OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
Type	FRR	FRR	FRR	FRR	FRR	FRR	FRR	FRR	FRR	FRR	FRR	FRR
Commit ID	ab0c954	ab0c954	16e3267	16e3267	5753eb9	5753eb9	821cf0d	821cf0d	1a664f5	1a664f5	3e71b5d	3e71b5d
Commit Date	2017-01-16	2017-01-16	2017-01-19	2017-01-19	2017-02-23	2017-02-23	2017-02-24	2017-02-24	2017-03-07	2017-03-07	2017-04-02	2017-04-02
ANVL-OSPFV3-1.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s2.4 p6 Explicit support for multiple instances per link											
	`Explicit Support for Multiple Instances per Link` `OSPF now supports the ability to run multiple OSPF protocol` `instances on a single link.` `(This test is for single instance of OSPFv3 daemon on a link)`											
ANVL-OSPFV3-2.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s2.5 p7 Use of link-local addresses											
	`Use of Link-Local Addresses` `On all OSPF interfaces except virtual links, OSPF packets are sent` `using the interface"s associated link-local unicast address as` `source`											
ANVL-OSPFV3-2.3 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s2.5 p7 Use of Link-Local Addresses											
	`Use of Link-Local Addresses` `On virtual links, a global scope IPv6 address MUST be used as the` `source address for OSPF protocol packets.`											
ANVL-OSPFV3-2.4 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s2.5 p7 Use of link-local addresses											
	`Use of Link-Local Addresses` `Link-local addresses appear in OSPF Link-LSAs`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-2.5	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s2.5 p7 Use of Link-Local Addresses											
MUST	`Use of Link-Local Addresses` `link-local addresses MUST NOT be advertised in` `inter-area-prefix-LSAs, AS-external-LSAs or intra-area-prefix-LSAs`											
ANVL-OSPFV3-3.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s2.7 p8 Packet format changes											
MUST	`Packet Format Changes` `The OSPF version number has been incremented from 2 to 3`											
ANVL-OSPFV3-3.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s2.7 p8 Packet format changes											
MUST	`Packet Format Changes` `The Hello packet now contains no address information at all. Rather,` `it now includes an Interface ID that the originating router has assigned` `to uniquely identify (among its own interfaces) its interface to` `the link`											
ANVL-OSPFV3-3.3	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s2.7 p8 Packet format changes											
MUST	`Packet Format Changes` `This Interface ID will be used as the network-LSA"s Link State ID` `if the router becomes the Designated Router on the link.`											
ANVL-OSPFV3-3.4	pass	FAIL	FAIL	pass	pass	FAIL	pass	FAIL	FAIL	pass	pass	FAIL
	RFC 5340, s2.7 p8 Packet format changes											
MUST	`Packet Format Changes` `If the R-bit is clear, an OSPF speaker can participate in` `OSPF topology distribution without being used to forward` `transit traffic; this can be used in multi-homed hosts that` `want to participate in the routing protocol`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-3.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340 s2.9 p10 Handling Unknown LSA Types RFC 5340 sA.4.2.1 p72 LS type											
	Packet Format Changes Handling of unknown LSA types has been made more flexible so that, based on LS type, unknown LSA types are either treated as having link-local flooding scope, or are stored and flooded as if they were understood 0 Treat the LSA as if it had link-local flooding scope (Test for Link-local flooding scope)											
ANVL-OSPFV3-3.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340 s2.9 p10 Handling Unknown LSA Types RFC 5340 sA.4.2.1 p72 LS type											
	Packet Format Changes Handling of unknown LSA types has been made more flexible so that, based on LS type, unknown LSA types are either treated as having link-local flooding scope, or are stored and flooded as if they were understood 1 Store and flood the LSA, as if type understood (Test for Area-flooding scope)											
ANVL-OSPFV3-4.1 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340 s3.4 p12 Stub Area Unknown LSA Flooding Restriction Deprecated RFC 5340 sA.4.2.1 p72 LS type											
	Handling Unknown LSA Types an LSA whose LS type is unrecognized may only be flooded into/throughout a stub area if both a) the LSA has area or link-local flooding scope and b) the LSA has U-bit set to 0 0 Treat the LSA as if it had link-local flooding scope (Test for Link-local flooding scope)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-4.2 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340 s3.4 p12 Stub Area Unknown LSA Flooding Restriction Deprecated RFC 5340, s4.5.2 p42 Sending Link State Update packets RFC 5340 sA.4.2.1 p72 LS type											
	Handling Unknown LSA Types an LSA whose LS type is unrecognized may only be flooded into/throughout a stub area if both a) the LSA has area or link-local flooding scope and b) the LSA has U-bit set to 0 Case 2 The LS type is unrecognized and the U-bit in the LS Type is set to 0 (treat the LSA as if it had link-local flooding scope). In this case there is a single eligible interface, namely, the interface on which the LSA was received. 0 Treat the LSA as if it had link-local flooding scope (This test is for Area-flooding scope)											
ANVL-OSPFV3-6.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s4 p40 Functional Summary											
	Implementation Details The router sends Hello packets to its neighbors, and in turn receives their Hello packets.											
ANVL-OSPFV3-6.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s4 p40 Functional Summary											
	Implementation Details On broadcast networks, the router dynamically detects its neighboring routers by sending its Hello packets to the multicast											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-6.4 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s4 p40 Functional Summary											
	`Implementation Details` `Link state is also advertised when a router"s state changes.`											
ANVL-OSPFV3-6.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s4.3 p43 Routing protocol packets											
	`Implementation Details` `Each LSA is tagged with the ID of the originating router` `and a checksum of its link state contents.` `(This test is for Link-LSA)`											
ANVL-OSPFV3-6.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s4.3 p43 Routing protocol packets											
	`Implementation Details` `Each LSA is tagged with the ID of the originating router` `and a checksum of its link state contents.` `(This test is for Network-LSA)`											
ANVL-OSPFV3-6.7 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s4.3 p43 Routing protocol packets											
	`Implementation Details` `Each LSA is tagged with the ID of the originating router and a` `checksum of its link state contents.` `(This test is for Inter-Area-Prefix-LSA)`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-6.8 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.1 p52 The Hello Protocol											
	`Implementation Details` `Bidirectional communication is indicated when the router sees itself listed in the neighbor"s Hello Packet`											
ANVL-OSPFV3-6.9 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.1 p52 The Hello Protocol											
	`Implementation Details` `On broadcast netPrefixes, each router advertises itself by multicasting Hello Packets` `(In IPv6, broadcasting has been incorporated into multicating capability.)`											
ANVL-OSPFV3-6.10 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.1 p52 The Hello Protocol											
	`Implementation Details` `On broadcast netPrefixes, each router advertises itself by periodically multicasting Hello Packets` `(In IPv6, broadcasting has been incorporated into multicating capability.)`											
ANVL-OSPFV3-6.11 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p53 The Synchronization of Databases											
	`Implementation Details` `Each router describes its database by sending a sequence of Database Description packets to its neighbor.` `(This is an indirect test which verifies that the DUT recognizes the LSA headers contained in the Database Description packets received from ANVL.)`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-6.12 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p53 The Synchronization of Databases											
	Implementation Details When the neighbor sees an LSA that is more recent than its own database copy, it makes a note that this newer LSA should be requested.											
