



DEFENSE INFORMATION SYSTEMS AGENCY

JOINT INTEROPERABILITY TEST COMMAND

P.O. BOX 12798

FORT HUACHUCA, ARIZONA 85670-2798

IN REPLY
REFER TO:

Battlespace Communications Portfolio (JTE)

04 Apr 07

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of Microsoft Windows Vista Enterprise Edition Operating System, Microsoft Outlook 2003, and Microsoft Internet Explorer 7.0 installed on a Panasonic Toughbook CF-74 and a Panasonic Toughbook CF-51 for Internet Protocol Version 6 (IPv6) Capability

References: (a) DoDD 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01D, "Interoperability and Supportability of Information Technology and National Security Systems," 8 March 2006

1. References (a) and (b) establish the Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification. Additional references are provided in enclosure 1.
2. Microsoft (MS) Windows Vista Enterprise Edition Operating System, hereinafter referred to as MS Vista, MS Outlook 2003, and MS Internet Explorer (IE) 7.0 installed on the Panasonic Toughbooks CF-74 and CF-51, hereinafter referred to as the Personal Computers (PCs), meet the Internet Protocol (IP) Version 6 (IPv6) Capable requirements and are certified for listing on the Department of Defense (DoD) IPv6 Approved Products List as an IPv6 Capable Host/Workstation. Reference (c) provides the IPv6 host/workstation profile. The MS Vista, MS Outlook, MS IE, and PCs successfully completed the related IPv6 Performance and Interoperability portions of the DoD IPv6 Generic Test Plan Version 2, September 2006. This certification expires upon changes that could affect interoperability, but no later than three years from the date of this memorandum.
3. This special certification is based on IPv6 Capable testing conducted by JITC at Fort Huachuca, Arizona. Testing was conducted at JITC's Advanced IP Technology Laboratory from 15 January to 16 February 2007. Conformance testing was completed by MS and was verified in the Letter of Conformance MS provided. Enclosure 2 documents the test results and describes the MS Vista, MS Outlook, MS IE, and PCs. Users should verify interoperability before deploying the MS Vista, MS Outlook, or PCs in an environment that varies significantly from that described.

JITC Memo, JTE, Special Interoperability Test Certification of Microsoft Windows Vista Enterprise Edition Operating System, Microsoft Outlook 2003, and Microsoft Internet Explorer 7.0 installed on a Panasonic Toughbook CF-74 and a Panasonic Toughbook CF-51 for Internet Protocol Version 6 (IPv6) Capability

4. The MS Vista, MS Outlook, MS IE, and PCs' interoperability status summary is found in table 1. The interoperability status summary is based on the MS Vista, MS Outlook, MS IE, and PCs' ability to meet DoD IPv6 Standard Profiles for IPv6 Capable Products, specifically the host/workstation profile. The MS Vista, MS Outlook, MS IE, and PCs' software and hardware under test is found in table 2.

Table 1. Software and Hardware Interoperability Status Summary

MS Windows Vista Enterprise Edition, MS Outlook 2003, and MS IE 7.0 on Panasonic Toughbooks CF-74 and CF-51			
Functional Category	Critical	Verified	
Core IPv6 Functionality	Yes	Yes	
Connection Technologies	Yes	Yes	
Transition Mechanisms	Yes	Yes	
Common Network Applications	Yes	Yes	
Information Assurance	Yes	Yes	
Mobility	N/A	N/A	
Quality of Service	Yes	Yes	
Multicasting	Yes	Yes	
Network Operations and Management	Yes	Yes	
LEGEND:			
IE	Internet Explorer	MS	Microsoft
IPv6	Internet Protocol Version 6	N/A	Not Applicable

Table 2. Software and Hardware Under Test

Software/Hardware	Version
Panasonic Toughbook	CF-74
Panasonic Toughbook	CF-51
Microsoft Windows Vista Enterprise Edition	6.0.6000
Microsoft Outlook 2003	Build 11.5608.5606
Microsoft Internet Explorer	7.0.6000.16386
LEGEND:	
FTP	File Transfer Protocol
OS	Operating System

5. No detailed test report was written in accordance with the DoD IPv6 Master Test Plan. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet), or <http://199.208.204.125> (SIPRNet). Information related to IPv6 Capable testing is on the DoD IPv6 Approved Products List at http://jitc.fhu.disa.mil/adv_ip/register/register.html.

