



DEFENSE INFORMATION SYSTEMS AGENCY

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IN REPLY
REFER TO: Joint Interoperability Test Command (JTE)

13 Nov 08

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of the Dell OptiPlex 160 32-bit Desktop Computer Running Microsoft Windows Vista, Service Pack 1, Operating System for Internet Protocol Version 6 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
(c) through (h), see Enclosure 1

1. References (a) and (b) establish the JITC as the responsible organization for interoperability test certification.

2. The Dell OptiPlex 160 32-bit desktop computer running Microsoft Windows Vista, Service Pack (SP) 1, operating system met the Internet Protocol (IP) Version 6 (IPv6) capable interoperability requirements of a host/workstation as described in the Department of Defense (DoD) Information Technology Standards Registry, "DoD IPv6 Standard Profiles for IPv6 Capable Products Version 2.0," 1 August 2007, reference (c). The Dell OptiPlex 160 32-bit desktop computer running Microsoft Windows Vista, SP 1, has successfully completed the related IPv6 Interoperability portions of the "DoD IPv6 Generic Test Plan (GTP) Version 3," August 2007, reference (d), and is certified for listing on the Unified Capabilities (UC) Approved Products List (APL) as IPv6 Capable. This certification expires upon changes that could affect interoperability, but no later than 3 years from the date of this memorandum.

3. This special certification is based on IPv6 Capable Interoperability testing conducted by JITC at Fort Huachuca, Arizona, and the vendor's Letter of Compliance (LoC) dated April 18, 2008. Interoperability testing commenced from 6 October through 24 October 2008 at JITC's Advanced IP Technology Capability. Conformance testing was confirmed by Dell, and was verified in the LoC provided. Enclosure 2 documents the summary test results and describes the devices. Users should verify interoperability before deploying the devices in an environment that varies significantly from that described.

4. The device's interoperability status summary is in Table 1, and Table 2 contains the equipment listing.

JITC Memo, JTE, Special Interoperability Test Certification of the Dell OptiPlex 160 Desktop Computer Running Microsoft Windows Vista, Service Pack 1, Operating System for Internet Protocol Version 6 Capability

Table 1. Interoperability Status Summary

| Dell OptiPlex 160 Desktop Computer | | |
|--|-----------------------------|------------|
| Functional Category | Requirement | Verified |
| Base IPv6 | M | Yes |
| IPSec | M | Yes |
| Transition Mechanisms | CM | Yes |
| Quality of Service | O | No |
| Mobility | CM | No |
| Bandwidth Limited Networks | O | No |
| Host | M | Yes |
| LEGEND: | | |
| CM | Conditional Must | M Must |
| IPSec | Internet Protocol Security | O Optional |
| IPv6 | Internet Protocol Version 6 | |
| NOTE: The terms Must, Conditional Must, and Optional are used to reference specific required Request for Comments from the Internet Engineering Task Force, the Department of Defense Information Technology Standards Registry, and the Department of Defense Internet Protocol Version 6 Generic Test Plan. | | |

Table 2. Equipment Listing


| Dell OptiPlex 160 Desktop Computer | | |
|------------------------------------|---|-----------------------|
| Component | Firmware/Software | Interface |
| Dell OptiPlex 160 32-bit | Build 6.0.6001/Microsoft Windows Vista SP 1 | RJ45 Gigabit Ethernet |
| LEGEND: | | |
| RJ | Registered Jack | SP Service Pack |

5. No detailed test report was written in accordance with the Assistant Secretary of Defense-Networks Information and Integration. 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 UC APL at http://jitc.fhu.disa.mil/adv_ip/register/register.html.

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6. The JITC point of contact is Donald L. Hann, DSN 879-5130, commercial (520) 538-5130, or e-mail: don.hann@disa.mil.

