USGv6 Test Selection Tables

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

I1-Interoperability: IPv6 Core Requirements R1v1.4

Applicable Profile: NIST SP 500-267B Revision 1 USGv6 Profile – November 2020.

Test Specification Id:

- [Core-Interoperability] IPv6 Ready Core Protocols Interoperability Test Specification, [editor: IPv6 Ready Logo].

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.
- Target nodes must not change 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

IPv6 Core Test Check List			
Reference	**Test Specification Id**	**Test Number**	**Device Type**
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
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	Host/Router
RFC 8201	Core-Interoperability	IP6Interop.1.6 Path MTU Discovery and Fragmentation (A)(C)(D)	Host
RFC 8201	Core-Interoperability	IP6Interop.1.6 Path MTU Discovery and Fragmentation (A)(B)(D)(E)	Router

RFC 4191	Core-Interoperability	IP6Interop.1.7 Processing Router Advertisements – Router Preference (A)(B)(C)(D)	Host/Router
RFC 4191	Core-Interoperability	IP6Interop.1.8 Processing Router Advertisements – Route Information Option (A)(B)(C)(D)(E)	Router

References:

- [RFC 8201] McCann, J., S. Deering, J. Mogul, and R. Hinden, Path MTU Discovery for IPv6, RFC 8201, July 2017.
- [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 4191] R. Draves, D. Thaler, Default Router Preferences and More-Specific Routes, RFC 4191, November 2005.
- [RFC 8106] - J.Jeong, S. Park, L.Beloeil, and S.Mandadapalli, IPv6 Router Advertisement Options for DNS Configuration, RFC 8106, March 2017.

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