ANVL-OSPFV3-6.13 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p53 The Synchronization of Databases											
	Implementation Details When the neighbor sees an LSA that is more recent than its own database copy, it does make a note that this LSA (which is newer) should be requested. (This is a negative test)											
ANVL-OSPFV3-6.14 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p53 The Synchronization of Databases											
	Implementation Details Database Description Packets sent by the master (polls) are acknowledged by the slave through echoing of the sequence number											
ANVL-OSPFV3-6.15 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p53 The Synchronization of Databases											
	Implementation Details Database Description Packets sent by the master (polls) are acknowledged by the slave through echoing of the sequence number											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-6.16 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p54 The Synchronization of Databases											
	`Implementation Details` `The master is the only one allowed to retransmit Database Description Packets`											
ANVL-OSPFV3-6.17 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p54 The Synchronization of Databases											
	`Implementation Details` `The master is the only one allowed to retransmit Database Description Packets`											
ANVL-OSPFV3-6.18 **MUST**	pass	unpredict	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p54 The Synchronization of Databases											
	`Implementation Details` `Each Database Description contains an indication that there are more packets to follow --- the M-bit field.`											
ANVL-OSPFV3-6.19 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p54 The Synchronization of Databases											
	`Implementation Details` `Database Exchange Process is over when a router has received and sent Database Description Packets with the M-bit off`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-6.20 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4 p13 Implementation details RFC 2328, s7.2 p54 The Synchronization of Databases											
	`Implementation Details` `Database Exchange Process is over when a router has received and sent Database Description Packets with the M-bit off`											
ANVL-OSPFV3-6.21 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.3 p54 The Designated Router											
	`Implementation Details` `The Designated Router originates a network-LSA on behalf of the network.`											
ANVL-OSPFV3-6.22 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.3 p54 The Designated Router											
	`Implementation Details` `If a router is the DR, it does generate a network-LSA for the network. (This test is with DUT as BDR.)`											
ANVL-OSPFV3-6.23 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.3 p54 The Designated Router											
	`Implementation Details` `If a router is the DR, it does generate a network-LSA for the network.` `(This test is with DUT as DR-Other)`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-6.24 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.4 p56 The Backup Designated Router											
	`Implementation Details` `Backup Designated Router becomes Designated Router when` `the previous Designated Router fails.`											
ANVL-OSPFV3-6.25 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s7.4 p56 The Backup Designated Router											
	`Implementation Details` `Each Hello Packet has a field that specifies the Backup` `Designated Router for the network.`											
ANVL-OSPFV3-6.28 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.1 p69 Interface states											
	`Implementation Details` `In DR Other state, the router itself has not been selected` `Backup Designated Router either. The router forms adjacencies` `to both the Designated Router and the Backup Designated Router` `(if they exist).`											
ANVL-OSPFV3-6.29 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.1 p69 Interface states											
	`Implementation Details` `In Backup state the router establishes adjacencies to all` `other routers attached to the network.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-6.30 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.1 p69 Interface states											
	`Implementation Details` `In DR state Adjacencies are established to all other routers attached to the network.`											
ANVL-OSPFV3-6.31 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.3 p73 The Interface state machine											
	`Implementation Details` `When router is in Waiting state, if BackupSeen event occurs then router calculates the attached network"s Backup Designated Router and Designated Router`											
ANVL-OSPFV3-6.32 **MUST**	unpredict	FAIL	FAIL	pass	pass	FAIL	unpredict	FAIL	FAIL	unpredict	unpredict	FAIL
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.3 p73 The Interface state machine											
	`Implementation Details` `When router is in Waiting state, if WaitTimer event fires then router calculates the attached network"s Backup Designated Router and Designated Router`											
ANVL-OSPFV3-7.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.3 p74 The Interface state machine											
	`More Implementation Details` `When NbrChange event fires then router recalculates the attached network"s Backup Designated Router and Designated Router`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-7.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.3 p74 The Interface state machine											
	More Implementation Details When NbrChange event fires then router recalculates the attached network"s Backup Designated Router and Designated Router											
ANVL-OSPFV3-7.3 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.4 p75 Electing the Designated Router											
	More Implementation Details If more than one routers have declared themselves as Backup designated but not as Designated Router, the one having the highest Router Priority is declared to be Backup Designated Router.											
ANVL-OSPFV3-7.4 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.4 p75 Electing the Designated Router											
	More Implementation Details When selecting a Backup Designated Router among more than one Routers declaring themselves as Backup Designated Router, if there is a tie in the Router Priority, the one having highest Router ID is chosen.											
ANVL-OSPFV3-7.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.4 p76 Electing the Designated Router											
	More Implementation Details If no routers have declared themselves Backup Designated Router, choose the router having highest Router Priority as Backup Designated Router.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-7.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.4 p76 Electing the Designated Router											
	More Implementation Details If no routers have declared themselves Backup Designated Router, choose the router having highest Router Priority, again use the Router ID to break ties. (Verify that Router ID is used to break Ties).											
ANVL-OSPFV3-7.7 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.4 p76 Electing the Designated Router											
	More Implementation Details If one or more of the routers have declared themselves Designated Router the one having highest Router Priority is declared to be Designated											
ANVL-OSPFV3-7.8 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.4 p76 Electing the Designated Router											
	More Implementation Details In case of a tie in the router priority among routers declaring themselves Designated Router, the one having the highest Router ID is chosen. (DUT loose the DR election)											
ANVL-OSPFV3-7.9 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.4 p76 Electing the Designated Router											
	More Implementation Details In case of a tie in the router priority among routers declaring themselves Designated Router, the one having the highest Router ID is chosen. (DUT wins the DR election)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-7.10 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s9.4 p76 Electing the Designated Router											
	More Implementation Details If no routers have declared themselves Designated Router, assign the Designated Router to be the same as the newly elected Backup Designated Router.											
ANVL-OSPFV3-7.11 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.1 p83 neighbor states											
	More Implementation Details After the two routers discover their master/slave status, the state transitions to Exchange. (This test checks the case when DUT eventually becomes master)											
ANVL-OSPFV3-7.12 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.1 p83 neighbor states											
	More Implementation Details After the two routers discover their master/slave status, the state transitions to Exchange. (This test checks the case when DUT eventually becomes slave)											
ANVL-OSPFV3-7.13 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.1 p86 neighbor states											
	More Implementation Details Only one Database Description Packet is allowed outstanding at any one time. (So when a router is slave it will always send a Database Description packet with the DD sequence number same as that of the Database Description packet received from master.)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-7.14 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.1 p86 neighbor states											
	More Implementation Details Only one Database Description Packet is allowed outstanding at any one time. (So when a router is master it will retransmit a Database Description packet unless slave sends a Database Description packet echoing the DD sequence number of the last sent Database Description packet.)											
ANVL-OSPFV3-7.17 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.3 p91 The neighbor state machine											
	More Implementation Details AS-external-LSAs are omitted from the Database summary list if the area has been configured as a stub area.											