FOR THE COMMANDER:



for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

2 Enclosures a/s

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ADDITIONAL REFERENCES

- (c) Department of Defense (DoD) Information Technology Standards Registry (DISR), "DoD Internet Protocol Version 6 (IPv6) Standard Profiles for IPv6 Capable Products Version 2.0," 1 August 2007
- (d) Joint Interoperability Test Command, "DoD IPv6 Generic Test Plan Version 3," August 2007
- (e) DoD Chief Information Officer (CIO) Memorandum, "IPv6," 9 June 2003
- (f) DoD CIO Memorandum, "IPv6 Interim Transition Guidance," 29 September 2003
- (g) DoD IPv6 Transition Office, "DoD IPv6 Master Test Plan, Version 2," September 2006
- (h) DoD, "DISR Global Information Grid (GIG) Convergence Master Plan (GCMP), Version 5.25," 29 March 2006

INTERNET PROTOCOL VERSION 6 CAPABLE TESTING SUMMARY

- 1. SYSTEM TITLE.** Dell OptiPlex 160 32-bit desktop computer running Microsoft Windows Vista, Service Pack (SP) 1, operating system (OS), hereafter referred to as the device under test (DUT).
- 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 (DISA), Attn: GE36 Sam Assi, P.O. Box 4502, Arlington, VA 22204-4502, (703) 882-0241, e-mail: sam.assi@disa.mil.
- 4. TESTER.** Donald L. Hann, Joint Interoperability Test Command (JITC), P.O. Box 12798, Fort Huachuca, AZ 85670-2798, DSN: 879-5130, commercial: (520) 538-5130, e-mail: don.hann@disa.mil.
- 5. DEVICE UNDER TEST DESCRIPTION.** The DUT is a small commercial desktop computer, designed by Dell to satisfy basic productivity needs.
- 6. OPERATIONAL ARCHITECTURE.** The operational architecture was the JITC simulated Defense Information Systems Network (DISN) IP Core Network as depicted in Figure 2-1.
- 7. REQUIRED DEVICE INTERFACES.** All IPv6-capable products to be included on the Unified Capabilities Approved Product List must meet the requirements of the DoD Information Technology Standards Registry (DISR), "DoD IPv6 Standard Profiles for IPv6 Capable Products Version 2.0," 1 August 2007. Product testing conducted against these requirements is in accordance with the "DoD IPv6 Generic Test Plan (GTP) Version 3," August 2007. The IPv6 host/workstation profile requirements for conformance and interoperability are in Table 2-1.

