525

User Demand and Non-Price Benefits of Private Networks

by Mark Winther

Columbia Institute for Tele-Information
Graduate School of Business
Columbia University
809 Uris Hall
New York, NY 10027
(212)854-4222

525

USER DEMAND AND NON-PRICE BENEFITS OF PRIVATE NETWORKS

by Mark Winther
LINK Resources

Presentation Outline

What is a private network? Who is asking?

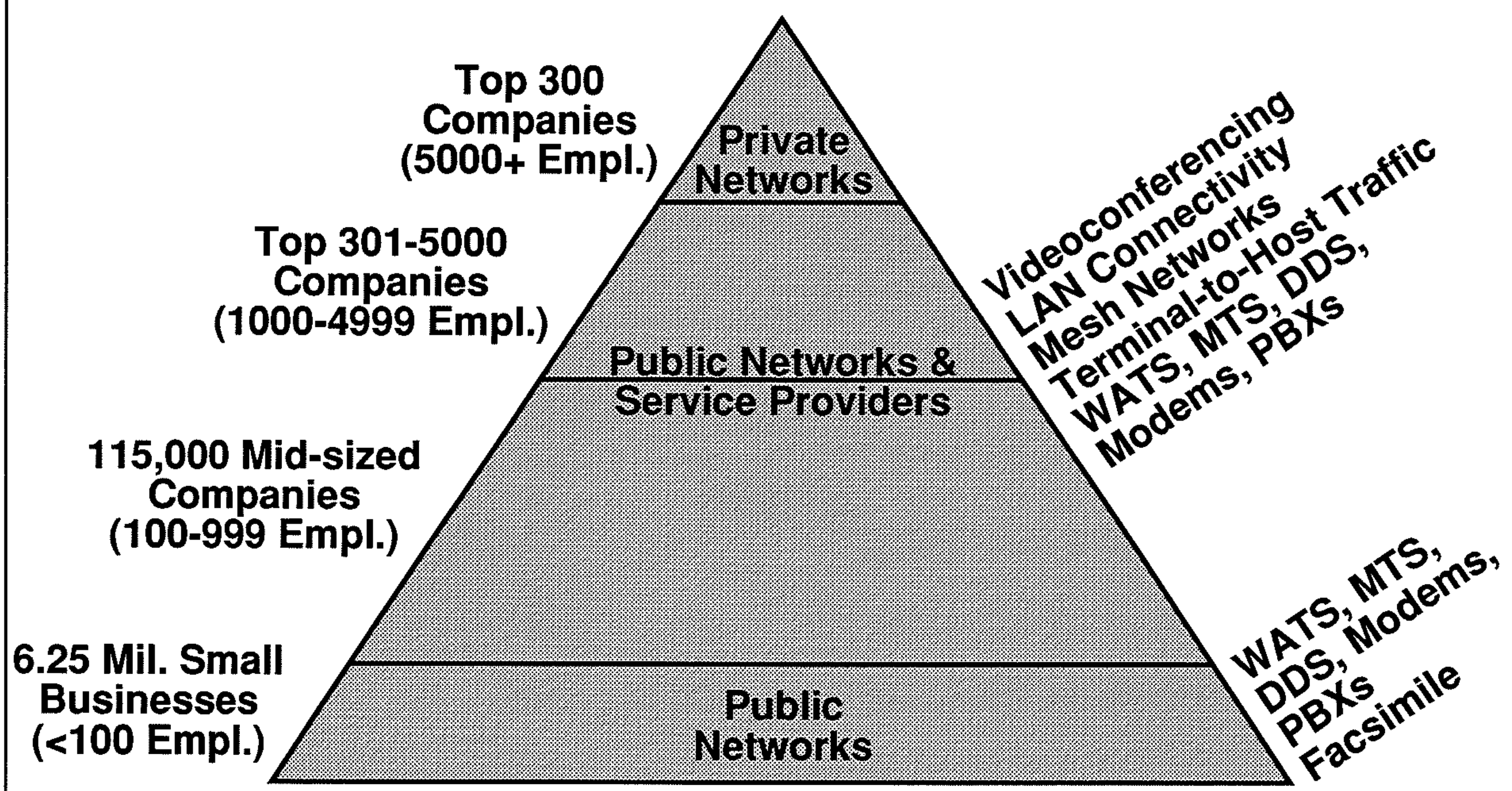
From a Carrier Perspective
- LEC Business Marketing Perspective
- LEC Inter-Industry perspective (access charges)

Private Networks From a User Perspective
- Equipment vs services solutions
- Penetration of T1 Networks
- Usage of Private Lines
- Spending on Private Lines

Implications of Virtual Private Networks
- Demand and Applications

Implications of Outsourcing
- Demand for Third Party Network Management/Administration Services
- Demand for Full or Partial Network Outsourcing

