Network Unbundling

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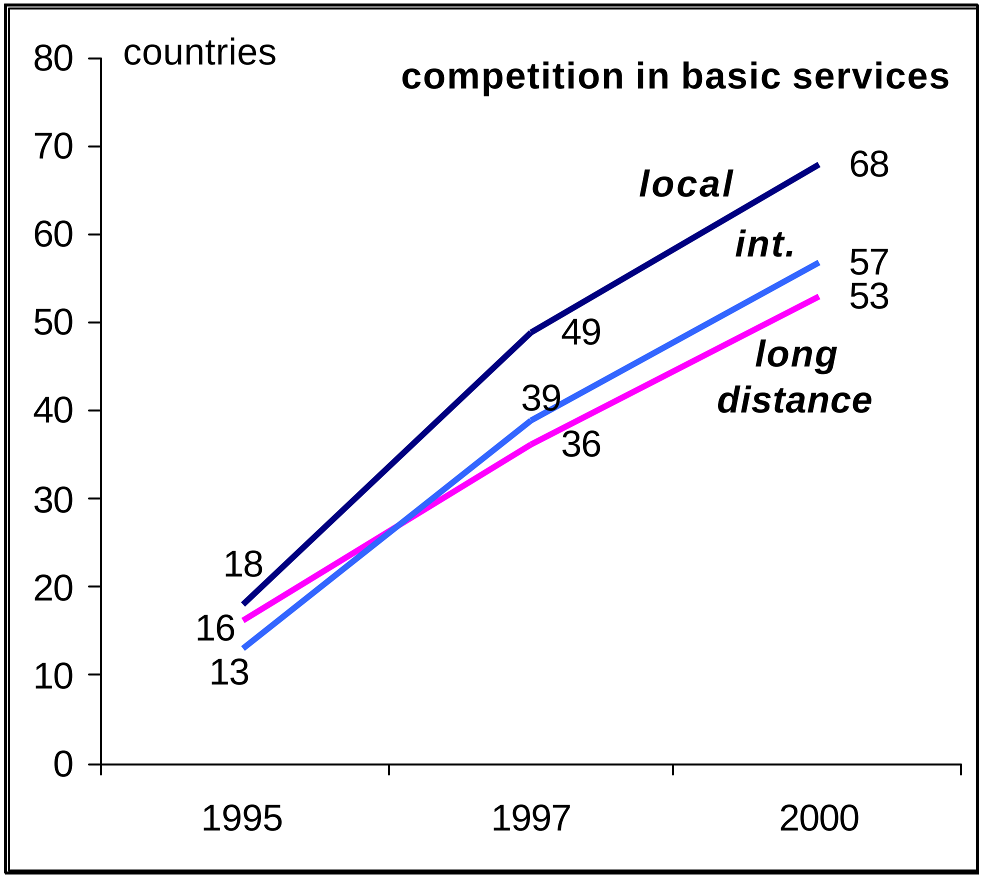
Local Services

- Natural Monopoly Theory
  - 1900 to 1990
- Local Service Competition
  - 1990 to Present

The New Paradigm: Competition



Source: ITU World Telecommunication Regulatory Database 2000

Advantages of Incumbency

- History of Monopoly and State Funding
- Network Build-Out Advantages
- Back-Office Advantages (e.g., Billing, Customer Service)
- “Dominance” and “Significant Market Power”

Unbundling

- What is Unbundling?
- Access to End Users
- Access to Carriers and Service Providers

The First Wave

- Unbundling to Promote Voice Competition
- Unbundling vs. Resale vs. Facilities
- U.S.: Three Options to Compete
- Resistance to Unbundling

The Second Wave

- Unbundling for Broadband Internet Access
- ADSL and Cable Modems
- Line Sharing (Shared Access)
- Unbundling Around the Globe: A Third Wave

Defining the Scope, Part 1

- U.S.: Comprehensive Network Unbundling
  - Local Loops and Subloops
  - Switching
  - Interoffice Transport and Dark Fiber
  - Signaling Networks and Databases
  - Operations Support Systems
  - Line Sharing

Defining the Scope, Part 2

- Europe: Focusing on Loops
  - Copper Loop Unbundling
  - Bitstream Access
  - Shared Access
  - Other Variations

Collocation

- Forms of Collocation: Physical and Virtual
- Access to Collocated Equipment
- Space Limitations: A Zero-Sum Game?

Costs and Charges

- Forward-Looking Costs
- *Reasonable* Profit
- U.S.: The TELRIC Standard
- Europe: The LRAIC Standard

Unbundling Experiences: U.S.

(Figures in Thousands)

	Dec. '97	Dec '99
Total ILEC Lines	159,008	187,431
ILEC Lines Resold by CLECs	1,743 (1.1%)	4,649 (2.6%)
ILEC Lines sold as UNE Loops	133 (o.1%)	1,474 (0.8%)
ILEC Loops serving ILEC End Users	157,132 (98.8%)	181,308 (96.7%)
Number of all U.S. Access Lines served by CLECs		8,318 (4%)
Total ILEC Local Service Revenues		$102.67 billion (94.2%)
Total Competitor Local Service Revenues		$6.35 billion (5.8%)

Source: FCC

Unbundling Experiences: Selected Countries

Country	Status of ULL
Austria	Raw copper Bitstream Available
Belgium	Consultation
Denmark	Available
Finland	Available
France	Under consideration
Germany	Available
Ireland	Bitstream only
Italy	Proposed by end of 2000
Netherlands	Available
Spain	Line share access can be negotiated
Sweden	Proposed by end of 2000
UK	From July 2001

Source: European Commission DG Information Society Working Document on "Unbundled Access to the Local Loop" 9 Feb. 2000.

Alternative Infrastructures

- Is Unbundling Premature in Certain Countries?
- Cable TV Systems
- Mobile Cellular Systems
- Wireless Local Loop
- Satellite Systems

Conclusion

- Unbundling in Transition
- Unbundling to Complement Build-Outs
- Unbundling as Enhanced Interconnection
- Unbundling, the Ongoing Experiment