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6. The JITC point of contact is Captain Richard J. Duncan, DSN 821-0154, commercial (520) 533-0154, or e-mail richard.j.duncan@disa.mil.

FOR THE COMMANDER:

2 Enclosures a/s



RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

JITC Memo, JTE, Special Interoperability Test Certification of Microsoft Windows Vista Enterprise Edition Operating System, Microsoft Outlook 2003, and Microsoft Internet Explorer 7.0 installed on a Panasonic Toughbook CF-74 and a Panasonic Toughbook CF-51 for Internet Protocol Version 6 (IPv6) Capability

Distribution:

Joint Staff J6I, Room 1E596, Pentagon, Washington, DC 20318-6000
Office of Assistant Secretary of Defense (NII)/DoD CIO, Crystal Mall 3, 7th Floor, Suite 7000, 1851 S. Bell St., Arlington, VA 22202
Defense Information Systems Agency, Net-Centricity Requirements and Assessment Branch, ATTN: GE333, Room 244, P.O. Box 4502, Falls Church, VA 22204-4502
Defense Information Systems Agency, Standards and Engineering Branch, ATTN: GE331, Bldg 283, Fort Monmouth, NJ 07703
Air Force Communications Agency/ECSS, ATTN: IPv6 Transition Office, 203 Losey St., Scott Air Force Base, IL 62225
Navy IPv6 Transition Project Office, ATTN: SPAWAR 053 OT1, 4301 Pacific Highway, San Diego, CA 92110-3127
U.S. Army, ATTN: CIO-G-6, SAIS-AOT, 107 Army Pentagon, Washington, DC 20310-0107
U.S. Marine Corps (C4ISR), MARCORSSYSCOM, 2200 Lester St., Quantico, VA 22134-5010
DOT&E, Net-Centric Systems and Naval Warfare, 1700 Defense Pentagon, Washington, DC 20301-1700
Joint Interoperability Test Command, Liaison, ATTN: TED/JT1, 2W24-8C, P.O. Box 4502, Falls Church, VA 22204-4502
Office of Chief of Naval Operations (N71CC2), CNO N6/N7, 2000 Navy Pentagon, Washington, DC 20350
Headquarters U.S. Air Force, AF/XICF, 1800 Pentagon, Washington, DC 20330-1800
Department of the Army, Office of the Secretary of the Army, CIO/G6, ATTN: SAIS-IOQ, 107 Army Pentagon, Washington, DC 20310-0107
U.S. Coast Guard, CG-64, 2100 2nd St. SW, Washington, DC 20593
Defense Intelligence Agency, 2000 MacDill Blvd., Bldg 6000, Bolling AFB, Washington, DC 20340-3342
National Security Agency, ATTN: DT, Suite 6496, 9800 Savage Road, Fort Meade, MD 20755-6496
Director, Defense Information Systems Agency, ATTN: GS235, Room 5W24-8A, P.O. Box 4502, Falls Church, VA 22204-4502
Office of Under Secretary of Defense, AT&L, Room 3E144, 3070 Defense Pentagon, Washington, DC 20301
U.S. Joint Forces Command, J68, Net-Centric Integration, Communications, and Capabilities Division, 1562 Mitscher Ave., Norfolk, VA 23551-2488

ADDITIONAL REFERENCES

- (c) Department of Defense (DoD) Information Technology Standards Registry (DISR), "DoD IPv6 Standard Profiles for IPv6 Capable Products v1," 1 June 2006
- (d) DISR, "DISR Global Information Grid (GIG) Convergence Master Plan (GCMP), Version 5.25," 29 March 2006
- (e) Department of Defense (DoD) Internet Protocol Version 6 (IPv6) Transition Office (DITO), "DoD Chief Information Officer (CIO) Memo, IPv6," 9 June 2003
- (f) DITO, "DoD CIO Memo, IPv6 Interim Transition Guidance," 29 September 2003
- (g) DITO, "DoD IPv6 Master Test Plan, Version 2," September 2006
- (h) Joint Interoperability Test Command, "DoD IPv6 Generic Test Plan Version 2," September 2006

INTERNET PROTOCOL VERSION 6 CAPABLE TESTING SUMMARY

1. SYSTEM TITLE. Microsoft Windows Vista Enterprise Edition Operating System, Microsoft Outlook 2003, and Microsoft Internet Explorer 7.0 installed on a Panasonic Toughbook CF-74 and on a Panasonic Toughbook CF-51.