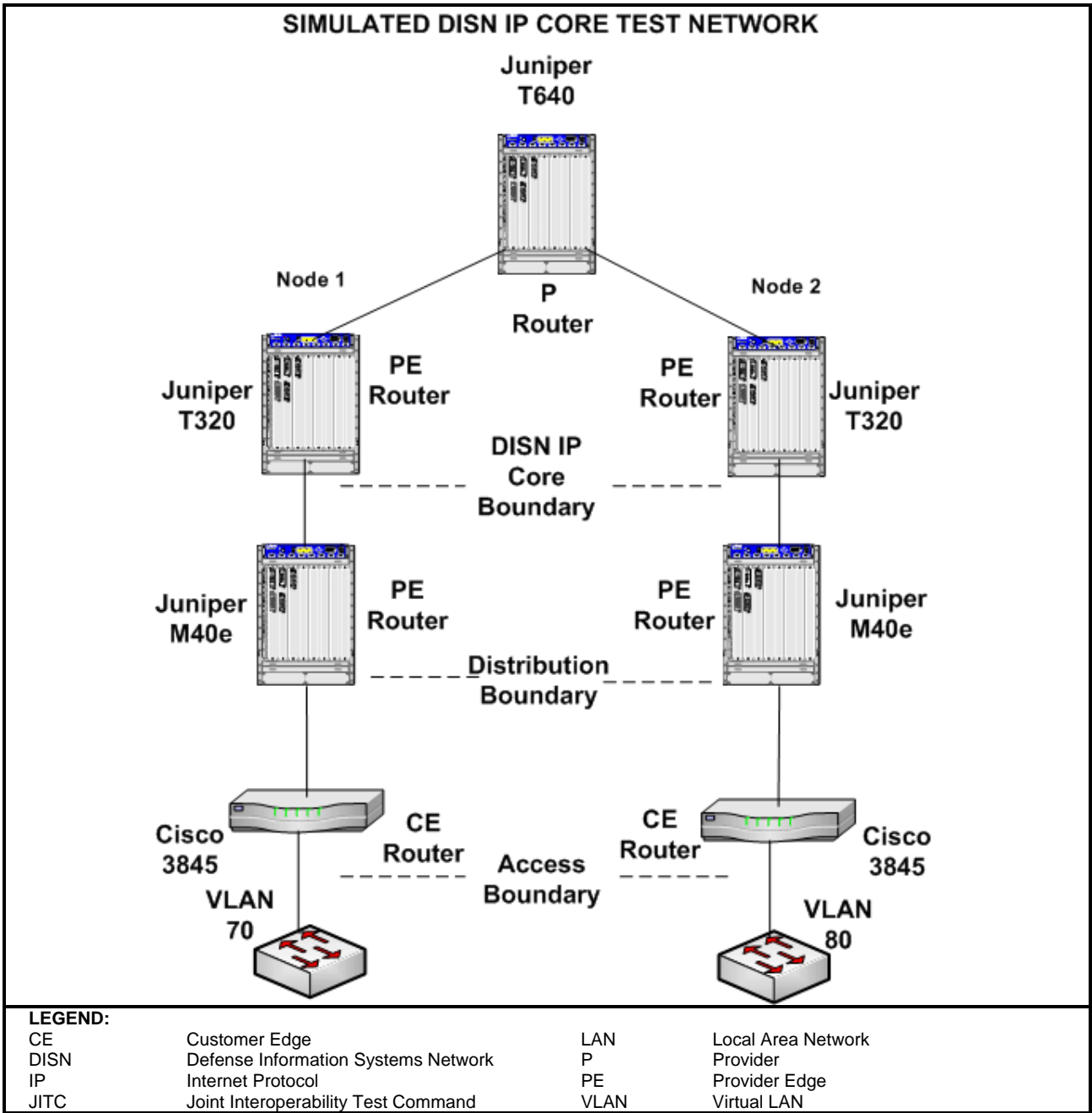


Figure 2-1. JITC Simulated DISN IP Core Network

Table 2-1. IPv6 Capability Requirements and Status

| Dell OptiPlex 160 Desktop Computer | | | | | | | |
|------------------------------------|--|-------------------|------------------|------------------|-------------|-------------|----------|
| RFC | RFC Title | Testing Completed | | Host/Workstation | | Implemented | Comments |
| | | Conformance | Interoperability | Requirement | Met/Not Met | | |
| IPv6 Base | | | | | | | |
| 2460 | Internet Protocol version 6 (IPv6) Specification | Stated in LoC | Yes | M | Met | Yes | |
| 4443 | Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification | Stated in LoC | Yes | M | Met | Yes | |
| 2461 | Neighbor Discovery for IP version 6 (IPv6) | Stated in LoC | Yes | M | Met | Yes | |
| 1981 | Path Maximum Transmission Unit Discovery for IPv6 | Stated in LoC | Yes | M | Met | Yes | |
| 2462 | IPv6 Stateless Address Auto configuration | Stated in LoC | Yes | M | Met | Yes | Note 1 |
| 3315 | DHCPv6 (Client) | Stated in LoC | Yes | M | Met | Yes | Note 1 |
| 4291 | IPv6 Addressing Architecture | Stated in LoC | Yes | M | Met | Yes | |
| 4007 | IPv6 Scoped Address Architecture | Stated in LoC | Yes | M | Met | Yes | |
| 4193 | Unique Local IPv6 Unicast Addresses | Stated in LoC | Yes | M | Met | Yes | |
| 2710 | Multicast Listener Discovery (MLD) | Stated in LoC | Yes | M | Met | Yes | |
| 3810 | Multicast Listener Discovery Version 2 (MLDv2) for IPv6 | Stated in LoC | Yes | M | Met | Yes | |
| 2464 | Transmission of IPv6 Packets over Ethernet Networks | Stated in LoC | Yes | CM | Met | Yes | |
| IPSec | | | | | | | |
| 4301 | Security Architecture for the Internet Protocol | Stated in LoC | Yes | M | Met | Yes | |
| 4302 | IP Authentication Header | Stated in LoC | Yes | S | Met | Yes | |
| 4303 | IP Encapsulating Security Payload (ESP) | Stated in LoC | Yes | M | Met | Yes | |
| 4304 | Extended Sequence Number (ESN) Addendum to IPsec Domain of Interpretation (DOI) for Internet Security Association and Key Management Protocol (ISAKMP) | Not Stated | Not Tested | S | Not Tested | No | |
| 4305 | Cryptographic Algorithm Implementation Requirements for Encapsulating Security Payload (ESP) and Authentication Header (AH) | Stated in LoC | Yes | M | Met | Yes | |
| 4869 | Suite B Cryptographic Suites for IPsec | Not Stated | Not Tested | S+ | Not Tested | No | |
| 4309 | Using Advanced Encryption Standard (AES) CCM Mode with IPsec Encapsulating Security Payload (ESP) | Not Stated | Not Tested | CS | Not Tested | No | |
| 3971 | Secure Neighbor Discovery | Not Stated | Not Tested | S | Not Tested | No | |

