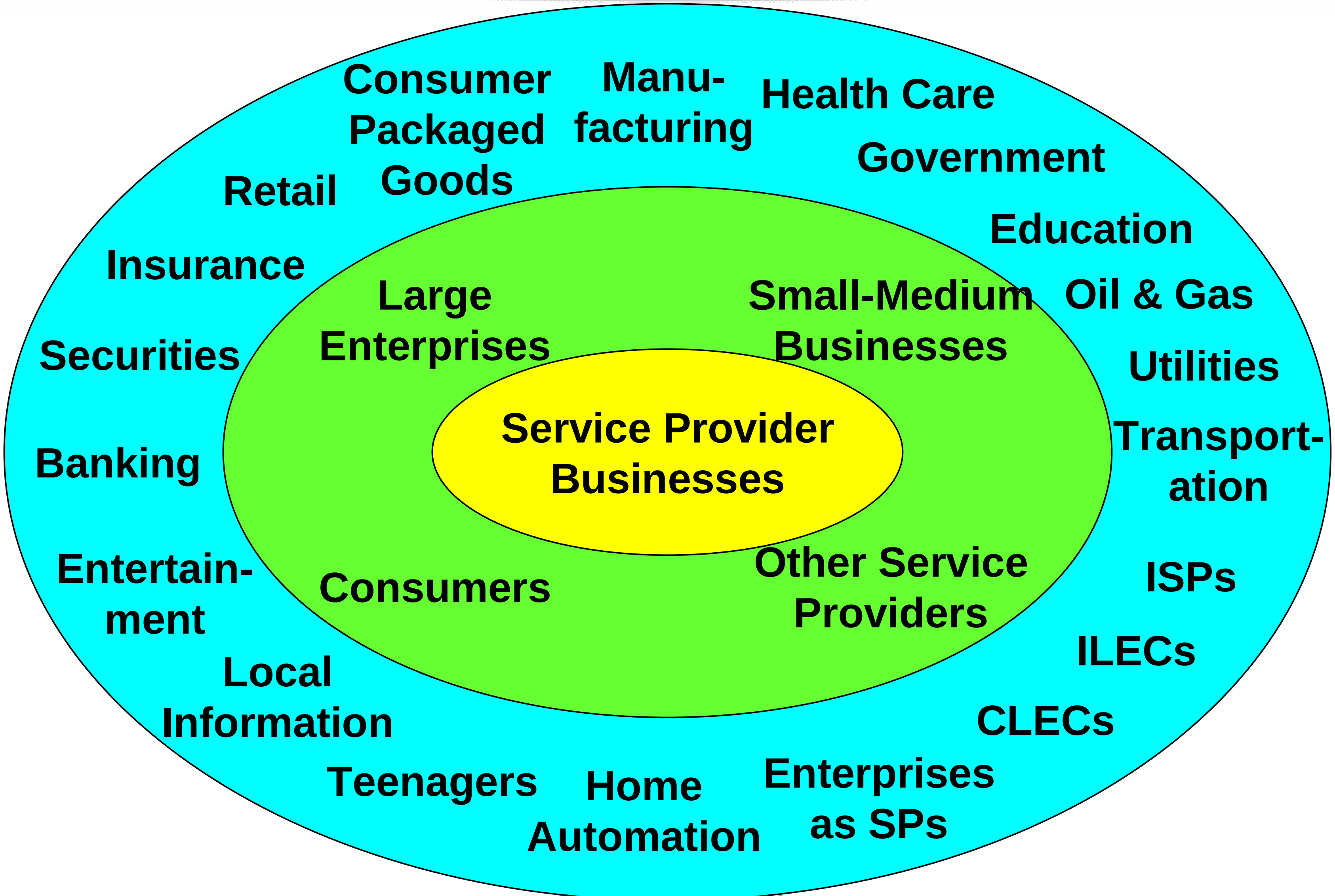
Which Businesses, Customers, Industries Do You Serve?