ANVL-OSPFV3-7.18 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4 p13 Implementation details RFC 2328, s10.3 p91 The neighbor state machine											
	More Implementation Details AS-external-LSAs are omitted from the Database summary list if the area has been configured as a stub area.											
ANVL-OSPFV3-7.19 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.3 p92 The neighbor state machine											
	More Implementation Details When in Exchange state if ExchangeDone event has fired then if the neighbor Link state request list is not empty, router transitions to Loading state and starts (or continues) sending Link State Request packets to the neighbor.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-7.20 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.3 p93 The neighbor state machine											
	More Implementation Details If the router is in Exchange or greater state and the neighbor event SeqNumberMismatch has occurred then the router increments the DD sequence number in the neighbor data structure.											
ANVL-OSPFV3-7.21 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.3 p93 The neighbor state machine											
	More Implementation Details If the router is in Exchange or greater state and the neighbor event SeqNumberMismatch has occurred then the router increments the DD sequence number in the neighbor data structure. This test is for Loading State.											
ANVL-OSPFV3-7.22 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.3 p94 The neighbor state machine											
	More Implementation Details The action for event BadLSReq is exactly the same as for the neighbor event SeqNumberMismatch. The (possibly partially formed) adjacency is torn down, and then an attempt is made at reestablishment. This test is for Exchange State.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-7.23 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.3 p94 The neighbor state machine											
	More Implementation Details The action for event BadLSReq is exactly the same as for the neighbor event SeqNumberMismatch. The (possibly partially formed) adjacency is torn down, and then an attempt is made at reestablishment. This test is for Loading State.											
ANVL-OSPFV3-7.24 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4 p13 Implementation details RFC 2328, s10.4 p95 Whether to become adjacent											
	More Implementation Details On broadcast, all routers become adjacent to both the Designated Router and the Backup Designated Router.											
ANVL-OSPFV3-8.1 **MUST**	pass	FAIL	FAIL	pass	pass	FAIL	pass	FAIL	FAIL	pass	pass	FAIL
	RFC 5340, s4.1.2 p15 The Interface Data structure RFC 2328, s9 p66 The Interface Data Structure											
	The Interface Data Structure The Designated Router is initialized to 0.0.0.0, which indicates the lack of a Designated Router.											
ANVL-OSPFV3-8.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.2 p15 The Interface Data structure RFC 2328, s9 p66 The Interface Data Structure											
	The Interface Data Structure The Backup Designated Router is initialized to 0.0.0.0, indicating the lack of a Backup Designated Router											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-8.3 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.2 p15 The Interface Data structure RFC 2328, s9 p66 The Interface Data Structure											
	`The Interface Data Structure` `RxmtInterval is the number of seconds between Database` `Description packet retransmissions.` `This tests for Database Description packet retransmission` `in ExStart state.`											
ANVL-OSPFV3-8.4 **MUST**	pass	FAIL	pass	pass	pass	pass	pass	FAIL	FAIL	pass	pass	pass
	RFC 5340, s4.1.2 p15 The Interface Data structure RFC 2328, s9 p66 The Interface Data Structure											
	`The Interface Data Structure` `RxmtInterval is the number of seconds between Link State` `Request packet retransmissions.` `This tests for Database Description packet retransmission` `in Loading state.`											
ANVL-OSPFV3-8.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.2 p15 The Interface Data structure RFC 2328, s9 p66 The Interface Data Structure											
	`The Interface Data Structure` `RxmtInterval is the number of seconds between LSA` `retransmissions, for adjacencies belonging to this` `interface.`											
ANVL-OSPFV3-8.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.2 p15 The Interface Data structure											
	`The Interface Data Structure` `The Interface ID appears in Hello packets sent out the interface,` `the link-local-LSA originated by router for the attached link`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-8.7	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.2 p15 The Interface Data structure											
MUST	The Interface Data Structure The Interface ID appears in Hello packets sent out the interface, the router-LSA originated by the router-LSA for the associated area											
ANVL-OSPFV3-8.8	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.2 p16 The Interface Data structure											
MUST	The Interface Data Structure A list of IPv6 prefixes can be configured for the attached link. These will be advertised by the router in link-LSAs											
ANVL-OSPFV3-8.9	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.2 p16 The Interface Data structure											
MUST	The Interface Data Structure A list of IPv6 prefixes can be configured for the attached link. These will be advertised by the router in link-LSAs, so that they can be advertised by the link"s Designated Router in intra-area-prefix-LSAs. (Verify that DR sends intra-area-prefix-LSA).											
ANVL-OSPFV3-9.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.3 p17 The Neighbor Data Structure											
MUST	The Neighbor Data Structure The neighbor"s choice of Designated Router is now encoded as a Router ID, instead of as an IP address (The test is for Designated Router)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-9.3 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.1.3 p17 The Neighbor Data Structure											
	The Neighbor Data Structure The neighbor"s choice of Designated Router is now encoded as a Router ID, instead of as an IP address (The test is for Backup Designated Router)											
ANVL-OSPFV3-10.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2 p17 Protocol Packet Processing											
	Protocol Packet Processing The Next Header field of the immediately encapsulating IPv6 header set to the value 89.											
ANVL-OSPFV3-11.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets											
	Sending Protocol Packets Packet lengtn The length of the entire OSPF packet in bytes, including the standard OSPF packet header											
ANVL-OSPFV3-11.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4.2.1 p18 Sending protocol packets											
	Sending Protocol Packets Packet length The length of the entire OSPF packet in bytes, including the standard OSPF packet header											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-11.3 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets											
	Sending Protocol Packets Instance ID The OSPF instance ID associated with the interface out of which the packet is being sent											
ANVL-OSPFV3-11.4 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets											
	Sending Protocol Packets Checksum The standard IPv6 Upper-Layer checksum covering the entire OSPF packet and prepended IPv6 pseudo-header.											
ANVL-OSPFV3-11.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4.2.1 p18 Sending protocol packets											
	Sending Protocol Packets Checksum The standard IPv6 Upper-Layer checksum covering the entire OSPF packet and prepended IPv6 pseudo-header.											