U.S. Business Market Segments



LINK Resources Corp., 1992

Incidence of Private Network Facilities Segmented by Revenues

Incidence of Private Network Facilities	Total	Annual Revenues ($ millions)			
		<50.0	50-249	250-499	500+
Number of Companies (000)	120.0	56.2	34.0	4.5	5.7
% of Cos. with T1 or PLs	58%	48%	68%	92%	97%
Cos. with T1 or PLs (000)	70.0	27.0	23.1	4.1	5.5
% of Cos. with T1 Network	52%	47%	55%	53%	62%
Cos. with T1 Network (000)	36.4	13	12.7	2.2	3.4
% of Total Cos. with T1 Net.	30%	23%	37%	49%	60%

Note: Based on data from nationally representative sample of 420 U.S. businesses surveyed in November 1990.

Breakout of Total Business Telecommunications Traffic by Telecommunications Facilities in 1991 and Anticipated in 1993

Telecommunications Facilities	Average Percentage of Companies Using Facility		% Increase ~~or~~ (Decrease)
	1991	1993	
Standard Dial-up	54.8	48.9	-10.7
800 Inbound Tollfree Service	15.4	14.9	-3.3
WATS Outbound Service	8.8	7.4	-15.0
Analog Private Lines	5.8	6.2	5.5
T1 (1.5 mbps) Private Lines	5.0	6.1	21.5
Digital 56 kbps Private Lines	3.2	4.4	37.2
Digital 19.2 kbps Private Lines	3.0	3.4	13.9
Digital 4.8 kbps Private Lines	1.3	1.8	39.1
Fractional T1 Private Lines	1.1	3.9	259.8

Note: Based on data from nationally representative sample of 500 medium and large U.S. businesses (more than 100 employees) surveyed in November 1991.

LINK Resources Corp., 1992

Business Usage of Special Telecommunications Facilities In 1991 and Anticipated in 1993

Telecommunications Facilities	Average Percentage of Companies Using Facility		% Increase ~~or Decrease~~
	1991	1993	
800 Inbound Tollfree Service	64	68	6.2
Analog Private Lines	43	50	16.3
WATS Outbound Service	42	47	11.9
Digital 19.2 kbps Private Lines	31	43	38.7
Digital 4.8 kbps Private Lines	26	37	34.6
T1 (1.5 mbps) Private Lines	25	39	56.0
Digital 56 kbps Private Lines	24	37	54.2
Fractional T1 Private Lines	19	36	89.2

Note: Based on data from nationally representative sample of 500 medium and large U.S. businesses (more than 100 employees) surveyed in November 1991.

LINK Resources Corp., 1992

Large Business Usage of Special Telecommunications Facilities in 1991 and Anticipated in 1993

Telecommunications Facilities	Average Percentage of Companies Using Facility		% Increase ~~or Decrease~~
	1991	1993	
800 Inbound Tollfree Service	74	76	2.7
Analog Private Lines	70	70	---
WATS Outbound Service	63	63	---
Digital 56 kbps Private Lines	60	63	5.0
T1 (1.5 mbps) Private Lines	58	60	3.4
Digital 19.2 kbps Private Lines	51	54	5.9
Digital 4.8 kbps Private Lines	43	45	4.7
Fractional T1 Private Lines	40	45	12.5

Note: Based on data from nationally representative sample of 74 U.S. businesses with more than 5000 employees surveyed in November 1991.

U.S. Telecommunications Spending: 1991

	Top 300 Companies	Top 301-5000 Companies	Mid-size Companies (115K)	Small Businesses (6.25M)
N =	62	80	212	1,000
Number of Employees	5,000+	1,000-4,999	100-999	<100
Average Annual Telecom Spending ($000)	18,126	1,645	265	7
Total Annual Spending ($ Billion)	5.4	7.7	30.5	49.9
		93.5		
Breakdown of Telecom Spending				
Telephone / Line Costs	47%	51%	56%	85%
Equipment	24%	21%	20%	15%
Salaries	17%	16%	10%	---
Maintenance	12%	12%	14%	---
Total Telephone / Line Spending ($ Billion) (Excl. Equipment, Salaries & Maintenance)	2.5	3.9	17.1	42.0
		65.5		

LINK Resources Corp., 1992

Total Annual Private Line Spending: 1991

	Top 300 Companies	Top 301-5000 Companies	Mid-size Companies (115K)	Small Businesses (6.25M)
Total Telephone Line Spending ($ Billion)	2.5	3.9	17.1	42.0
Average Percentage of Telephone Line Costs for Private Line	54%	43%	35%	---
Total Private Line Costs ($ Billion)	1.4	1.7 9.1	6.0	---

LINK Resources Corp., 1992

Consideration of Third Party Vendors for Telecommunications Network Needs
Medium / Large U.S. Businesses