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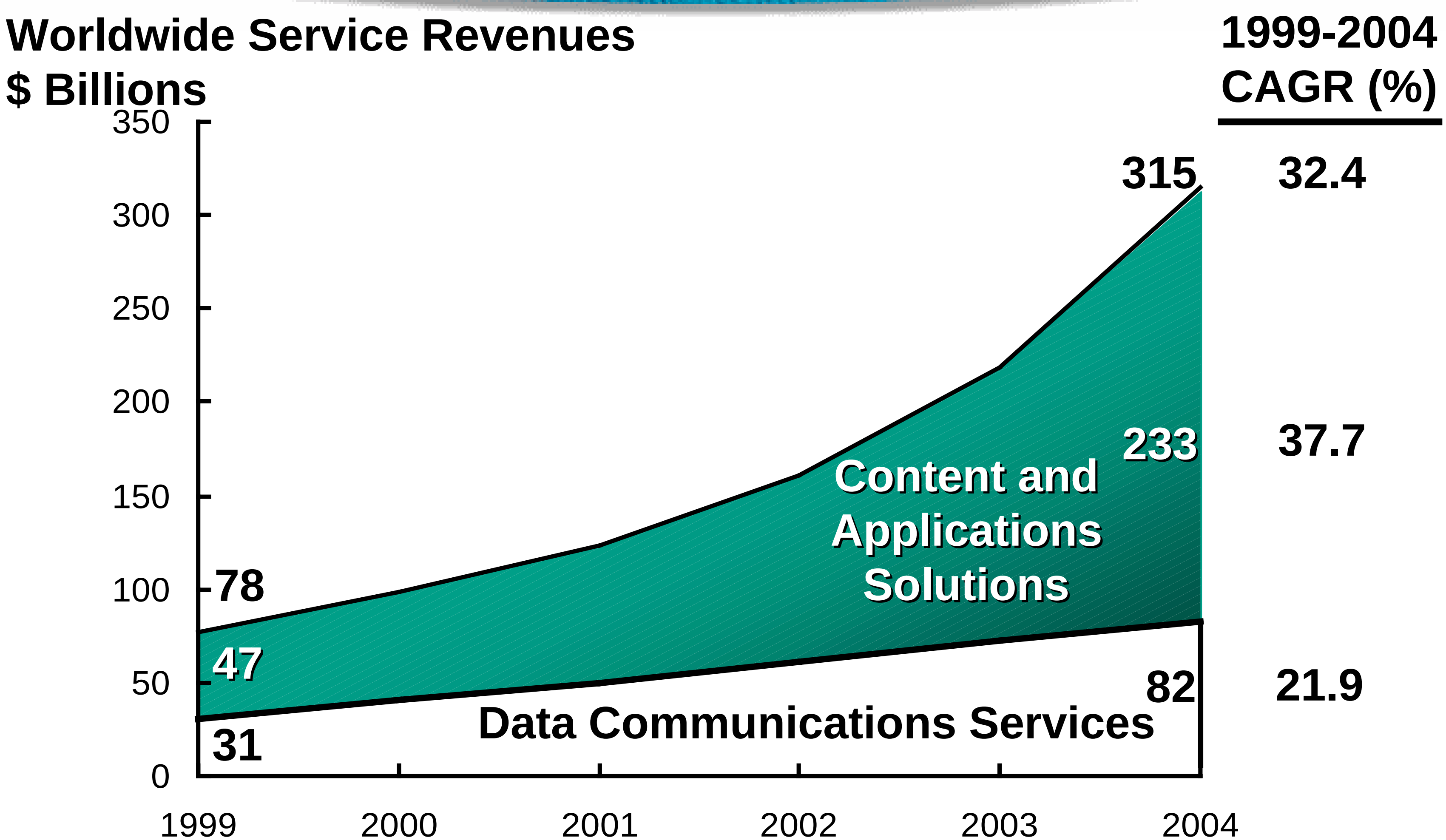
New World SP Solutions: Engines for Growth



Sources: IDC; Dataquest; Forrester; Morgan Stanley Dean Witter; Internet Research Group; Veronis, Suhler & Associates; Cisco analysis

Note: Wireline voice transport grows at 7.6% from 564 B (1999) to 815 B (2004) and wireless voice transport grows at 13.8% from 225 B (1999) to 430 B (2004)