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

| Dell OptiPlex 160 Desktop Computer | | | | | | | |
|---|---|--------------------------|-------------------------|-------------------------|--------------------|--------------------|-----------------|
| RFC | RFC Title | Testing Completed | | Host/Workstation | | Implemented | Comments |
| | | Conformance | Interoperability | Requirement | Met/Not Met | | |
| 3972 | Cryptographically Generated Addresses | Not Stated | Not Tested | S | Not Tested | No | |
| 3041 | Privacy Extensions for Stateless Address Auto configuration in IPv6 | Stated in LoC | Yes | S+ CM | Met | Yes | |
| 2407 | The Internet IP Security Domain of Interpretation for ISAKMP | Stated in LoC | Yes | M | Met | Yes | |
| 2408 | Internet Security Association and Key Management Protocol (ISAKMP) | Stated in LoC | Yes | M | Met | Yes | |
| 2409 | Internet Key Exchange (IKEv1) Protocol | Stated in LoC | Yes | M | Met | Yes | |
| 4109 | Algorithms for Internet Key Exchange (IKEv1) | Stated in LoC | Yes | M | Met | Yes | |
| Transition Mechanisms | | | | | | | |
| 4213 | Transition Mechanisms for IPv6 Host and Routers | Stated in LoC | Yes | CM | Met | Yes | |
| 2766 | Network Address Translation – Protocol Translation (NAT-PT) | Not Stated | Not Tested | SN | Not Tested | No | |
| 3053 | IPv6 Tunnel Broker | Not Stated | Not Tested | CM | Not Tested | No | |
| QoS | | | | | | | |
| 2474 | Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers | Not Stated | Not Tested | O | Not Tested | No | |
| 2205 | Resource ReSerVation Protocol (RSVP) – Version 1 Functional Specification | Not Stated | Not Tested | O | Not Tested | No | |
| 2207 | RSVP Extensions for IPSEC Data Flows | Not Stated | Not Tested | O | Not Tested | No | |
| 2210 | The Use of RSVP with IETF Integrated Services | Not Stated | Not Tested | O | Not Tested | No | |
| 2750 | RSVP Extensions for Policy Control | Not Stated | Not Tested | O | Not Tested | No | |
| 3175 | Aggregation of RSVP for IPv4 and IPv6 Reservations | Not Stated | Not Tested | O | Not Tested | No | |
| Mobility | | | | | | | |
| 3775 | Mobility Support in IPv6 | Not Stated | Not Tested | CM | Not Tested | No | |
| 3776 | Using IPsec to Protect Mobile IPv6 Signaling between Mobile Nodes and Home Agents | Not Stated | Not Tested | CM | Not Tested | No | |
| 4282 | The Network Access Identifier | Not Stated | Not Tested | CS+ | Not Tested | No | |
| 4283 | Mobile Node Identifier for Option for IPv6 | Not Stated | Not Tested | CS+ | Not Tested | No | |
| Bandwidth Limited Networks | | | | | | | |
| 3095 | Robust Header Compression (RoHC) | Not Stated | Not Tested | O | Not Tested | No | |
| 3241 | RoHC over PPP | Not Stated | Not Tested | O | Not Tested | No | |
| 3843 | RoHC: A Compression Profile for IP | Not Stated | Not Tested | O | Not Tested | No | |