ANVL-OSPFV3-11.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s8.1 p59 Sending protocol packets											
	Sending Protocol Packets In OSPF protocol packet headers Router ID is set to the identity of the router itself (who is originating the packet).											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-11.7 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s8.1 p59 Sending protocol packets											
	`Sending Protocol Packets` `Area ID in the OSPF packet header must be set to the ID` `of the area that the packet is being sent into.` `(This test checks Hello packet)`											
ANVL-OSPFV3-11.9 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s8.1 p60 Sending protocol packets											
	`Sending Protocol Packets` `Retransmissions of Link State Update packets are ALWAYS sent` `directly to the neighbor.`											
ANVL-OSPFV3-11.10 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s10.9 p105 Sending Link State Request Packets											
	`Sending Protocol Packets` `When the neighbor responds to these requests (Link State Request)` `with the proper Link State Update packet(s), the Link state` `request list is truncated and a new Link State Request packet is` `sent. This process continues until the Link state request list` `becomes empty.`											
ANVL-OSPFV3-11.11 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s10.9 p105 Sending Link State Request Packets											
	`Sending Protocol Packets` `Link state request list that have been requested, but` `not yet received, are packaged into Link State Request` `packets for retransmission at intervals of RxmtInterval.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-11.12 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	`Sending Protocol Packets` `If the new LSA has been flooded back out receiving interface no acknowledgment is sent.`											
ANVL-OSPFV3-11.13 **MUST**	pass	pass	FAIL	unpredict	unpredict	FAIL	pass	pass	pass	pass	FAIL	FAIL
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	`Sending Protocol Packets` `If the new LSA is more recent than database copy, but was not flooded back out receiving interface and if the router is in state Backup then delayed acknowledgment is sent if advertisement is received from Designated Router, otherwise nothing is done.`											
ANVL-OSPFV3-11.14 **MUST**	unpredict	FAIL	unpredict	unpredict	FAIL	FAIL	FAIL	FAIL	FAIL	unpredict	unpredict	FAIL
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	`Sending Protocol Packets` `If the new LSA is more recent than database copy, but was not flooded back out receiving interface and if the receiving router is not in state Backup then delayed acknowledgment is sent.` `(This test checks the case when router state is DR Other)`											
ANVL-OSPFV3-11.15 **MUST**	unpredict	FAIL	FAIL	FAIL	FAIL	FAIL	unpredict	FAIL	FAIL	FAIL	unpredict	FAIL
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	`Sending Protocol Packets` `If the new LSA is more recent than database copy, but was not flooded back out receiving interface and if the receiving router is not in state Backup then delayed acknowledgment is sent.` `(This test checks the case when router state is DR)`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-11.16 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	Sending Protocol Packets If the new LSA is a duplicate, and was treated as implied acknowledgment and if the receiving router is in state Backup then delayed acknowledgment is sent if advertisement is received from Designated Router, otherwise nothing is done.											
ANVL-OSPFV3-11.17 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	Sending Protocol Packets If the new LSA is a duplicate, and was treated as implied acknowledgment and if the receiving router is not in state Backup then no acknowledgment is sent. (This test checks the case when router state is DR Other)											
ANVL-OSPFV3-11.18 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	Sending Protocol Packets If the new LSA is a duplicate, and was treated as implied acknowledgment and if the receiving router is not in state Backup then no acknowledgment is sent. (This test checks the case when router state is DR)											
ANVL-OSPFV3-11.19 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	Sending Protocol Packets If the new LSA is a duplicate, and was not treated as implied acknowledgment and if the receiving router is in state Backup then direct acknowledgment is sent.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-11.20 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.2.1 p18 Sending protocol packets RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets											
	`Sending Protocol Packets` `If the new LSA is a duplicate, and was not treated as implied` `acknowledgment and if the receiving router is not in state Backup` `then direct acknowledgment is sent.`											
ANVL-OSPFV3-12.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	`Sending Hello Packets` `The Hello Packet also indicates how often a neighbor must be` `heard from to remain active (RouterDeadInterval)`											
ANVL-OSPFV3-12.2 **SHOULD**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	`Sending Hello Packets` `While sending a Hello packet into a stub area the E-bit of the` `Options field should be clear.`											
ANVL-OSPFV3-12.3 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	`Sending Hello Packets` `While sending a Hello packet into a stub area the E-bit of the` `Options field should be clear.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-12.4 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	Sending Hello Packets While sending a Hello packet into a non-stub area the E-bit of the Options field should be set.											
ANVL-OSPFV3-12.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	Sending Hello Packets In order to ensure two-way communication between adjacent routers, the Hello packet contains the list of all routers on the network from which Hello Packets have been seen recently.											
ANVL-OSPFV3-12.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	Sending Hello Packets Hello packet also contains the router"s current choice for Designated Router and Backup Designated Router.											
ANVL-OSPFV3-12.7 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	Sending Hello Packets On broadcast networks, Hello packets are sent to the IP multicast address AllSPFRouters.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-12.8 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	`Sending Hello Packets` `On broadcast networks, Hello packets are sent every HelloInterval seconds.`											
ANVL-OSPFV3-12.11 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	`Sending Hello Packets` `On virtual links, Hello packets are sent as unicasts (addressed directly) to the other end of the virtual link`											
ANVL-OSPFV3-12.12 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.2.1.1 p18 Sending Hello packets RFC 2328, s9.5 p78 Sending Hello packets											
	`Sending Hello Packets` `On virtual links, Hello packets are sent every HelloInterval seconds.`											
ANVL-OSPFV3-12.13 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	NEGATIVE RFC 5340, s4.2.1.1 p19 Sending Hello packets											
	`Sending Hello Packets` `the N-bit is set if and only if the interface attaches to an NSSA area`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-13.1 **SHOULD**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p103 Sending Database Description Packets											
	`Sending Database Description Packets` `Interface MTU should be set to 0 in Database Description packets sent over virtual links.`											
ANVL-OSPFV3-13.2 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p103 Sending Database Description Packets											
	`Sending Database Description Packets` `In Database Description packet the unrecognized bits in the Options field should be set to zero.`											
ANVL-OSPFV3-13.3 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p103 Sending Database Description Packets											
	`Sending Database Description Packets` `In state ExStart the router sends empty Database Description packets, with the initialize (I), more (M) and master (MS) bits set.`											
ANVL-OSPFV3-13.4 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p103 Sending Database Description Packets											
	`Sending Database Description Packets` `In state ExStart Database Description packets are retransmitted every RxmtInterval seconds.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-13.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p104 Sending Database Description Packets											
	`Sending Database Description Packets In state Exchange, if the router is master, Database Description packets are sent when slave acknowledges the previous Database Description packet by echoing the DD sequence number.`											
ANVL-OSPFV3-13.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p104 Sending Database Description Packets											
	`Sending Database Description Packets In state Exchange, if the router is slave, Database Description packets are sent only in response to Database Description packets received from the master.`											
ANVL-OSPFV3-13.7 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p104 Sending Database Description Packets											
	`Sending Database Description Packets In state Exchange, if the router is slave, if the Database Description packet received from the master is new, a new Database Description packet is sent, otherwise the previous Database Description packet is resent.`											
ANVL-OSPFV3-13.8 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p104 Sending Database Description Packets											