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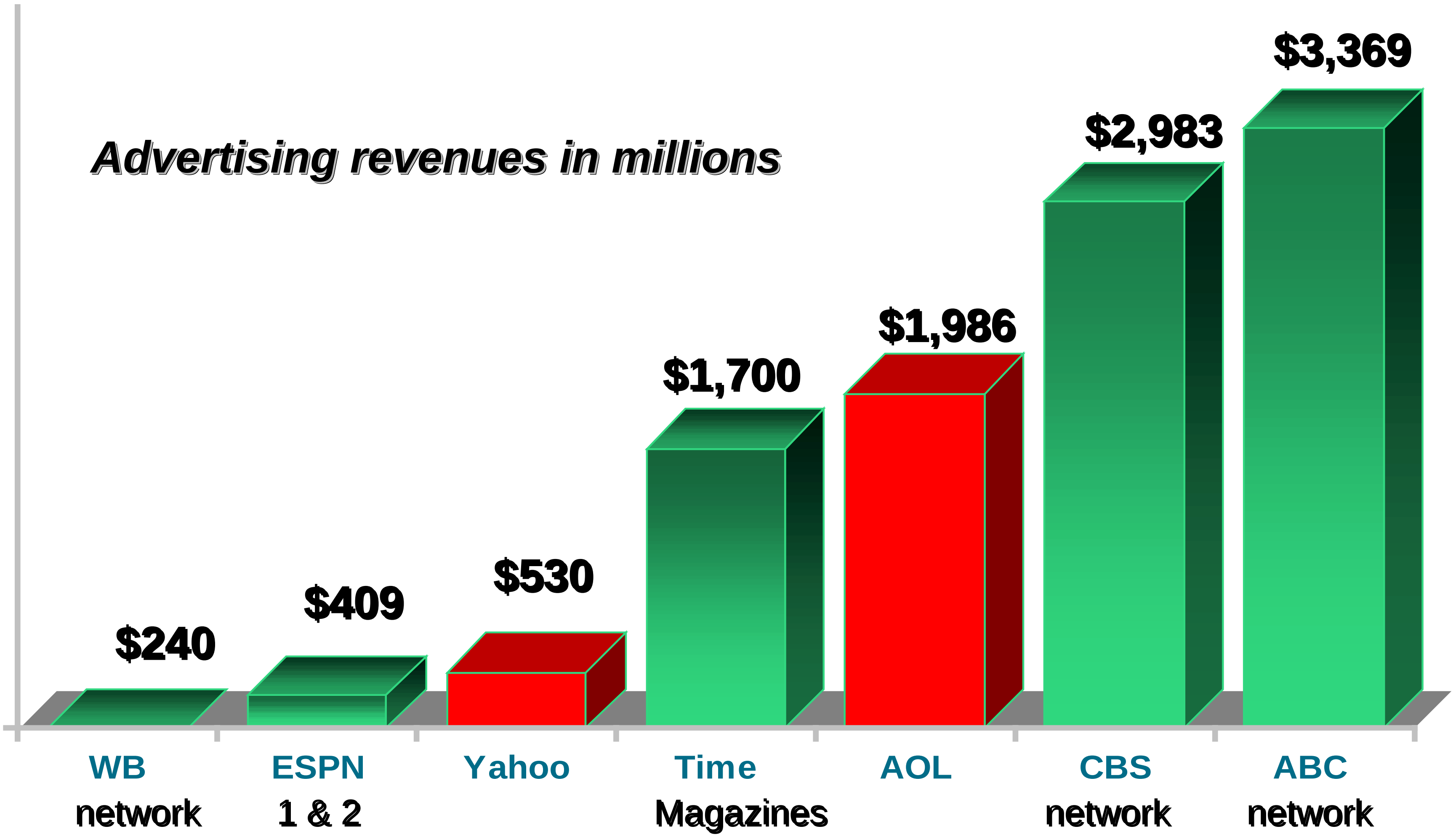
The Future of Advertising



Source: 10K Report; Robertson Stevens

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Software as a Network Service: The Internet as Distribution

"We've identified the transformation of the software business to a services business."

"In the long term the majority of our products and services will evolve into subscription services, delivered over the Internet."

"The transition we see is from license revenue to subscription revenue."

"We're betting that the subscription business model works. And today it's only ISPs, people who provide telecommunications services as well, that have built significant subscription revenues."