2. PROPONENT. Department of Defense (DoD) Internet Protocol (IP) Version 6 (IPv6) Transition Office (DITO).

3. PROGRAM MANAGER/USER POC. DITO, Defense Information Systems Agency, Attn: GE36 Thomas McCrickard, P.O. Box 4502, Arlington, VA 22204-4502, (703) 882-0241, e-mail: tom.mccrickard@disa.mil.

4. TESTER. Captain Richard J. Duncan, Joint Interoperability Test Command (JITC), P.O. Box 12798, Fort Huachuca, AZ 85670-2798, DSN: 821-0154, commercial: (520) 533-0154, e-mail: richard.j.duncan@disa.mil.

5. DEVICE UNDER TEST DESCRIPTION. The Microsoft (MS) Windows Vista Enterprise Edition Operating System, hereinafter referred to as MS Vista, MS Outlook 2003, and MS Internet Explorer (IE) 7.0 installed on two Panasonic Toughbooks CF-74 and CF-51, hereinafter referred to as the Personal Computers (PCs), were configured to support single and dual stack operation of the IP Version 4 (IPv4)/IPv6 protocols.

6. OPERATIONAL ARCHITECTURE. The operational architecture was the simulated Defense Information Systems Network (DISN) core node as depicted in figure 2-1.

