



ATM Interoperability Test Report

NOTE: Testing was conducted using 3Com hardware and software releases that are currently shipping. Non-3Com products were furnished by the respective vendors either to 3Com or the testing facility. The tested versions of these products may or may not be currently shipping. If a product does not appear in this report, testing may still be underway and the results not yet verified.

Introduction

This report gives the results of tests conducted to determine interoperability of 3Com's CELLplex™ family and LinkSwitch™ 2700 ATM products with ATM products from other major networking vendors.

Compliance with ATM Forum standards does not necessarily guarantee full ATM interoperability or ease of integration with existing devices. As the market leader in ATM Forum LAN emulation (LANE) and ATM technology, 3Com is committed to providing tested interoperability for our standards-based products and those of other vendors.

Testing Approach

3Com designed a comprehensive series of tests with the aim of informing customers about how current products behave in heterogeneous, multivendor environments. The tests were performed in various locations: at 3Com's Interoperability Laboratory in Santa Clara, California, at customer sites, and at independent testing facilities.

This report will be updated at regular intervals. For more information, refer to 3Com's World Wide Web site at <http://www.3com.com>.

3Com Products Tested

The following 3Com ATM and Ethernet/ATM products are included in the ATM interoperability tests. All other shipping 3Com ATM products are completely interoperable with the 3Com products shown in this report, including the ONcore[®] product.

LinkSwitch 2700 Ethernet/ATM Switch.

Designed for workgroups and small departmental LANs, this stackable switch is equipped with an advanced switching engine based on 3Com's ZipChip[™] ASIC. The LinkSwitch 2700 provides 12 switched Ethernet ports and one ATM port (OC-3c 155 Mbps SONET/SDH, UTP 5, or DS-3 45 Mbps). LECs reside on the switch, which also supports switched virtual circuit (SVC) signaling and two software-selectable switching modes—cut-through and store-and-forward—for increased flexibility. The switch can be easily integrated into 3Com's multitechnology SuperStack[™] system and managed with 3Com's Transcend[®] management applications.

CELLplex 7000 Ethernet/ATM Backbone Switch.

This switch functions as a key building block for creating an ATM campus backbone, and features integrated LANE services. With a scalable, modular design that supports 7 to 16 ATM ports, the CELLplex 7000 is built around a 20.48 Gbps backplane that can switch up to 2.56 Gbps of traffic. Optional 720x Interface Modules deliver full-rate, non-blocking switching for up to 48 Ethernet ports accommodating software-selectable cut-through and store-and-forward switching modes. The CELLplex 7000 also supports: a choice of OC-3c 155 Mbps, UTP 5, or DS-3 45 Mbps ATM interfaces, ATM Forum LAN emulation (LUNI 1.0), SVCs via Q2931 signaling (with the capacity to support UNI 3.0 and 3.1), and ATM Forum Interim Inter-Switch Signaling Protocol (IISP, PNNI-Phase 0). Rate-based flow control provides congestion management. A separate RISC-based processor handles the advanced software features,

including LAN emulation services, SVC signaling, and standard SNMP management. Optional redundant dual power supplies and switching engines ensure reliability and fault tolerance.

Other Vendors' Products Tested

In addition to 3Com's products, the following vendors' products were included in the ATM interoperability tests:

Network Interface Cards:

Adaptec, Digital Equipment (DEC), Efficient, FORE Systems, Hewlett-Packard, IBM, Interphase, Madge, Sun Microsystems, UB Networks, and Zeitnet.

Switches:

Bay Networks, Cabletron, Cisco Systems, DEC, FORE Systems, IBM, Newbridge, and Whitetree.

Edge Devices:

Bay Networks, CrossCom, UB Networks, Whitetree, and Xylan.

Routers:

Bay Networks and Cisco Systems.

Acronyms

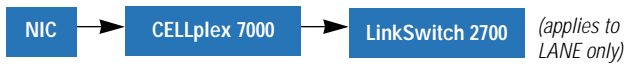
IISP	Interim Inter-Switch Signaling Protocol
LANE	LAN emulation
LEC	LAN emulation client
LUNI	LAN emulation user network interface
NIC	network interface card
PNNI	private network node interface
PVC	permanent virtual circuit
RFC	request for comment
SONET/SDH	Synchronous Optical Networking/ Synchronous Digital Hierarchy
SVC	switched virtual circuit
UNI	user network interface

ATM Network Interface Cards

Basic Interoperability —SVC and PVC (RFC 1577/1483)



Advanced Interoperability—SVC-UNI 3.0 LANE 1.0



Vendor/NIC	Basic Interoperability		Advanced Interoperability	
	SVC and PVC (RFC 1577/1483)	SVC-UNI 3.0 LANE 1.0	SVC-UNI 3.1 LANE 1.0	
Basic 3.0, 3.1	✓	✓	—	
Digital ATMwork 750, Turbo Chnl. OC3 (UNIX)	—	✓	—	
Digital PCI	✓	✓	—	
Efficient SBUS	✓	✓	✓	
Efficient PCI	✓	✓	—	
FORE EISA 200	✓	✓	—	
FORE PCI 200	✓	✓	—	
FORE PCI 200 for the MAC	✓	✓	—	
FORE SBUS	✓	✓	—	
IBM Turboway 155 (AIX)	—	✓	—	
Interphase EISA	✓	✓	—	
Interphase PCI	✓	✓	✓	
Interphase SBUS 4615 Sbus	✓	✓	✓	
Madge PCI adapter	—	✓	—	
Sun ATM adapter SBUS	✓	✓	—	
Zeitnet SBUS	✓	✓	—	
Hewlett-Packard SBUS	—	✓	—	

Edge Devices and Routers



Non-3Com Edge Device	LANE 1.0/UNI 3.0	LANE 1.0/UNI 3.1
Bay Networks BN Router LEC	✓	✓
Cisco 7500 Router LEC	✓	✓
CrossCom XL TF version 3.0	✓	✓
UB Networks Access One Ethernet to ATM	✓	✓
Whitetree WS 3000 LEC	✓	—
Xylan Omni Switch Ethernet/ATM module	✓	—

LinkSwitch 2700 to Non-3Com Switch with LANE Services



Non-3Com LANE Services	LANE 1.0/UNI 3.0
Bay Networks LattisCell with services on a Sun SPARCstation (MCS/CMS)	✓
Cabletron Services on a Sun SPARCstation connected to an MMAC+ switch	✓
Cisco LANE Services on a 7500	✓
DEC Giga Switch ATM	✓
FORE Services on a ASX 200	✓
IBM 8260	✓
Interphase Services on a Sun SPARCstation connected to a Bay Networks LattisCell switch	✓
Madge LANE Services on a PC	✓

Non-3Com Switch to CELLplex 7000

Non-3Com Switch	IISP	PVC	UNI 3.0
Bay Networks LattisCell	—	✓	✓
Cabletron MMAC+	—	✓	✓
Cisco A100	—	✓	✓
Cisco 2020	—	✓	—
DEC Giga Switch	✓	✓	✓
FORE ASX 200	✓	✓	✓
IBM 8260	✓	✓	✓
Newbridge VIVID ATM Switch	—	✓	✓
Whitetree WS 3000	✓	✓	✓

Note: All shipping 3Com products, including the ONcore product line, are completely interoperable with the 3Com products shown in this report.

✓	interoperable
—	not tested yet or testing in progress

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