Steve Ballmer, *Microsoft*
.NET Announcement, 6/22/00

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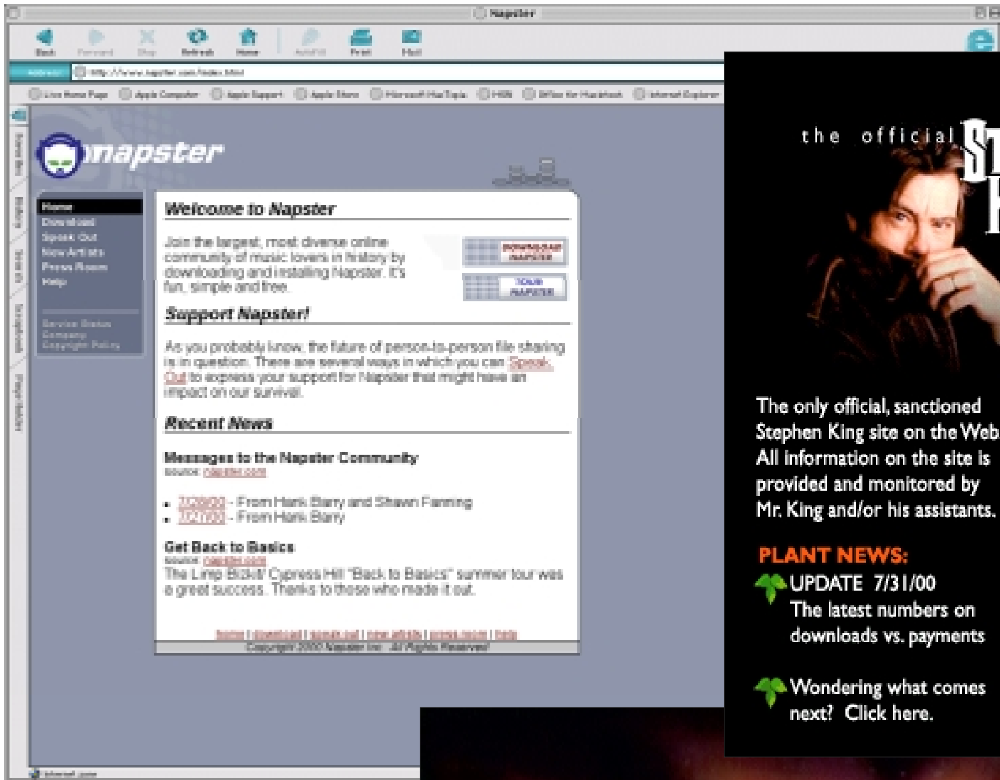