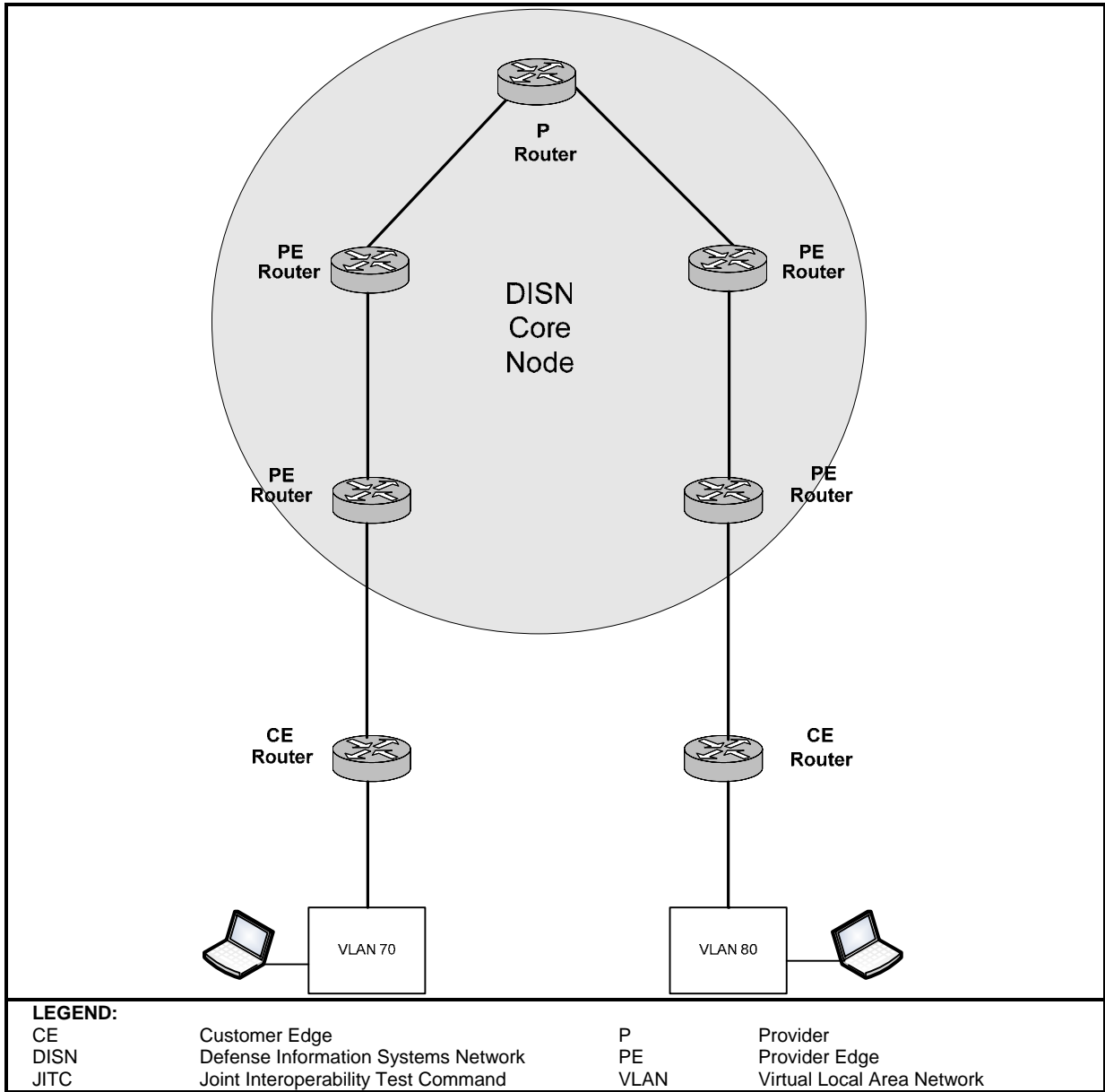


Figure 2-1. JITC Simulated DISN Core Node

7. REQUIRED DEVICE INTERFACES. All IPv6-capable products to be included on the DoD IPv6 Approved Product List must meet the requirements of the DoD Information Technology Standards Registry (DISR) DoD IPv6 Standard Profiles for IPv6 Capable Products v1, 1 June 2006. Product testing against these requirements is conducted in accordance with the DoD IPv6 Generic Test Plan Version 2, September 2006. The IPv6 host/workstation profile requirements specific to the OS and PCs are conformance, performance, and interoperability and are listed in table 2-1.

Table 2-1. IPv6 Capability Requirements and Status

MS Windows Vista Enterprise Operating System on Panasonic Toughbooks CF-74 and CF-51								
RFC	RFC Title	Testing Completed			Host/Workstation		Implemented	Comments
		Conformance	Performance	Interoperability	Requirement	Met/Not Met		
Core IPv6 Functionality								
1981	Path Maximum Transmission Unit Discovery for IPv6	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
2460	Internet Protocol version 6 (IPv6) Specification	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
2461	Neighbor Discovery for IP version 6 (IPv6)	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
2462	IPv6 Stateless Address Auto configuration	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
4291	IPv6 Addressing Architecture	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
4007	IPv6 Scoped Address Architecture	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
4301	Security Architecture for Internet Protocol	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
4193	Unique Local IPv6 Unicast Addresses	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
4443	Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
Connection Technologies								
2464	Transmission of IPv6 Packets over Ethernet Networks	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
2467	Transmission of IPv6 Packets over FDDI Networks	Stated in LoC	Not Tested	Not Tested	O	Not Tested	Yes	See Note 1
2472	IP Version 6 over PPP	Stated in LoC	Not Tested	Not Tested	O	Not Tested	Yes	See Note 1
Transition Mechanisms								
4213	Transition Mechanisms for IPv6 Host and Routers	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	

Table 2-1. IPv6 Capability Requirements and Status (continued)

MS Windows Vista Enterprise Operating System on Panasonic Toughbooks CF-74 and CF-51								
RFC	RFC Title	Testing Completed			Host/Workstation		Implemented	Comments
		Conformance	Performance	Interoperability	Requirement	Met/Not Met		
Common Network Applications								
3041	Privacy Extensions for Stateless Address Autoconfiguration in IPv6	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
3484	Default Address Selection for Internet Protocol version 6 (IPv6)	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
3596	DNS Extensions to Support IP Version 6	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
3986	Uniform Resource Identifier (URI): Generic Syntax	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
959	File Transfer Protocol	Stated in LoC	No Performance Test Required	Yes	O	Met	Yes	
2821	Simple Mail transfer Protocol	Stated in LoC	No Performance Test Required	Yes	O	Met	Yes	
2616	Hypertext Transfer Protocol	Not Listed	No Performance Test Required	Yes	O	Met	Yes	
Information Assurance								
2407	The Internet Security Domain of Interpretation for ISAKMP	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
2408	Internet Security Association and Key Management Protocol	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
2409	Internet Key Exchange (IKE)	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
3971	Secure Neighbor Discovery (SEND)	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
3972	Cryptographically Generated Addresses (CGA)	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
4109	Algorithms for Internet Key Exchange Version 1 (IKEv1)	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
4302	IP Authentication Header	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
4303	IP Encapsulating Security Payload (ESP)	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	

Table 2-1. IPv6 Capability Requirements and Status (continued)