	`Sending Database Description Packets In state Loading the slave must resend its last Database Description packet in response to duplicate Database Description packets received from the master.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-13.9 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p104 Sending Database Description Packets											
	`Sending Database Description Packets` `In state Full the slave must resend its last Database` `Description packet in response to duplicate Database` `Description packets received from the master.`											
ANVL-OSPFV3-13.10 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p104 Sending Database Description Packets											
	`Sending Database Description Packets` `In state Loading reception of a Database Description packet from` `the master after this interval (RouterDeadInterval) will generate` `a SeqNumberMismatch neighbor event.`											
ANVL-OSPFV3-13.11 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.2.1.2 p19 Sending Database Description Packets RFC 2328, s10.8 p104 Sending Database Description Packets											
	`Sending Database Description Packets` `In state Full reception of a Database Description packet"` `from the master after this interval (RouterDeadInterval)` `will generate a SeqNumberMismatch neighbor event.`											
ANVL-OSPFV3-14.1 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p20 Receiving protocol packets											
	`Receiving Protocol Packets` `The fields specified in the header must match those configured` `for the receiving OSPFv3 interface.  If they do not, the packet should` `be discarded:` `o  The version number field must specify protocol version 3`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-14.2 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p20 Receiving protocol packets											
	`Receiving Protocol Packets` `The fields specified ... for the receiving interface.` `If they do not, the packet should be discarded:` `The IPv6 Upper-Layer checksum, covering the entire OSPF` `packet and prepended IPv6 pseudo-header, must be verified`											
ANVL-OSPFV3-14.3 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p20 Receiving Protocol Packets											
	`Receiving Protocol Packets` `The fields specified ... for the receiving interface.` `If they do not, the packet should be discarded:` `o The Area ID and Instance ID found in the OSPF header must be` `verified.`											
ANVL-OSPFV3-14.4 **SHOULD**	pass	FAIL	FAIL	pass	pass	FAIL	pass	FAIL	FAIL	pass	pass	FAIL
	RFC 5340, s4.2.2 p21 Receiving protocol packets											
	`Receiving Protocol Packets` `The fields specified ... for the receiving interface.` `If they do not, the packet should be discarded:` `o Packets whose IPv6 destination is AllDRouters should only be` `accepted if the state of the receiving OSPFv3 interface is` `DR or Backup`											
ANVL-OSPFV3-14.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.6 p100 Receiving Database Description Packets											
	`Receiving Protocol Packets` `In ExStart state if the received Database Description` `packet has the I, M and MS-bit fields set, the packet is empty,` `and the neighbor"s Router ID is larger than the router"s` `own then the router is slave, and it sets the neighbor` `data structure"s DD sequence number to that specified` `by master.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-14.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.6 p100 Receiving Database Description Packets											
	`Receiving Protocol Packets` `In ExStart state if the received Database Description` `packet has the I and MS-bit fields off, the packet"s DD sequence` `number equals the neighbor data structure"s DD sequence` `number and the neighbor"s Router ID is smaller than the` `router"s own then the router is Master.`											
ANVL-OSPFV3-14.7 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.6 p102 Receiving Database Description Packets											
	`Receiving Protocol Packets` `When the router accepts a received Database Description Packet` `as the next in sequence, if the router is master and the accepted` `packet has more bit (M) set to 1, it should send a new Database` `Description to the slave.`											
ANVL-OSPFV3-14.8 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.6 p102 Receiving Database Description Packets											
	`Receiving Protocol Packets` `When the router accepts a received Database Description` `Packet as the next in sequence, if the router is master` `and the router has not sent its entire sequence of Database` `Description packets, it should send a new Database Description` `to the slave.(This test is for DUT as Master)`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-14.9 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.6 p102 Receiving Database Description Packets											
	`Receiving Protocol Packets` `When the router accepts a received Database Description` `Packet as the next in sequence, if the router is master` `it increments the DD sequence number in the neighbor data` `structure.`											
ANVL-OSPFV3-14.10 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.6 p102 Receiving Database Description Packets											
	`Receiving Protocol Packets` `When the router accepts a received Database Description` `Packet as the next in sequence, if the router is slave,` `it sets the DD sequence number in the neighbor data` `structure to the DD sequence number appearing in the` `received packet and also it must send a Database` `Description packet in response.`											
ANVL-OSPFV3-14.11 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.7 p102 Receiving Link State Request Packets											
	`Receiving Protocol Packets` `Link State Request Packets should be accepted when the neighbor is in` `state Exchange.`											
ANVL-OSPFV3-14.12 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.7 p102 Receiving Link State Request Packets											
	`Receiving Protocol Packets` `Link State Request Packets should be accepted when the` `neighbor is in state Loading.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-14.13 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.7 p102 Receiving Link State Request Packets											
	`Receiving Protocol Packets` `Link State Request Packets should be accepted when the` `neighbor is in state Full.`											
ANVL-OSPFV3-14.14 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.7 p102 Receiving Link State Request Packets											
	`Receiving Protocol Packets` `Link State Request Packets should be ignored when` `neighbor is in ExStart state.`											
ANVL-OSPFV3-14.15 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.7 p102 Receiving Link State Request Packets											
	`Receiving Protocol Packets` `Link State Request Packets should be ignored when neighbor` `is in Init state.`											
ANVL-OSPFV3-14.16 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.7 p102 Receiving Link State Request Packets											
	`Receiving Protocol Packets` `Link State Request Packets should be ignored when neighbor` `is in Down state.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-14.17 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s10.7 p103 Receiving Link State Request Packets											
	`Receiving Protocol Packets` `If an LSA specified in the Link State Request packet cannot be found in the database, something has gone wrong with the Database Exchange process, and neighbor event BadLSReq should be generated.`											
ANVL-OSPFV3-14.18 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2 p21 Receiving protocol packets RFC 2328, s13.7 p156 Receiving link state acknowledgments											
	`Receiving Protocol Packets` `If the acknowledgment is for the same instance that is contained on the Link state retransmission list, remove the item from the list.`											
ANVL-OSPFV3-15.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2.1 p21 Receiving Hello packets RFC 2328, s10.5 p96 Receiving Hello Packets											
	`Receiving Hello Packets` `The values of the HelloInterval field in the received Hello packet must be checked against the values configured for the receiving interface.Any mismatch causes processing to stop and the packet to be dropped.`											
ANVL-OSPFV3-15.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2.1 p21 Receiving Hello packets RFC 2328, s10.5 p96 Receiving Hello Packets											
	`Receiving Hello Packets` `The values of the RouterDeadInterval fields in the received Hello packet must be checked against the values configured for the receiving interface. Any mismatch causes processing to stop and the packet to be dropped.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-15.3 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.2.2.1 p21 Receiving Hello packets RFC 2328, s10.5 p96 Receiving Hello Packets											
	`Receiving Hello Packets` `If the receiving interface is attached to a stub area the E-bit` `must be clear in received Hello Packets and a mismatch causes` `processing to stop and the packet to be dropped.`											
ANVL-OSPFV3-15.4 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.2.2.1 p21 Receiving Hello packets RFC 2328, s10.5 p96 Receiving Hello Packets											
	`Receiving Hello Packets` `If the receiving interface is attached to a non-stub area the E-bit` `must be set in received Hello Packets and a mismatch causes processing` `to stop and the packet to be dropped.`											
ANVL-OSPFV3-16.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.1 p116 LS age											
	`The LSA Header` `LSAs are also aged as they are held in each router"s database.`											
ANVL-OSPFV3-16.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.1 p116 LS age											
	`The LSA Header` `The age of an LSA is never incremented past MaxAge.`											
ANVL-OSPFV3-16.3 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.1 p116 LS age											