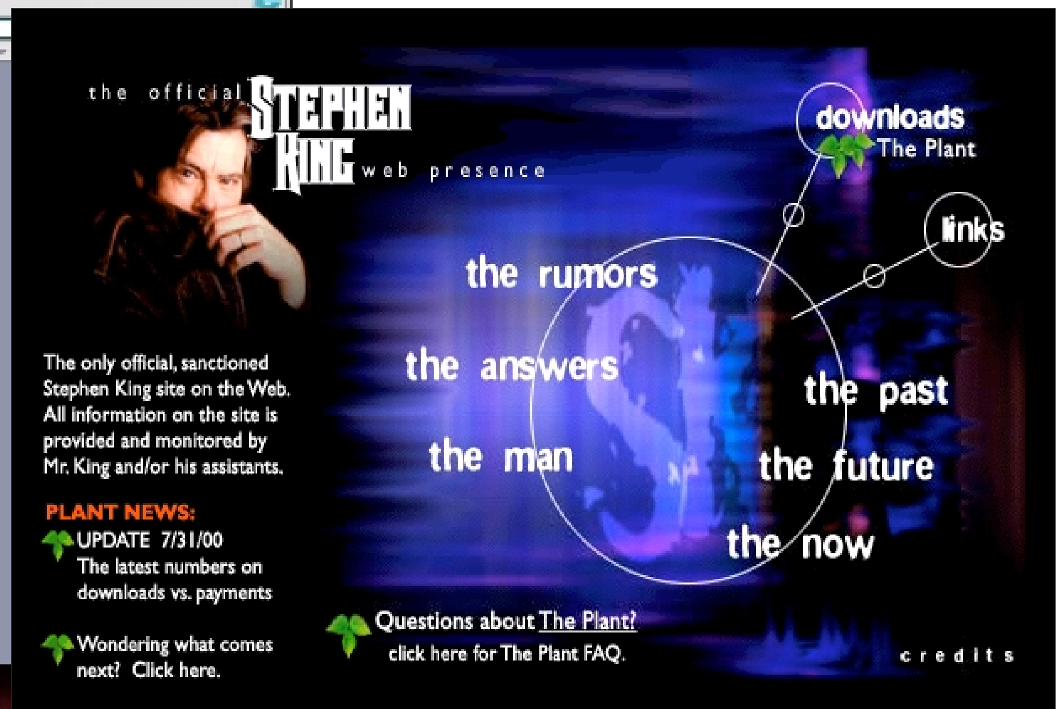
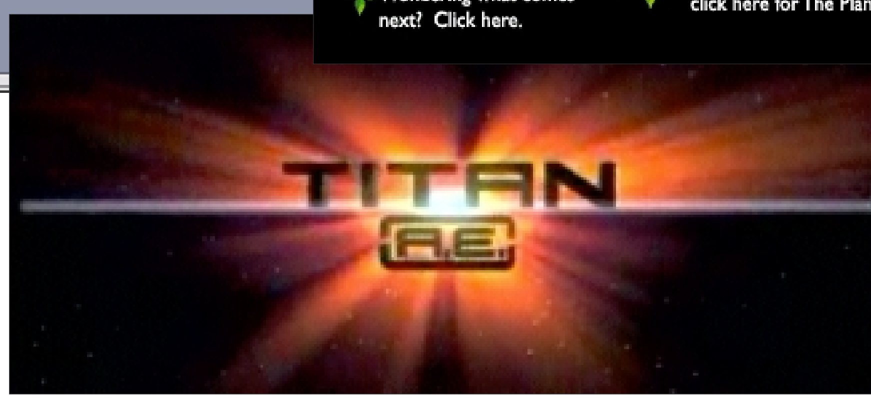
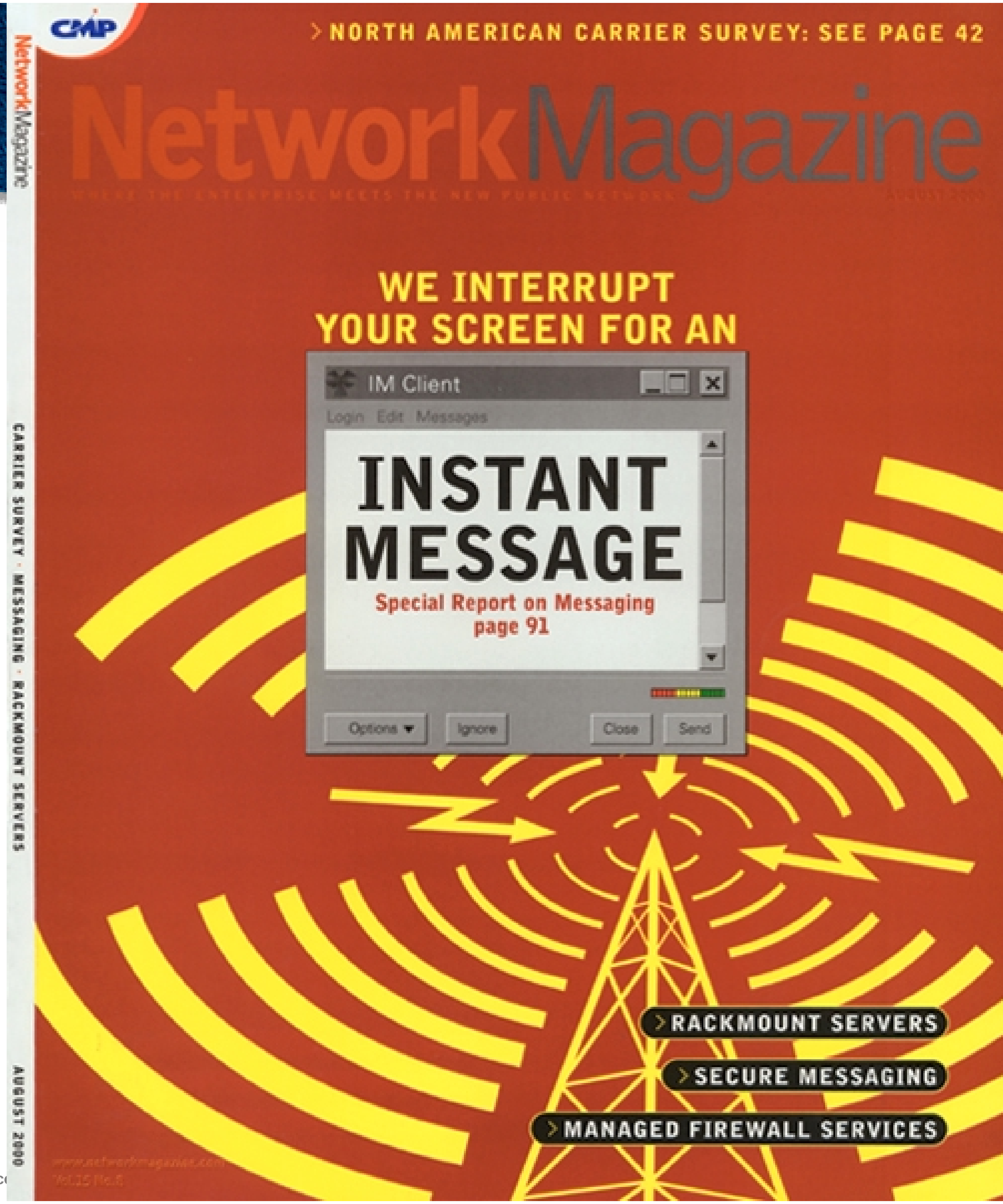
The Internet as Distribution