MS Windows Vista Enterprise Operating System on Panasonic Toughbooks CF-74 and CF-51								
RFC	RFC Title	Testing Completed			Host/Workstation		Implemented	Comments
		Conformance	Performance	Interoperability	Requirement	Met/Not Met		
4304	Extended Sequence Number (ESN) Addendum to IPsec Domain of Interpretation (DOI) for Internet Security Association and Key Management Protocol (ISAKMP)	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
4305	Cryptographic Algorithm Implementation Requirements for Encapsulating Security Payload (ESP) and Authentication Header (AH)	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
4306	Internet Key Exchange (IKEv2) Protocol	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
4307	Cryptographic Algorithms for Use in the Internet Key Exchange Version 2 (IKEv2)	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
4308	Cryptographic Suites for IPsec	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
Mobility								
3775	Mobility Support in IPv6	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
3776	Using IPsec to Protect Mobile IPv6 Signaling Between Mobile Nodes and Home Agents	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
4282	The Network Access Identifier	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
4283	Mobile Node Identifier Option for Mobile IPv6 (MIPv6)	Not Listed	Not Tested	Not Tested	O	Not Tested	No	See Note 1
Multicasting								
3810	Multicast Listener Discovery Version 2 (MLDv2) for IPv6	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
2710	Multicast Listener Discovery (MLD) for IPv6	Stated in LoC	No Performance Test Required	Yes	O	Met	Yes	

Table 2-1. IPv6 Capability Requirements and Status (continued)

MS Windows Vista Enterprise Operating System on Panasonic Toughbooks CF-74 and CF-51								
RFC	RFC Title	Testing Completed			Host/Workstation		Implemented	Comments
		Conformance	Performance	Interoperability	Requirement	Met/Not Met		
Network Operations and Management								
3315	Dynamic Host Configuration Protocol for IPv6 (DHCPv6)	Stated in LoC	No Performance Test Required	Yes	R	Met	Yes	
LEGEND:								
DoD	Department of Defense			ISAKMP	Internet Security Association and Key Management Protocol			
DNS	Domain Name System			LoC	Letter of Conformance			
FDDI	Fiberoptic Digital Data Interface			MS	Microsoft			
ICMPv6	Internet Control Message Protocol for IPv6			O	Optional			
IP	Internet Protocol			PPP	Point-to-Point Protocol			
IPSec	Internet Protocol Security			R	Required			
IPv6	IP Version 6			RFC	Request for Comments			
IKEv2	Internet Key Exchange Version 2							
NOTES:								
1. Conformance, Performance, and Interoperability testing was not completed for the RFC due to the devices' requirements being "Optional," "Not Required," or "Not Listed;" therefore, it was "Not Tested." In cases where "Optional" RFCs were tested, the vendor requested the test.								
2. As per the "DoD IPv6 Standard Profiles for IPv6 Capable Products Version 1.0," 1 June 2006, "Required" is defined as an absolute requirement of the device, "Optional" is defined as implementation at manufacturer's discretion, "Not Required" is defined as no current requirement, and "Not Listed" means no status for the RFC.								

8. TEST NETWORK DESCRIPTION. The MS Vista, MS Outlook, MS IE, and PCs were tested as part of a simulated DISN core node test architecture managed by the Advanced IP Technology Laboratory at JITC, and configured as shown in figure 2-2.

