

USGv6 Test Selection Tables*

IPv6 Basic Requirements (IPv6 Specification, ICMPv6, PMTU, ND)

II-Interoperability: IPv6 Basic Requirements-v1.2

Applicable Profile: NIST SP 500-267 A profile for IPv6 in the U.S. Government - Version 1.0, July 2008.

Configuration Option: None

Test Specification Id:

- [[Core-Interoperability](#)] IPv6 Ready Interoperability Specification Core Protocols, Version 4.0.5, September 2018, [editor: [IPv6 Ready Logo](#)].

Reference:

- [RFC 1981] McCann, J., S. Deering, and J. Mogul, Path MTU Discovery for IPv6, RFC 1981, August 1996.
- [RFC 2460] Hinden, R., S. Deering, Internet Protocol, Version 6 (IPv6) Specification, RFC 2460, December 1998.
- [RFC 4443] Conta, A., S. Deering M. Gupta, Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification, RFC 4443, March 2006.
- [RFC 4861] Narten, T., Nordmark, E., and W. Simpson, H. Soliman, Neighbor Discovery for IP Version 6 (IPv6), RFC 4861, September 2007.
- [RFC 5095] Abley, J, Savola, P. Neville-Neil, G. Deprecation of Type 0 Routing Headers in IPv6, RFC 5095, December 2007

Interoperability Partner Requirements:

- Any host or router claiming compliance with the USGv6 profile MUST demonstrate evidence of interoperability with **three** or more independent implementations of IPv6. The three implementations must include at least one Host and at least one Router.
- Can not change Target nodes once testing has begun.

If your Device Under Test (DUT) Type is **Host**:

- DUT = TAR-Host1 for all tests.
- TAR-Host2 = Independent Implementation Device B
- TAR-Router1 = Independent Implementation Device C
- Third Interoperability Partner is satisfied by executing the test specification again using the following:
 - TAR-Router1 = Independent Implementation Device D

If your Device Under Test (DUT) Type is **Router** :

- DUT = TAR-Router1 for all tests.
- TAR-Host1 = Independent Implementation Device B
- TAR-Router2 = Independent Implementation Device C
- Third Interoperability Partner is satisfied by executing the test specification again using the following:
 - TAR-Host1 = Independent Implementation Device D

Neighbor Discovery Test Check List				
Reference	Test Specification Id	Test Number	Device Type	Passed
RFC 4861	Core-Interoperability	IP6Interop.1.4 Processing Router Advertisements - Router Lifetime (A)(B)	Host/Router	
RFC 4861	Core-Interoperability	IP6Interop.1.5 Redirect Function	Router	

Path MTU Discovery Test Check List				
Reference	Test Specification Id	Test Number	Device Type	Passed
RFC 1981	Core-Interoperability	IP6Interop.1.6 Path MTU Discovery and Fragmentation (A)(C)(D)	Host	

ICMPv6 Test Check List

Reference	Test Specification Id	Test Number	Device Type	Passed
RFC 4443	Core-Interoperability	IP6Interop.1.1 ICMPv6 Echo Interoperability (A)(B)(D)(E)	Host	
RFC 4443	Core-Interoperability	IP6Interop.1.1 ICMPv6 Echo Interoperability (D)(E)(G)(H)	Router	

NOTE: The following tests are considered a **S** for the IPv6 Basic Requirements as per the IPv6 Profile.

Redirect Functionality "Should" for Host				
Reference	Test Specification Id	Test Number	Device Type	Passed
RFC 4861	Core-Interoperability	IP6Interop.1.5 Redirect Function	Host	

NOTE: The following tests are considered a **S** for the IPv6 Basic Requirements as per the IPv6 Profile.

Path MTU Discovery "Should" for Router				
Reference	Test Specification Id	Test Number	Device Type	Passed
RFC 1981	Core-Interoperability	IP6Interop.1.6 Path MTU Discovery and Fragmentation (A)(B)(C)(D)(E)	Router	

NOTE: The following tests have been omitted from the USGv6 Test Program for the IPv6 Basic Requirements. These tests are considered SHOULDs as defined by the IETF.

Not Required				
Reference	Test Specification Id	Test Number	Device Type	Passed
RFC 4443	Core-Conformance	IP6Interop.1.1 ICMPv6 Echo Interoperability (C)(F)(I)	Host/Router	

* The objective of this test selection sheet is to provide a reference for available test specifications that identifies tests applicable to the USGv6 Profile.