CMP
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> NORTH AMERICAN CARRIER SURVEY: SEE PAGE 42
NetworkMagazine
WE INTERRUPT YOUR SCREEN FOR AN
IM Client
Login Edit Messages
INSTANT MESSAGE
Special Report on Messaging page 91
Options
Ignore
Close
Send
> RACKMOUNT SERVERS
> SECURE MESSAGING
> MANAGED FIREWALL SERVICES
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AUGUST 2000

BT Cell Net - Genie Internet: Cashing in on SMS and Portal Services

Genie Internet Portal & Communications Svces

Web Portal	WAP Portal	eMobile
(Partnership with Phone.com)	(Partnerships with enterprises)	(Lower cost billing and customer care via web)

SMS Services as the transport layer

SMS Services

Businesses & Consumers

- Phone-to-Phone
- Web-to-Phone
- Phone-to-Web

- 7 pence per message (business)
- 2-way text messaging fulfills need for paging
- Web-to-phone messaging is free

SMS Services

Consumers (primarily teenagers)

- Phone-to-Phone

- 12 pence per message (consumers)
- 100K text messages/month in June 99
- 130 million messages/month in August 00, growing at 30% a month

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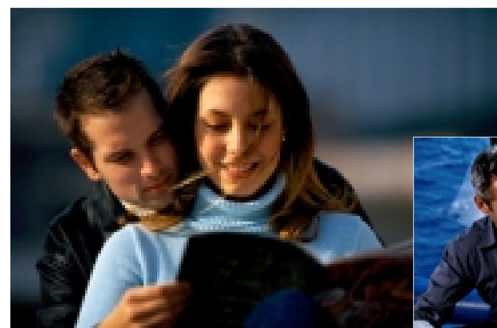
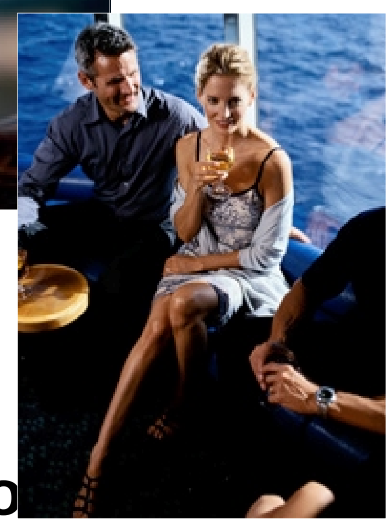
NTT DoCoMo: Largest Japanese ISP offers “Friend-Finder” Service

- **Wireless ISP with local language content (separate DoCoMo Internet) has captured over 7.5 million users; 20% market share; No. 1 Japanese ISP in just 12 months**
- **Third party value-added services on top, including train schedules, wireless banking, and games**





- **“Friend-Finder” dating service incredibly popular: user enters profile, anyone passing through cell with matching profile is identified: user can then press talk to call that perso**