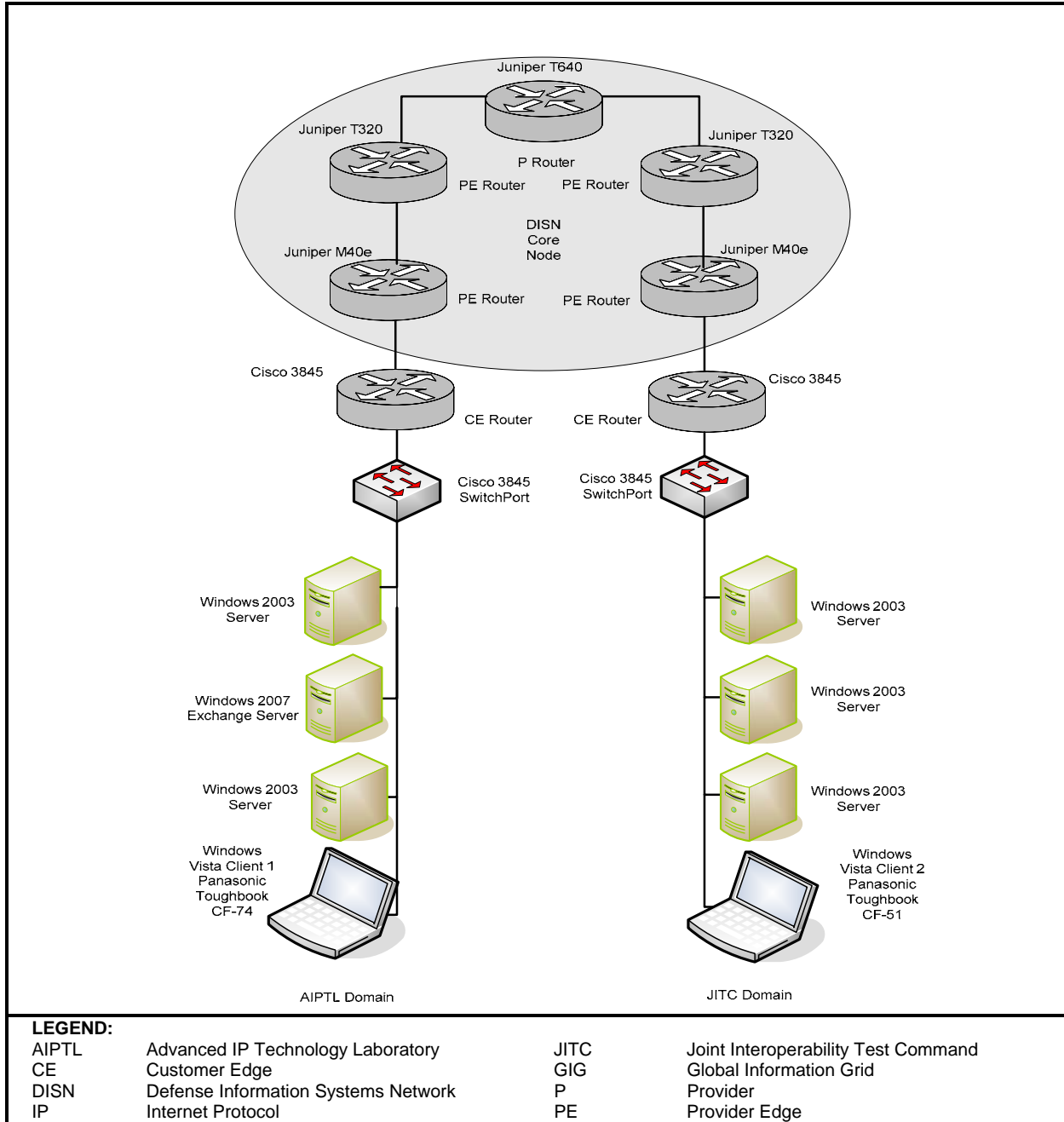


Figure 2-2. JITC Simulated DISN Core Node Test Network

The core consisted of one Juniper T640, two Juniper T320 routers, two Juniper M40e routers, two Cisco 3845 routers, six Dell Power Edge 2850 Servers, and two

Panasonic Toughbooks CF-74 and CF-51. Both PCs were loaded with MS Vista and an IP Packet capturing tool, Wireshark.

9. DEVICE CONFIGURATIONS. Table 2-2 provides hardware and software components used in the test network.

Table 2-2. Test Configuration Hardware and Software

Equipment Name	Model Number	IOS/OS Version(s)	
Hardware			
Cisco Router	CISCO3845	12.3(14)T2	
Cisco Router	CISCO3845	12.4(4)T1	
2 Juniper Routers	Juniper M40e	V 7.4R2.6/V 7.6R3.6	
2 Juniper Routers	Juniper T320	V 7.4R2.6	
Juniper Router	Juniper T640	V 7.1R3.3/V 7.4R2.6	
5 Dell Power Edge Servers	2850	MS 2003 Server	
Dell Power Edge Server	2850	MS 2003 Server/MS 2007 Exchange Server	
Panasonic Toughbook *	CF-51 PFVDEBM	MS Windows Vista Enterprise Edition	
Panasonic Toughbook *	CF-74 ECBAXBM	MS Windows Vista Enterprise Edition	
Software			
MS Windows Vista Enterprise Edition *	N/A	6.0.6000	
MS Outlook 2003 *	N/A	Build 11.5608.5606	
MS Internet Explorer *	N/A	7.0.6000.16386	
MS 2003 Server	N/A	5.2R2	
MS 2007 Exchange Server Beta	N/A	Build 08.00.0685.018	
Wireshark	N/A	V.0.99.2	
Dibbler	N/A	0.4.1	
LEGEND:			
FTP	File Transfer Protocol	OS	Operating Systems
IOS	Internetwork Operating System	R	Release
MS	Microsoft	V	Version
N/A	Not Applicable		
NOTE: These are the devices under test.			