	`The LSA Header` `When an LSA"s age first reaches MaxAge, it is reflooded.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-16.4 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.1 p116 LS age											
	`The LSA Header` `LSA of age MaxAge is finally flushed from the database when it` `is no longer needed to ensure database synchronization.`											
ANVL-OSPFV3-16.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.1 p117 LS age											
	`The LSA Header` `If the two instances of a LSA have identical LS sequence number` `and LS checksum, an instance of age MaxAge is then always` `accepted as most recent.`											
ANVL-OSPFV3-16.6 **MUST**	unpredict	unpredict	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.1 p117 LS age											
	`The LSA Header` `If the two instances of a LSA have identical LS sequence number` `and LS Checksum and none of them is of age MaxAge then if their` `ages differ by more than MaxAgeDiff, the instance having the` `smaller age is accepted as most recent.`											
ANVL-OSPFV3-16.7 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.5 p119 Advertising Router											
	`The LSA Header` `The Advertising Router field specifies the OSPF Router ID of` `the LSA"s originator.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-16.8 **MUST**	pass	FAIL	pass	pass	pass	pass	pass	FAIL	FAIL	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. (This test checks for Router-LSAs)											
ANVL-OSPFV3-16.9 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. (This test checks for Network-LSAs)											
ANVL-OSPFV3-16.10 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. (This test checks for Inter-Area-Prefix-LSAs)											
ANVL-OSPFV3-16.11 **MUST**	pass	FAIL	pass	pass	pass	pass	pass	FAIL	FAIL	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. (This test checks for Inter-Area-Router-LSAs)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-16.12 **MUST**	pass	FAIL	pass	pass	pass	pass	pass	FAIL	FAIL	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. Afterwards, the LSA"s sequence number is incremented each time the router originates a new instance of the LSA. (This test checks for Router-LSA)											
ANVL-OSPFV3-16.13 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. Afterwards, the LSA"s sequence number is incremented each time the router originates a new instance of the LSA. (This test checks for Network-LSA)											
ANVL-OSPFV3-16.14 **MUST**	pass	FAIL	pass	pass	pass	unpredict	pass	FAIL	FAIL	pass	pass	unpredict
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. Afterwards, the LSA"s sequence number is incremented each time the router originates a new instance of the LSA. (This test checks for Inter-Area-Prefix-LSA)											
ANVL-OSPFV3-16.15 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. Afterwards, the LSA"s sequence number is incremented each time the router originates a new instance of the LSA. (This test checks for Inter-Area-Router-LSA)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-16.16 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header When an attempt is made to increment the sequence number past the maximum value of N - 1 (0x7fffffff; also referred to as MaxSequenceNumber), the current instance of the LSA must first be flushed from the routing domain.											
ANVL-OSPFV3-16.17 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.6 p120 LS sequence number											
	The LSA Header As soon as this flooding of a LSA with LS sequence number MaxSequenceNumber has been acknowledged by all adjacent neighbors, new instance can be originated with sequence number of InitialSequenceNumber.											
ANVL-OSPFV3-16.18 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.7 p121 LS checksum											
	The LSA Header The LSA header also contains the length of the LSA in bytes; subtracting the size of the LS age field (two bytes) yields the amount of data to checksum. (This test checks for Router-LSA)											
ANVL-OSPFV3-16.19 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.7 p121 LS checksum											
	The LSA Header The LSA header also contains the length of the LSA in bytes; subtracting the size of the LS age field (two bytes) yields the amount of data to checksum. (This test checks for Network-LSA)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-16.20 **MUST**	pass	FAIL	pass	pass	pass	pass	pass	FAIL	FAIL	pass	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.7 p121 LS checksum											
	The LSA Header The LSA header also contains the length of the LSA in bytes; subtracting the size of the LS age field (two bytes) yields the amount of data to checksum. (This test checks for Inter-Area-Prefix-LSA)											
ANVL-OSPFV3-16.21 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.7 p121 LS checksum											
	The LSA Header The LSA header also contains the length of the LSA in bytes; subtracting the size of the LS age field (two bytes) yields the amount of data to checksum. (This test checks for Inter-Area-Router-LSA)											
ANVL-OSPFV3-16.22 **SHOULD**	pass	FAIL	FAIL	pass	pass	FAIL	pass	FAIL	FAIL	pass	pass	FAIL
	RFC 5340, s4.4.1 p23 The LSA Header RFC 2328, s12.1.7 p121 LS checksum											
	The LSA Header The LS checksum field cannot take on the value of zero; the occurrence of such a value should be considered a checksum failure.											
ANVL-OSPFV3-16.23 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.1 p24 The LSA Header											
	The LSA Header Instead of the IPv4 behavior of encoding the network number within the AS-external-LSA"s Link State ID, the IPv6 Link State ID simply serves as a way to differentiate multiple LSAs originated by the same router											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-16.24	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.1 p24 The LSA Header											
	`The LSA Header` `When a router originates a Link-LSA for a given link,` `its Link State ID is set equal to the router"s Interface ID` `on the link.`											
ANVL-OSPFV3-17.1	pass	FAIL	FAIL	pass	pass	FAIL	pass	FAIL	FAIL	pass	pass	FAIL
MUST	RFC 5340, s4.4.2 p24 The link-state database RFC 2328, s13.1 p145 Determining which LSA is newer											
	`The Link-State Database` `The LSA having the newer LS sequence number is more recent.`											
ANVL-OSPFV3-18.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p123 Originating LSAs											
	`Originating LSAs` `Destinations are advertised one at a time so that the change in` `any single route can be flooded without reflooding the entire` `collection of routes.` `This test is for Inter-Area-Prefix-LSA.`											
ANVL-OSPFV3-18.2	pass	unpredict	pass	pass	pass	pass	pass	unpredict	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p123 Originating LSAs											
	`Originating LSAs` `During the flooding procedure, many LSAs can be carried by a` `single Link State Update packet.` `This test verifies whether the DUT recognizes multiple LSAs` `residing in a single Link State Update packet.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-18.3 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p124 Originating LSAs											
	`Originating LSAs` `Whenever a new instance of an LSA is originated, its LS sequence number is incremented, its LS age is set to 0.`											
ANVL-OSPFV3-18.4 **MAY**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p125 Originating LSAs											
	`Originating LSAs` `A change in an interface"s state may mean that it is necessary to produce a new instance of the router-LSA.`											
ANVL-OSPFV3-18.5 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p125 Originating LSAs											
	`Originating LSAs` `If an attached network"s Designated Router gets changed a new router-LSA should be originated.`											
ANVL-OSPFV3-18.6 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p125 Originating LSAs											
	`Originating LSAs` `When Designated Router changes and if the router itself is now the Designated Router, a new network-LSA should be produced.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-18.7 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p125 Originating LSAs											
	`Originating LSAs` `If the router itself is no longer the Designated Router, any` `network-LSA that it might have originated for the network should` `be flushed from the routing domain.`											
ANVL-OSPFV3-18.8 **MAY**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p125 Originating LSAs											
	`Originating LSAs` `If one of the neighboring routers changes to the FULL state then` `this may mean that it is necessary to produce a new instance of` `the router-LSA.`											
ANVL-OSPFV3-18.9 **MAY**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs RFC 2328, s12.4 p125 Originating LSAs											
	`Originating LSAs` `If one of the neighboring routers changes from the FULL state` `then this may mean that it is necessary to produce a new` `instance of the router-LSA.`											
ANVL-OSPFV3-18.11 **MAY**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
	`Originating LSAs` `The state or interface ID of one of the router"s interfaces changes. The router` `may need to (re)originate or flush its Link-LSA and one or more` `router-LSAs and/or intra-area-prefix-LSAs.` `(This test is for (re)origination or flush of Router-LSA during` `State change)`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-18.12	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MAY	RFC 5340, s4.4.3 p25 Originating LSAs											
	Originating LSAs The state or interface ID of one of the router"s interfaces changes. The router may need to (re)originate or flush its Link-LSA and one or more router-LSAs and/or intra-area-prefix-LSAs. (This test is for (re)origination of Intra-Area-Prefix-LSA during the state change.)											