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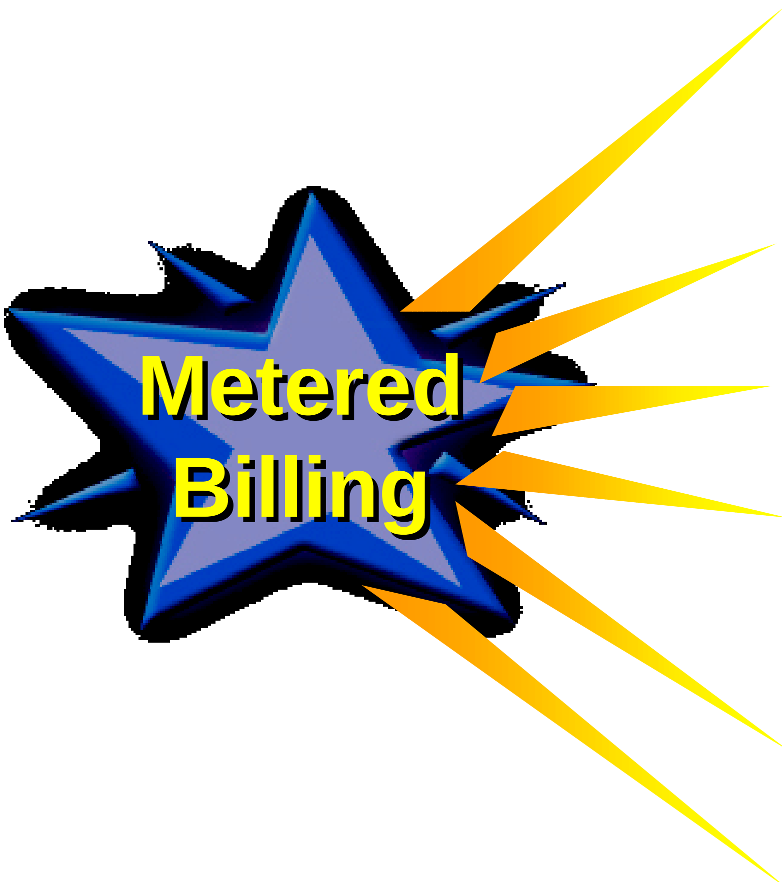
Transactions vs. Transmission Moving to New Revenue Models



- Usage-based Billing (SMS)
- Functional Services
- Software App Services
- Content Delivery Services
- Advertising
- Revenue-Sharing

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New Revenue Sources Becoming Available to Service Providers

Worldwide Revenues, $ Billions

	1999	2004	99-04 CAGR (%)
Publishing & Information	156	209	6.1
Entertainment	165	245	8.2
Advertising	129	180	7.0
Software Applications	115	235	15.1
SP Value-add Content & Applications Solutions (hosted apps, unified messaging, portal svces, etc.)	47	233	37.7
Data Communications Services (transport, access, web hosting)	31	82	21.9

Sources: IDC; Dataquest; Forrester; Morgan Stanley Dean Witter; Internet Research Group; Veronis, Suhler, & Associates; Cisco analysis

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Strategic Playing Field

Solutions Value-Add

Content & Applications Solutions

Data Communica-tions Services

Wholesale

Retail

Closeness to Customer Delivery

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How to Get Closer to Customer Delivery of Content and Apps?

Solutions Value-Add	“Content and Code”	“Solutions Delivery”
Content and Applications Solutions	Content Studios, Software Companies	Customer Delivery of Content and Apps
Data Communica-tions Svces	Wholesale Transport, Access Web Hosting	Retail Transport, Access, Web Hosting
	“Big Pipes” Wholesale	“Internet On-Ramps” Retail