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

| Dell OptiPlex 160 Desktop Computer | | | | | | | |
|--|---|-------------------|--------------------------------------|------------------|-------------|-------------|----------|
| RFC | RFC Title | Testing Completed | | Host/Workstation | | Implemented | Comments |
| | | Conformance | Interoperability | Requirement | Met/Not Met | | |
| 4362 | RoHC: A Link-Layer Assisted Profile for IP/UDP/RTP | Not Stated | Not Tested | O | Not Tested | No | |
| 2507 | IP Header Compression | Not Stated | Not Tested | O | Not Tested | No | |
| 2508 | Compressing IP/UDP/RTP Headers for Low-Speed Serial Links | Not Stated | Not Tested | O | Not Tested | No | |
| Host | | | | | | | |
| 3484 | Default Address Selection for IPv6 | Stated in LoC | Yes | M | Met | Yes | |
| 3596 | DNS Extensions to Support IPv6 | Stated in LoC | Yes | M | Met | Yes | |
| 3986 | Uniform Resource Identifier (URI): Generic Syntax | Stated in LoC | Yes | M | Met | Yes | |
| LEGEND: | | | | | | | |
| CBC | Cipher Block Chaining | LoC | Letter of Conformance | | | | |
| CCM | CBC MAC Mode | M | Must | | | | |
| CM | Conditional Must | MAC | Message Authentication Code | | | | |
| CS | Conditional Should | O | Optional | | | | |
| CS+ | Conditional Should Plus | PPP | Point-to-Point Protocol | | | | |
| DHCPv6 | Dynamic Host Configuration Protocol Version 6 | QoS | Quality of Service | | | | |
| DNS | Domain Name Service | RFC | Request for Comments | | | | |
| DoD | Department of Defense | RoHC | Robust Header Compression | | | | |
| GTP | General Test Plan | RSVP | Resource ReSerVation Protocol | | | | |
| IETF | Internet Engineering Task Force | RTP | Real-Time Transport Protocol | | | | |
| IP | Internet Protocol | S | Should | | | | |
| IPSec | Internet Protocol Security | S+ | Should Plus | | | | |
| IPv4 | Internet Protocol Version 4 | SLAAC | Stateless Address Auto-configuration | | | | |
| IPv6 | Internet Protocol Version 6 | SN | Should Not | | | | |
| ISAKMP | Internet Security Association and Key Management Protocol | UDP | User Datagram Protocol | | | | |
| NOTES: | | | | | | | |
| 1. All Product Classes MUST support a method of autonomous configuration, either SLAAC or DHCPv6 client. | | | | | | | |
| 2. The terms Must, Conditional Must, Should, Should Plus, Conditional Should, Conditional Should Plus, Optional, and Should Not are used to reference specific required RFCs from the IETF, the DoD Information Technology Standards Registry, the DoD IPv6 Standard Profiles for IPv6 Capable Products Version 2.0, and the DoD IPv6 GTP. | | | | | | | |

8. TEST NETWORK DESCRIPTION. The DUT was tested as part of the JITC simulated DISN IP Core Network managed by the Advanced IP Technology Capability, and configured as shown in Figure 2-2.