ANVL-OSPFV3-18.13	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MAY	RFC 5340, s4.4.3 p25 Originating LSAs											
	Originating LSAs The state or interface ID of one of the router"s interfaces changes. The router may need to (re)originate or flush its Link-LSA and one or more router-LSAs and/or intra-area-prefix-LSAs. (This test is for flushing of Intra-Area-Prefix-LSA during the state change.)											
ANVL-OSPFV3-18.14	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MAY	RFC 5340, s4.4.3 p25 Originating LSAs											
	Originating LSAs The identity of a link"s Designated Router changes. The router may need to (re)originate or flush the link"s network-LSA and one or more router-LSAs and/or intra-area-prefix-LSAs. (This test is for "(re)originate".)											
ANVL-OSPFV3-18.15	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MAY	RFC 5340, s4.4.3 p25 Originating LSAs											
	Originating LSAs The identity of a link"s Designated Router changes. The router may need to (re)originate or flush the link"s network-LSA and one or more router-LSAs and/or intra-area-prefix-LSAs. (This test is for "flush".)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-18.16	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
MAY	Originating LSAs A neighbor transitions to/from "Full" state. The router may need to (re)originate or flush the link"s network-LSA and one or more router-LSAs and/or intra-area-prefix-LSAs. This test is for "to Full state".											
ANVL-OSPFV3-18.17	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
MAY	Originating LSAs A neighbor transitions to/from "Full" state. The router may need to (re)originate or flush the link"s network-LSA and one or more router-LSAs and/or intra-area-prefix-LSAs. (This test is for "from Full state".)											
ANVL-OSPFV3-18.18	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
MAY	Originating LSAs The Interface ID of a neighbor changes. This may cause a new instance of a router-LSA to be originated for the associated area.											
ANVL-OSPFV3-18.19	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
MUST	Originating LSAs A new prefix is added to an attached link (both through configuration). This causes the router to reoriginate its link-LSA for the link											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-18.20	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
MUST	`Originating LSAs` `A new prefix is added to an attached link. If the router is the only router attached to the link, causes the router to reoriginate an intra-area-prefix-LSA.`											
ANVL-OSPFV3-18.21	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
MUST	`Originating LSAs` `A prefix is deleted (both through configuration). This causes the router to reoriginate its link-LSA for the link.`											
ANVL-OSPFV3-18.22	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
MUST	`Originating LSAs` `A prefix is deleted (both through configuration). If it is the only router attached to the link, causes the router to reoriginate an intra-area-prefix-LSA.`											
ANVL-OSPFV3-18.23	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3 p25 Originating LSAs											
MUST	`Originating LSAs` `A new link-LSA is received, causing the link"s collection of prefixes to change. If the router is the Designated Router for the link, it originates a new intra-area-prefix-LSA.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-18.24	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MAY	RFC 5340, s4.4.3 p25 Originating LSAs											
	Originating LSAs The state or interface ID of one of the router"s interfaces changes. The router may need to (re)originate or flush its Link-LSA and one or more router-LSAs and/or intra-area-prefix-LSAs. (This test is for (re)origination or flush of Link-LSA during State change)											
ANVL-OSPFV3-19.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.2 p27 Router-LSAs											
	Router-LSAs Router-LSAs have area flooding scope.											
ANVL-OSPFV3-19.2	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
SHOULD	RFC 5340, s4.4.3.1 p27 LSA Options											
	Router-LSAs The V6-bit should be set unless the router will not participate in transit IPv6 routing. The E-bit should be clear if and only if the attached area is an OSPF stub or OSPF NSSA area. (This is to test Router-LSA for stub area)											
ANVL-OSPFV3-19.4	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.2 p27 Router-LSAs RFC 2328, s12.4.1 p127 Router-LSAs											
	Router-LSAs A router also indicates whether it is an area border router, by setting the appropriate bits (bit B, respectively) in its router-LSAs.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-19.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4.4.3.2 p27 Router-LSAs RFC 2328, s12.4.1 p127 Router-LSAs											
	Router-LSAs A router also indicates whether it is an area border router, by setting the appropriate bits (bit B, respectively) in its router-LSAs.											
ANVL-OSPFV3-19.6 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.2 p27 Router-LSAs RFC 2328, s12.4.1 p127 Router-LSAs											
	Router-LSAs Bit B should be set whenever the router is actively attached to two or more areas, even if the router is not currently attached to the OSPF backbone area. (This is for DUT attached to two non-backbone areas)											
ANVL-OSPFV3-19.7 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.3.2 p27 Router-LSAs RFC 2328, s12.4.1 p128 Router-LSAs											
	Router-LSAs The router sets bit V in its router-LSA for Area A if and only if the router is the endpoint of one or more fully adjacent virtual links having Area A as their Transit area.											
ANVL-OSPFV3-19.8 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.2 p27 Router-LSAs RFC 2328, s12.4.1 p129 Router-LSAs,											
	Router-LSAs If the router wishes to build a router-LSA for Area A then for each interface if the attached network does not belong to Area A, no links are added to the LSA.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-19.11	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.2 p27 Router-LSAs											
MUST	Router-LSAs Each of the router"s interfaces to the area are then described by appending "link descriptions" to the router-LSA. Each link description is 16 bytes long, consisting of five fields: (link) Type, Metric, Interface ID, Neighbor Interface ID and Neighbor Router ID											
ANVL-OSPFV3-19.12	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.2 p28 Router-LSAs											
MUST	Router-LSAs Interfaces in state "Down" or "Loopback" are not described (This test is for Down state)											
ANVL-OSPFV3-19.14	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.2 p28 Router-LSAs											
MUST	Router-LSAs Within each link description, the Metric field is always set to the interface"s output cost, and the Interface ID field is set to the interface"s OSPF Interface ID.											
ANVL-OSPFV3-19.16	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.2 p28 Router-LSAs											
MUST	Router-LSAs If the router is fully adjacent to the link"s Designated Router, or if the router itself is Designated Router and is fully adjacent to at least one other router, add a single Type 2 link description (transit network).											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-19.17 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.3.2 p28 Router-LSAs											
	Router-LSAs If the neighboring router is fully adjacent, add a Type 4 link description (virtual). The Neighbor Interface ID field is set to the Interface ID advertised by the neighbor in its Hello packets, and the Neighbor Router ID field is set to the neighbor"s Router ID											
ANVL-OSPFV3-20.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.3 p29 Network-LSAs											
	Network-LSAs Network-LSAs have area flooding scope.											
ANVL-OSPFV3-20.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.3 p29 Network-LSAs											
	Network-LSAs A network-LSA is originated for every broadcast or NBMA link with an elected Designated Router that is fully adjacent with at least one other router on the link. The network-LSA is originated by the link"s Designated Router and lists all routers on the link with which it is fully adjacent.											