Closeness to Customer Delivery

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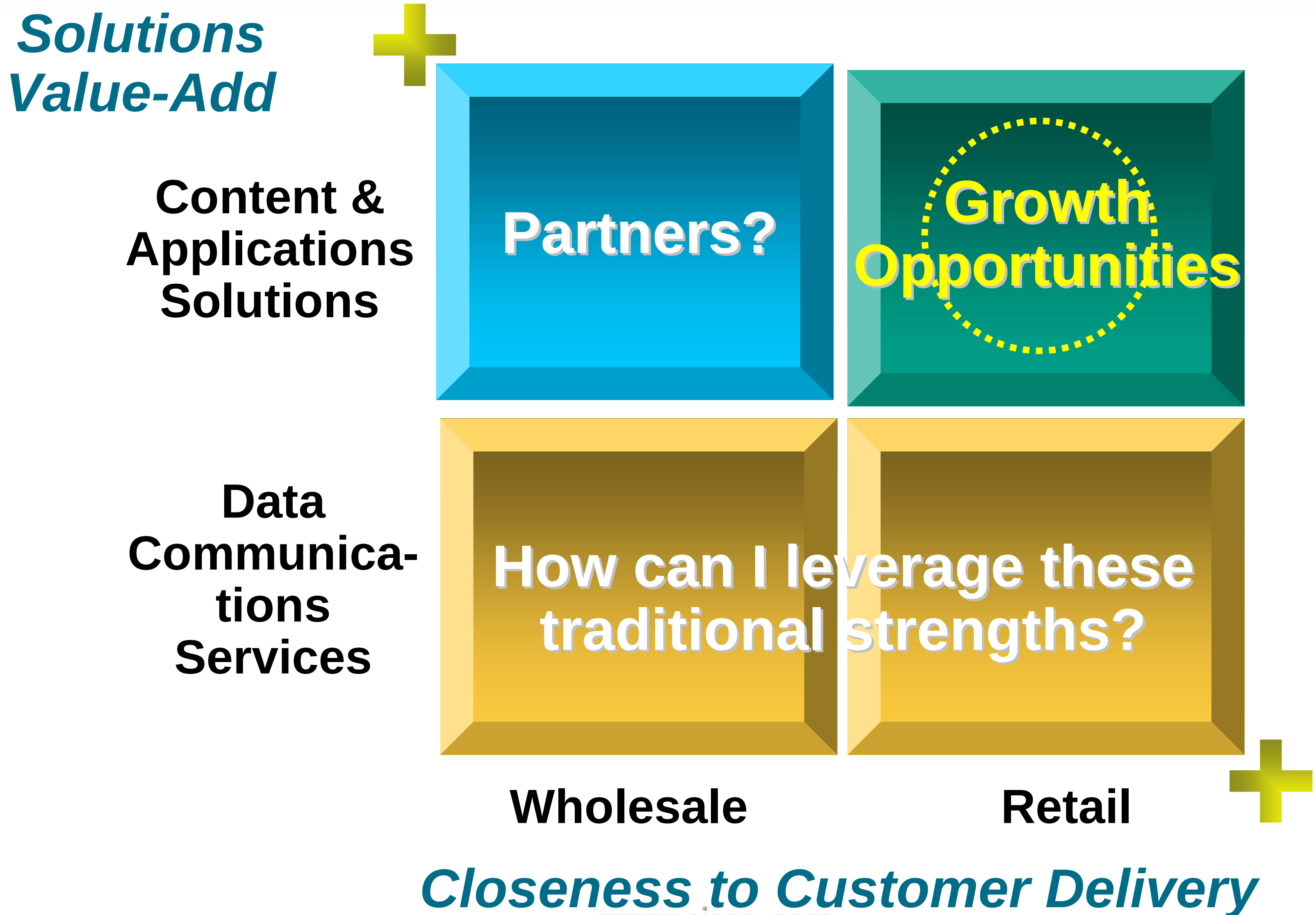
Strategic Playing Field: Portfolio of Businesses



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Build, Partner, Invest, or Acquire for Growth Opportunities

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New Rules for the New World

- Focus on the customer
- Deliver content & app solutions
- Ecosystem for Survival
- Internet people, Internet branding
- Embrace ongoing change

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Embrace Ongoing Change

- **Cultural, business process, technology change**
- **Changing opportunities, customer needs, competitive models**
- **Must be able to respond rapidly, change offerings, roll out new services**
- **Must provide services on demand: rapid set up and tear down… *Service Velocity***

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Internet Business Model Summary

- Disintermediation
- Service velocity
- Transactions not transmission
- Target the right trillion dollar revenue
- Partnership a must

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Cisco as Strategic Partner

New World Business Models

Ecosystem Partnerships

World-Class Technology

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Success in an Internet Revolution

Network Success

Customer Success

Financial Success