10. TEST LIMITATIONS. None.

11. TEST RESULTS.

a. Core IPv6 Functionality.

Reference test cases E.1.1, E.1.2, and E.4.3. The Request for Comments (RFC) 1981 Path Maximum Transmission Unit Discovery for IPv6 is necessary for proper IPv6 implementations. It acts as a mechanism to determine the maximum size of packets to traverse the network without fragmentation. The MS Vista and PCs met the test requirements.

Reference test cases E.4.3, E.5.2, E.5.8, E.5.9, E.5.10, E.5.16, and E.5.17. The RFC 2460 is the base specification of the IPv6 protocol. It specifies a number of parameters that enable successful completion of IPv6 traffic addressing and control. The MS Vista and PCs met the test requirements.

Reference test cases E.1.1, E.1.3, E.1.5, E.4.3, E.5.5, and E.5.7. The RFC 2461 specifies the neighbor discovery function that is similar to address resolution protocol in IP Version 4 (IPv4). It is necessary for implementing neighbor solicitations and neighbor advertisements within IPv6. The MS Vista and PCs met the test requirements.

Reference test cases E.1.1, E.1.4, E.4.3, E.5.5, and E.6.4. The RFC 2462 specifies how a host auto-configures its interfaces in IPv6. These steps include determining whether the source addressing should be stateless or stateful, whether the information obtained should be solely the address or include other information, and Duplicate Address Detection. The MS Vista and PCs met the test requirements.

Reference test case E.1.6. The RFC 4291 defines the specifications for the addressing architecture of the IPv6 protocol. The definitions cover unicast addresses, anycast addresses, and multicast addresses. The MS Vista and PCs met the test requirements.

Reference test case E.1.7. The RFC 4007 defines the nature and characteristics for the usage of IPv6 addresses of different scopes. The MS Vista and PCs met the test requirements.

Reference test case E.1.8. The RFC 4301 defines the security architecture for IP. The document defines what IP Security is and how it works. The MS Vista and PCs met the test requirements.

Reference test case E.1.9. The RFC 4193 defines the address format and how it is globally unique. Local IPv6 unicast addressing is intended to be used for local communications and is not expected to be routed to the Internet. The MS Vista and PCs met the test requirements.

Reference test cases E.1.1, E.5.3, E.5.6, and E.5.16. The RFC 4443 identifies Internet Control Message Protocol messages for the IPv6 protocol. It includes message format and identifies two types of messages: error and informational. The MS Vista and PCs met the test requirements.

b. Connection Technologies.

Reference test cases D.2.1, E.2.1, and E.4.3. The RFC 2464 specifies the frame format for transmission of IPv6 link-local addresses and statelessly auto-configured addresses on Ethernet networks. The MS Vista and PCs met the test requirements.

c. Transition Mechanisms. Reference test cases E.3.1, E.3.2, and E.3.3. The RFC 4213 specifies IPv4 co-existence mechanisms that can be implemented by IPv6 devices. The MS Vista and PCs met the test requirements.

d. Common Network Applications.

Reference test case E.5.8. In the RFC 3041, nodes use IPv6 Stateless Address Auto-configuration to generate addresses without the necessity of a Dynamic Host Configuration Protocol (DHCP) server. The MS Vista and PCs met the test requirements.

Reference test case E.4.4. The RFC 3484 defines two algorithms, one for source address selection and the other for destination address selection. Each algorithm specifies what the default behavior is for IPv6 implementation. The MS Vista and PCs met the test requirements.

Reference test cases D.9.1 and E.9.1. The RFC 3596 defines the changes that need to be made to the Domain Name Service to support hosts running IPv6. The MS Vista and PCs met the test requirements.

Reference test case E.4.5. The RFC 3986 Uniform Resource Identifier Generic Syntax provides a simple and extensible means for identifying a resource. The MS Vista and PCs met the test requirements.

Reference test case E.4.3. The RFC 959 FTP provides the basic elements of file sharing between hosts. The FTP uses Transmission Control Protocol (TCP) to create a virtual connection for control information and then creates a separate TCP connection for data transfers. The MS Vista FTP Client Service was used to test this RFC. The MS Vista and PCs met the test requirements.