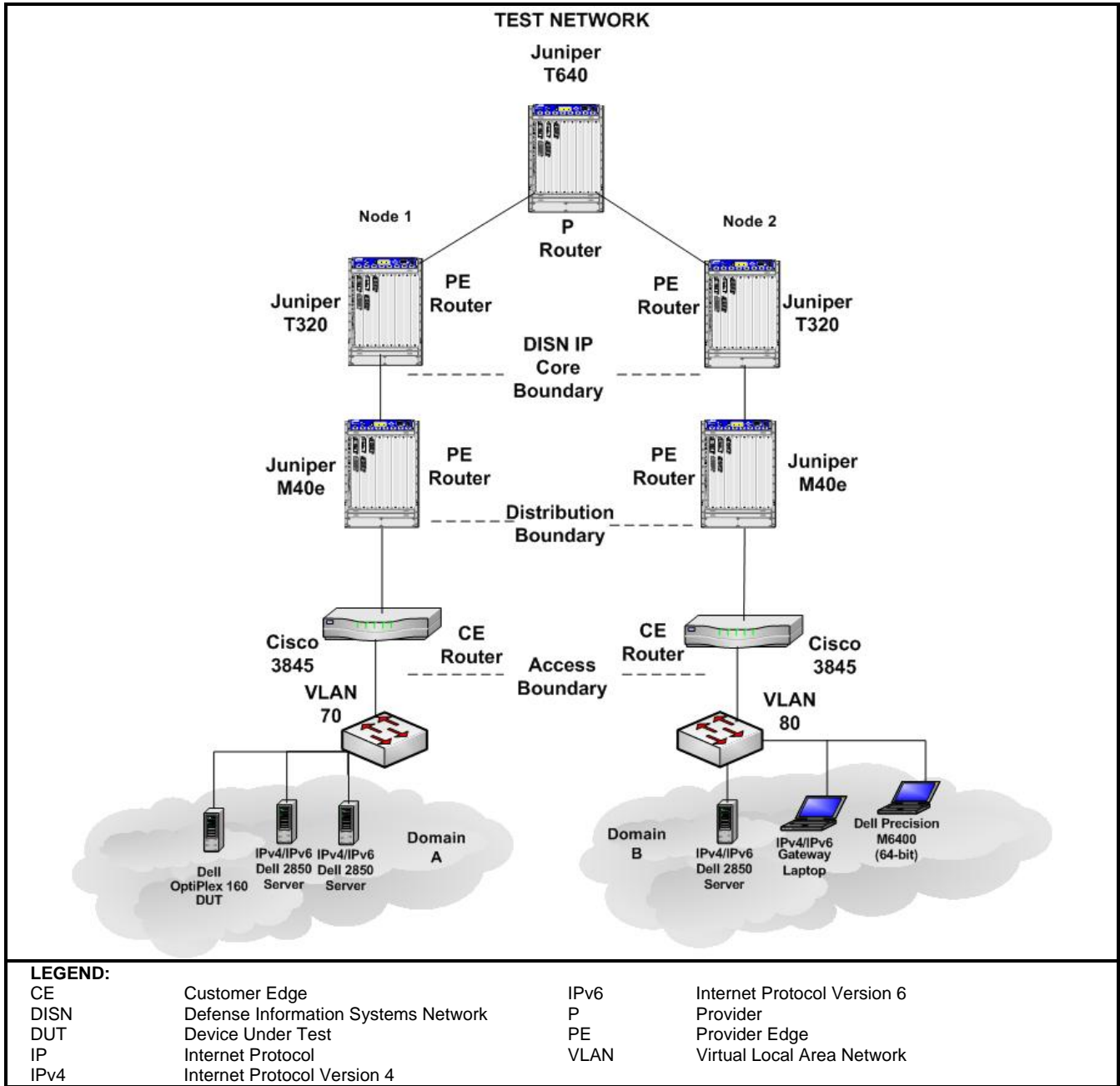


Figure 2-2. Test Network

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 | | |
| Dell Desktop - DUT | OptiPlex 160 (32-bit) | Microsoft Windows Vista SP 1 |
| Dell Notebook | Precision M6400 (64-bit) | Microsoft Windows Vista SP 1 |
| 2 Cisco Routers | Cisco 3845 | 12.4(11)T |
| 2 Juniper Routers | Juniper M40e | V 7.6R3.6 |
| 2 Juniper Routers | Juniper T320 | V 7.5R4.4 |
| Juniper Router | Juniper T640 | V 7.5R4.4 |
| Gateway Notebook | 450ROG | Microsoft Windows XP Professional |
| 3 Dell Power Edge Servers | 2850 | Microsoft Windows Server 2003 Enterprise SP 2 Build 5.2.3790 |
| Software | | |
| Microsoft Windows XP Professional | N/A | Build 5.1.2600 SP 2 |
| Microsoft Windows Vista | N/A | Build 6.0.6000 SP 1 |
| Microsoft Windows Server 2003 Enterprise | N/A | Build 5.2.3790 SP 2 |
| Xlight FTP Server | N/A | V 1.57 |
| VLC Media Player | N/A | V 0.8.6b |
| Wireshark | N/A | V 1.0.2 (SVN Rev 25698) |
| LEGEND: | | |
| DUT | Device Under Test | Rev Revision |
| FTP | File Transfer Protocol | SP Service Pack |
| IOS | Internetworking Operating System | SVN Software Version Number |
| LAN | Local Area Network | T New Technology |
| N/A | Not Applicable | V Version |
| OS | Operating System | VLC Video LAN Client |
| R | Release | |

10. TEST LIMITATIONS. None.

11. TEST RESULTS.

a. IPv6 Base.

