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***Top Twelve  
Internet  
Equipment  
Companies:  
Market Strategies,  
Market Forecasts  
Routers  
Switches  
Frameworks  
Access Devices  
Transport  
New Network  
New Architecture***

**Convergence Voice and Data  
Network Core  
Network Edge  
Wire Speed  
Market Forecasts 1998 to  
2003**

**Market Strategies:**  
Carrier  
ISP  
ASP  
Greenfield  
Alliances  
Partnering

**Top 12 Internet  
Equipment Providers:**  
Open System Architecture  
Cross Platform  
Transaction Support  
Stable Operating Framework

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***Internet Growth***

**The Study Addresses These Questions:**

- *What are Internet network architecture directions?*
- *What is driving Internet Equipment markets?*
- *What are trends in Internet Equipment ?*
- *Which partner strategies work?*
- *What strategic alliances work?*
- *How do companies position?*

➤ *How do partnerships work?*

**COMPANIES PROFILED**

**3Com  
Alcatel  
Cabletron  
Cisco Systems**

**Ericsson  
Fujitsu  
GEC / Fore  
Lucent / Ascend**

**NEC  
Newbridge  
Nortel  
Siemens**

**Report Outline**

**EXECUTIVE SUMMARY**

**1. KEY STRATEGIES OF THE TOP TWELVE INTERNET EQUIPMENT COMPANIES**

Provider Positioning	Data Compression	Nortel ATM and Frame Relay
Implications of the Internet	Gigabit Switch Routers	Interworking / Positioning
Service Provider Issues	3Com Positioning	Lucent / Ascend /Strategy /
Internet Protocol (IP) Mission	3Com Key Strategies	Alcatel Strategic Positioning
Critical Functionality	Frameworks / Embedded	Internet Division / XDSL
Cisco Strategic Positioning	Distributed Intelligence	GEC / FORE Systems
Cisco LAN, WAN, Legacy	Nortel / Bay Networks	Positioning / Target Markets
Benefits / Dial Backup	Nortel / Bay IP managemen	Siemens / Newbridge
Internetworking Products	Migration / IP Architecture	Ericsson Strategic Progress
Protocol Translation		NEC / Fujitsu

**2. TOP TWELVE INTERNET EQUIPMENT MARKET FORECASTS**

Conditions / Driving Forces	Industry Consolidation	Fore, ATM
Equipment Providers	Changes in Distribution	Siemens / Newbridge ATM
Key Strategies / Forecasts	Strategic Relationships	Alcatel ADSL / SDSL
Data Communications	Cisco Routers	Carrier Access Internet Division
Purchases / Business to B	Nortel Optical / DWDM	Cabletron / Core Products
Internet Users	3Com Access, Palm Platform	Network Management / VPN traffic
Router and Switch Markets	Internet Appliances	Ericsson
High Density Switch Routers	Lucent / E-Services	

**3. INTERNET EQUIPMENT REGIONAL ANALYSIS**

Systems / Architecture	Competitive Positioning	Alcatel, GEC, Fore, Siemens,
Regional Differences	Cisco, 3Com, Nortel, Bay	Newbridge, NEC, Ericsson
Currency Fluctuations	Lucent, Ascend, Cabletron	

**4. TOP TWELVE INTERNET EQUIPMENT COMPANY PRODUCTS**

Product Overview	Access / SNA/LAN	Client Access Products / NICs,
Cisco Products	IOS Software / Management	Modems / Handheld
Cisco Product Line	Cisco Networked Office Stack	Nortel/Bay
Catalyst Switch Family	IBM/Cisco Small Business	Prioritizing, Universal Edge
Catalyst 5000 Series	Optimize Performance	Service Provider Switches
8500 Multiservice, 2,500	Flexible Financing	Enterprise Workgroup
Packet- and Circuit-Switched	Networked Office Stack	Flexible High-Speed Uplink
Integrated Router/Hub	3Com Product Strategy	Full Autosensing on Every Port
ATM 8400 Series Wide-Area	Hubs, Routers, Remote Access	Redundant Cascade Stacking
8600 Wide-Area Switches		Wire-Speed Throughput

## Top Twelve Internet Equipment Company Table of Contents

Advanced VLAN Support	Access Layer / Core Layer	3Com and Alcatel
Nortel/Bay IP Addressing	Edge Layer / Network	Alcatel / Dialogic
Load Balancing/Concentrators	Management and Security	Alcatel/Hewlett-Packard
WAN Access Video / Voice	Cabletron Switch, Router,	Fore ATM Switches
The Stratum Module	ATM, Gigabit Ethernet	Hierarchical Private Network-
Lucent / Ascend	Multi Media Access Center	Newbridge Networks
Softswitch Consortium	LAN, WAN / Network	NEC WDM Ring, ATM
Online Communications	Management / Interconnection	
Internet Telephony	Alcatel XDSL	

### 5. INTERNET EQUIPMENT COMPANY PROFILES

Market Consolidation	Sales Overview / Acquisitions	Ascend / B-STDX
Role of Acquisitions	Ericsson	NEC
Alcatel Acquisitions	Acquisitions Prioritizing	Newbridge / Siemens
Organization/Internet Division	Policy / Ethernet Switch	Redstone/Unisphere Solutions
Alcatel / 3com Cooperate	Nortel / Bay Networks	Nortel / Bay Networks
Linux / Packet Engines	GEC / Fore Systems	3Com / Palm Computing
Cabletron Revenue	Customers Strategic Alliances	Acquisitions / Channels
International, Acquisitions	Lucent / Acquisitions	Positioning / Edge Server
Cisco Systems	Lucent's Data Networking	

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Functions Of An IP Addressing Device	Worldwide Router Shipments, 1998-2003
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Cisco Memory Configuration	Selected Services Oriented Switches Suppliers
3Com Positioning For Growth Markets	Selected Subterabit Core Router Suppliers
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NEC Strategic Positioning	Cisco Market Segment Shipments, by Industry
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Internet Technology Driving Forces	Market Share of ADSL Lines Installed
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Alcatel, Fore, Newbridge, NEC, Ericsson Internet  
Equipment Cisco, Cabletron  
3Com, Nortel, Bay Networks, Lucent, Ascend

Alcatel, Fore, Newbridge, NEC, Ericsson  
Key Internet Equipment Providers / Features

REPORT METHODOLOGY

**This is the thirty fifth in a series of market forecasts of communications, telecommunications, Internet, and computer and telephone equipment. Internet equipment products are key to Internet growth. The project leaders have significant experience preparing industry studies, having written over 300. Forecasts are based on primary research and proprietary data bases. In-depth interviews are conducted with key vendor, users, and opinion leaders. Market directions provide focus.**

**ABOUT THE COMPANY**

WinterGreen Research, founded in 1985, provides strategic market assessments in telecommunications, communications equipment, health care and advanced computer technology. Industry reports focus on opportunities that will expand existing markets or develop major new markets. The reports assess new product and service positioning strategies, new and evolving technologies, and technological impact on products, services, and markets. Market shares are provided. Leading market participants are profiled, and their marketing strategies, acquisitions, and strategic alliances are discussed. The principals of WinterGreen Research have been involved in analysis and forecasting of international business opportunities in telecommunications and advanced computer technology markets for over 30 years.

**ABOUT THE PRINCIPAL AUTHORS**

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