Reference test case E.4.3. The RFC 2821 provides the objective of the Simple Mail Transfer Protocol (SMTP) is to transfer e-mail reliably and efficiently. The SMTP is independent of the particular transmission subsystem and requires only a reliable ordered data stream channel. The MS Outlook 2003 and MS Exchange 2007 were used to test this RFC. The MS Vista and PCs met the test requirements.

Reference Test case E.4.3. The RFC 2616 defines Hypertext Transfer Protocol as an application level protocol used for distributed, collaborative, hypermedia information systems. The MS IE 7.0 was used to test this RFC. The MS Vista and PCs met the test requirements.

e. Information Assurance.

Reference test case E.5.18. The RFC 2407 Internet Security Association and Key Management Protocol (ISAKMP) defines a framework for security association management and cryptographic key establishment for the Internet. This framework

consists of defined exchanges, payloads, and processing guidelines that occur within a given Domain of Interpretation. The MS Vista and PCs met the test requirements.

Reference test case E.5.20. The RFC 2408 describes a protocol utilizing security concepts necessary for establishing Security Associations and cryptographic keys in an Internet environment. The MS Vista and PCs met the test requirements.

Reference test case E.5.10. For the RFC 2409 Internet Key Exchange, the ISAKMP provides a framework for authentication and key exchange, but does not define the two. The ISAKMP is designed to be key exchange independent. The MS Vista and PCs met the test requirements.

Reference test case E.5.21. The RFC 4109 Algorithms for Internet Key Exchange Version 1 defines an Internet standards track protocol for the Internet community. The MS Vista and PCs met the test requirements.

Reference test case E.5.22. The RFC 4302 IP Authentication Header (AH) is used to provide connectionless integrity and data origin authentication for IP datagrams, and provides protection against replays. The MS Vista and PCs met the test requirements.

Reference test case E.5.23. In the RFC 4303 IP Encapsulating Security Payload (ESP), the ESP header is designed to provide a mix of security services in IPv4 and IPv6. The MS Vista and PCs met the test requirements.

Reference test case E.5.24. The RFC 4305 defines the requirements for ESP and AH. The MS Vista and PCs met the test requirements.

Reference test case E.5.9. The RFC 4308 defines the two different types of user interface suites. The first suite is called "Virtual Private Network (VPN)-A" and includes ESP, Triple Data Encryption Standard and Secure Hash Algorithm-1. The second suite is called "VPN-B" and includes ESP, Advanced Encryption Standard with 128-bit keys. The RFC states these suites are optional non-mandatory suites. The MS Vista and PCs met the test requirements.

f. Mobility. This section was not tested because at this point in time mobility is an optional requirement and was not an available feature for this test.

g. Multicasting.

Reference test case E.8.3. The RFC 3810 is an update to RFC 2710 and defines Multicast Listener Discovery (MLD) Version 2 (MLDv2). The MLDv2 was designed to be backward compatible with MLD. The MS Vista and PCs met the test requirements.

Reference test case E.8.1. The RFC 2710 specifies the protocol used by an IPv6 router to discover the presence of multicast listeners (e.g., nodes wishing to receive multicast packets) on its directly attached links, and to discover specifically which

multicast addresses are of interest to those neighboring nodes. The MS Vista and PCs met the test requirements.

h. Network Operations and Management.

Reference test cases D.9.2 and E.9.2. The RFC 3315 enables DHCP servers to pass configuration parameters such as IPv6 network addresses to IPv6 nodes. The MS Vista and PCs met the test requirements.

i. Conclusion. MS Windows Vista Enterprise Edition, MS Outlook 2003, and MS IE 7.0 installed on the Panasonic Toughbooks CF-74 and CF-51 met all the required RFCs.

12. TEST AND ANALYSIS REPORT. No detailed test report was written in accordance with the DoD IPv6 Master Test Plan. All test data is maintained in the Advanced IP Technology Laboratory and is available upon request. This assessment is available on the Joint Interoperability Tool (JIT). The JIT homepage is <http://jit.fhu.disa.mil> (NIPRNet), or <http://199.208.204.125/> (SIPRNet). The JIT has links to JITC interoperability documents to provide the DoD community, including the warfighter in the field, easy access to the latest interoperability information. System interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/.gov users on the NIPRNet at: <https://stp.fhu.disa.mil/>.