Test Case C.1.1. 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 Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.2. The RFC 2460 IPv6 Specification 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 Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.3. The RFC 2461 Neighbor Discovery for IPv6 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 Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.4. The RFC 2462 IPv6 Stateless Address Auto-configuration 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 whether Duplicate Address Detection identifies duplicate addresses on the network, and then issues a new address accordingly. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.8. The RFC 2710 Multicast Listener Discovery (MLD) for IPv6 specifies the protocol used by an IPv6 router to discover the presence of multicast listeners (i.e., 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 Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.10. The RFC 3810 MLD Version 2 is used by IPv6 routers to discover the presence of multicast listeners on their directly attached links, and to discover specifically which multicast addresses are interests to those neighboring nodes. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.3.8. The RFC 3315 Dynamic Host Configuration Protocol (DHCP) for IPv6 specifies the use of an enabled DHCP server passing configuration parameters such as IPv6 network addresses to IPv6 nodes. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.11. The RFC 4007 IPv6 Scoped Address Architecture defines the nature and characteristics for the usage of IPv6 addresses of different scopes. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.12. The RFC 4193 Unique Local IPv6 Unicast Addresses defines globally unique local addresses. Local IPv6 unicast addressing is intended to be used for local communications and is not expected to be routed to the Internet. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.13. The RFC 4291 IPv6 Addressing Architecture defines the specifications for the addressing architecture of the IPv6 protocol. The definitions cover unicast addresses, anycast addresses, and multicast addresses. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.14. The RFC 4443 Internet Control Message Protocol (ICMP) for the IPv6 specification identifies ICMP messages for the IPv6 protocol. It includes message format and identifies two types of messages: error and informational. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.1.5. The RFC 2464 Transmission of IPv6 Packets over Ethernet Networks specifies the frame format for transmission of IPv6 link-local addresses and statelessly auto-configured addresses on Ethernet networks. The Dell OptiPlex 160 desktop computer met the test requirement.

b. IP Security (IPSec).

Test Case C.2.1. The RFC 4301 Security Architecture for Internet Protocol defines the security architecture for IP. The document defines what IPSec is and how it works. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.2.2. The RFC 4302 IP Authentication Header (AH) is used to provide connectionless integrity and data origin authentication for IP datagrams, and to provide protection against replays. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.2.3 & C.2.8. The RFC 4303 IP Encapsulating Security Payload (ESP) specifies the ESP header is designed to provide a mix of security services in IPv4 and IPv6. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.2.4 & C.2.8. The RFC 4305 Cryptographic Algorithm Implementation Requirements for ESP and AH defines the ability to successfully establish IPSec utilizing all of the required encryption and authentication algorithms. The DUT was able to communicate over the established IPSec links using IPv6. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.3.7. The RFC 3041 Privacy Extensions for Stateless Address Auto-configuration in IPv6 generate addresses without the necessity of a DHCP server. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.2.5. 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 Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.2.5. The RFC 2408 ISAKMP describes a protocol utilizing security concepts necessary for establishing Security Associations and cryptographic keys in an Internet environment. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.2.5. The RFC 2409 The Internet Key Exchange (IKE) provides a framework for authentication and key exchange but does not define them. The ISAKMP is designed to be key exchange independent; to support many different key exchanges. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.2.6. The RFC 4109 Algorithms for IKE Version 1 (IKEv1) updates the original IKEv1 definition (RFC 2409) and requires Secure Hashing Algorithm 1 for hashing and Hashed Message Authentication Code functions; Pre-shared secrets for authentication; and Diffie-Hellman Modern Programming Practice group 2 as Musts. The Dell OptiPlex 160 desktop computer met the test requirement.

c. Transition Mechanisms.

Test Case C.3.18. The RFC 4213 Transition Mechanisms for IPv6 Host and Routers specifies IPv4 co-existence mechanisms that can be implemented by IPv6 devices. The Dell OptiPlex 160 desktop computer met the test requirement.

d. Host.

Test Case C. 3.12. The RFC 3484 Default Address Selection IPv6 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 Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.3.13. The RFC 3596 Domain Name Service (DNS) Extensions to Support IPv6 defines the changes that need to be made to the DNS to support hosts running IPv6. The Dell OptiPlex 160 desktop computer met the test requirement.

Test Case C.3.17. The RFC 3986 Uniform Resource Identifier Generic Syntax provides a simple and extensible means for identifying a resource. The Dell OptiPlex 160 desktop computer met the test requirement.

e. Conclusion. The Dell OptiPlex 160 desktop computer running Microsoft Windows Vista, SP 1, met all the required RFCs.

12. TEST AND ANALYSIS REPORT. No detailed test report was written in accordance with the Assistant Secretary of Defense-Networks Information and Integration. All test data is maintained in the Advanced IP Technology Capability and is available upon request. This certification 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/>.