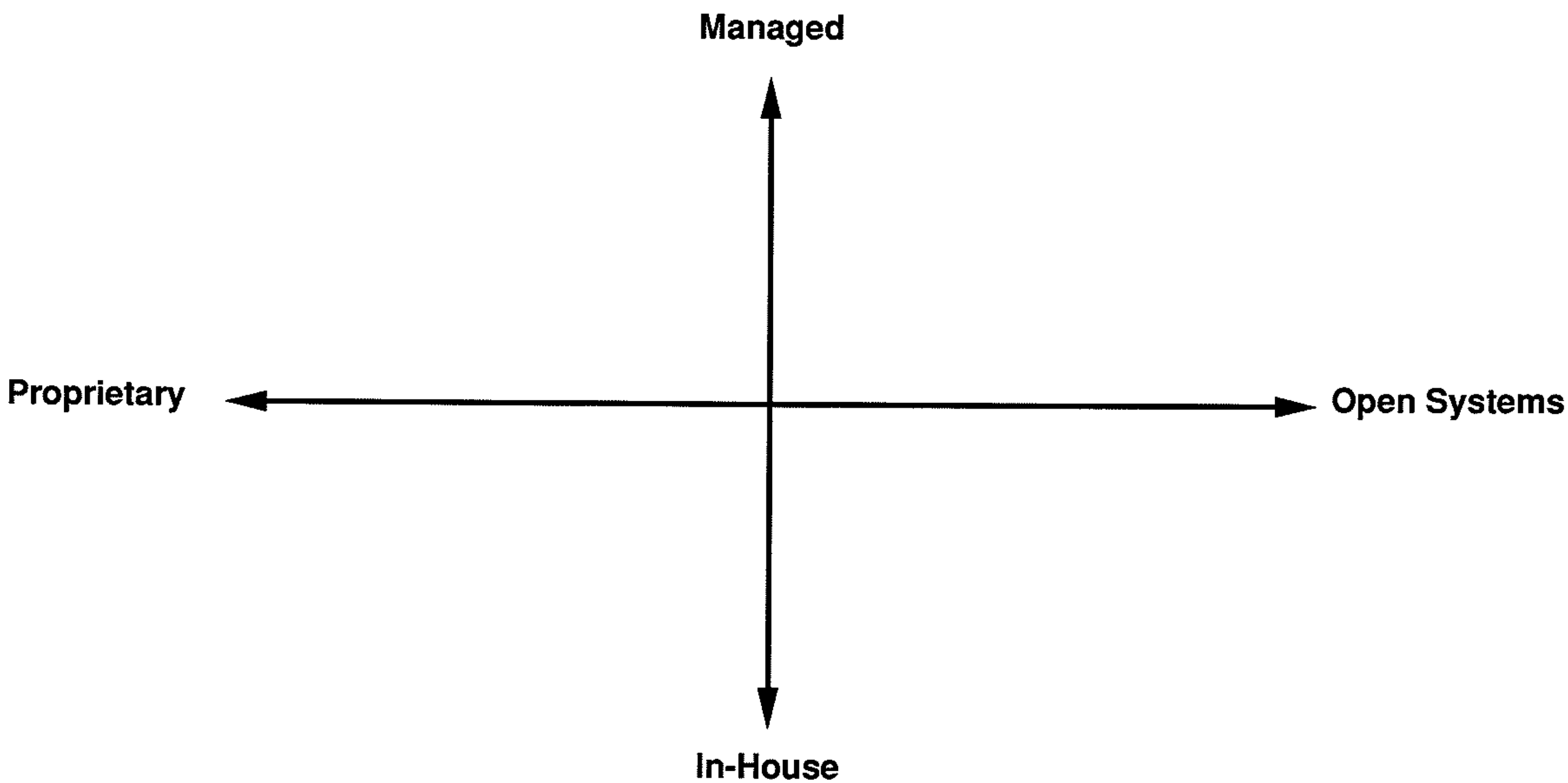
	Currently Using	Considering Using
Design, Engineering, and Development	20.0%	19.2%
Monitoring, Maintenance, and Repair	22.6%	21.0%
Provision of Application Services	16.7%	27.8%
Management of Vendors	7.1%	9.9%
Facilities Management	8.0%	8.3%

Status of Network Outsourcing
Medium / Large U.S. Businesses

	Percentage of Respondents	
Currently Outsource	5.6%	
Plan to Outsource	2.9%	18.2%
Currently Being Evaluated	9.7%	
Rejected Outsourcing	1.0%	
Not Evaluated	80.7%	
N =	500	

LINK Resources Corp., 1992

Managing to Change



Implement Network Services as Data Volumes, Geographic Locations, Hardware / Software Investments, Cost / Benefit Ratios, and Personnel Requirements Dictate.