ANVL-OSPFV3-20.3 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.3 p29 Network-LSAs RFC 2328, s12.4.2 p134 Network-LSAs											
	Network-LSAs A router that has formerly been the Designated Router for a network, but is no longer, should flush the network-LSA that it had previously originated.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-20.4 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.3.3 p29 Network-LSAs RFC 2328, s12.4.2 p134 Network-LSAs (see also s13.4 p151 Receiving self-originated LSAs),											
	`Network-LSAs` `When a router"s Router ID has changed, any network-LSAs that were originated with the router"s previous Router ID must be flushed.`											
ANVL-OSPFV3-20.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.3 p29 Network-LSAs											
	`Network-LSAs` `An IPv6 network-LSA"s Link State ID is set to the Interface ID of the Designated Router on the link.`											
ANVL-OSPFV3-21.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.4 p30 Inter-Area-Prefix-LSAs											
	`Inter-Area-Prefix-LSAs` `Inter-area-prefix-LSAs have area flooding scope.`											
ANVL-OSPFV3-21.2 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.4.3.4 p30 Inter-Area-Prefix-LSAs RFC 2328, s12.4.3. p136 Summary-LSAs											
	`Inter-Area-Prefix-LSAs` `If for a route the area associated with this set of paths is the Area A itself, do not generate a summary-LSA for the route for advertising into Area A.` `(Type 3 Summary LSA has been renamed as Inter-Area-Prefix-LSA)`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-21.3 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.3.4 p30 Inter-Area-Prefix-LSAs RFC 2328, s12.4.3. p136 Summary-LSAs											
	Inter-Area-Prefix-LSAs If for a route the area associated with the set of paths is not Area A but the next hops associated with this set of paths belong to Area A itself, do not generate a summary-LSA for the route for advertising into Area A. (Type 3 Summary LSA has been renamed as Inter-Area-Prefix-LSA)											
ANVL-OSPFV3-21.4 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.3.4 p30 Inter-Area-Prefix-LSAs RFC 2328, s12.4.3 p136 Summary-LSAs											
	Inter-Area-Prefix-LSAs If the destination of a route is an AS boundary router, a summary-LSA should be originated if and only if the routing table entry describes the preferred path to the AS boundary router. If so, a Type 4 summary-LSA is originated for the destination. (Type 4 Summary-LSA has been renamed as Inter-Area-Router-LSA.)											
ANVL-OSPFV3-21.5 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.4.3.4 p30 Inter-Area-Prefix-LSAs RFC 2328, s12.4.3. p136 Summary-LSAs											
	Inter-Area-Prefix-LSAs While originating summary-LSAs for networks reachable by inter-area routes at most a single Type 3 summary-LSA is originated for each area address range. (Type 3 Summary-LSA has been renamed as Inter-Area-Prefix-LSA.)											
ANVL-OSPFV3-21.6 **MUST**	pass	FAIL	pass	pass	pass	pass	pass	unpredict	unpredict	pass	pass	pass
	RFC 5340, s4.4.3.4 p30 Inter-Area-Prefix-LSAs											
	Inter-Area-Prefix-LSAs The Link State ID of an inter-area-prefix-LSA has lost all of its addressing semantics, and simply serves to distinguish multiple inter-area-prefix-LSAs that are originated by the same router.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-22.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.5 p31 Inter-Area-Router-LSAs											
	`Inter-Area-Router-LSAs` `Inter-area-router-LSAs have area flooding scope.`											
ANVL-OSPFV3-22.2	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
SHOULD	RFC 5340, s4.4.3.5 p32 Inter-Area-Router-LSAs											
	`Inter-Area-Router-LSAs` `The Options field in an inter-area-router-LSA should be` `set equal 1to the Options field contained in the destination` `router"s own router-LSA.`											
ANVL-OSPFV3-23.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.6 p32 AS-External-LSAs											
	`AS-External-LSAs` `AS-external-LSAs have AS flooding scope.`											
ANVL-OSPFV3-23.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.6 p32 AS-External-LSAs											
	`AS-External-LSAs` `The Link State ID of an AS-external-LSA has lost all of its` `addressing semantics, and simply serves to distinguish` `multiple AS-external-LSAs that are originated by the same` `router.`											
ANVL-OSPFV3-23.4	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.6 p32 AS-External-LSAs											
	`AS-External-LSAs` `The forwarding address is present in the AS-external-LSA if and` `only if the AS-external-LSA"s bit F is set.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-23.5	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
SHOULD	RFC 5340, s4.4.3.6 p33 AS-External-LSAs											
	AS-External-LSAs Received non-zero values for Reference LS Type field should be ignored.											
ANVL-OSPFV3-24.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.8 p34 Link-LSAs											
	Link-LSAs Link-LSAs have link-local flooding scope.											
ANVL-OSPFV3-24.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.8 p35 Link-LSAs											
	Link-LSAs The Link State ID is set to the router"s Interface ID on Link L.											
ANVL-OSPFV3-24.3	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
MUST	RFC 5340, s4.4.3.8 p35 Link-LSAs											
	Link-LSAs The Router Priority of the router"s interface to Link L is inserted into the Link-LSA.											
ANVL-OSPFV3-24.4	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.4.3.8 p35 Link-LSAs											
	Link-LSAs The link-LSA"s Options field is set to reflect the router"s capabilities. On multi-access links, the Designated Router will logically OR the link-LSA Options fields for all fully adjacent neighbors in Link L"s network-LSA.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-24.5	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.8 p35 Link-LSAs											
MUST	Link-LSAs The router inserts its link-local address on Link L into the Link-LSA.											
ANVL-OSPFV3-24.6	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.8 p35 Link-LSAs											
MUST	Link-LSAs Each IPv6 address prefix that has been configured on Link L is added to the Link-LSA, by specifying values for the PrefixLength, PrefixOptions, and Address Prefix fields.											
ANVL-OSPFV3-25.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.9 p36 Intra-Area-Prefix-LSAs											
MUST	Intra-Area-Prefix-LSAs Intra-area-prefix-LSAs have area flooding scope.											
ANVL-OSPFV3-25.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.9 p36 Intra-Area-Prefix-LSAs											
MUST	Intra-Area-Prefix-LSAs It either associates a list of IPv6 address prefixes with a transit network link by referencing a network- LSA, or associates a list of IPv6 address prefixes with a router by referencing a router-LSA.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-25.3	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.4.3.9 p32, p37 Intra-Area-Prefix-LSAs											
MUST	Intra-Area-Prefix-LSAs If the link-LSA"s Advertising Router is fully adjacent to the Designated Router and the Link State ID matches the neighbor"s interface ID, the list of prefixes in the link-LSA is copied into the intra- area-prefix-LSA that is being built.											
ANVL-OSPFV3-25.4	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.4.3.9 p37 Intra-Area-Prefix-LSAs											
MUST	Intra-Area-Prefix-LSAs Multiple prefixes having the same PrefixLength and Address Prefix are considered to be duplicates; ..... and a single instance of the duplicate prefix should be included in the intra-area-prefix-LSA. The Metric field for all prefixes is set to 0.											
ANVL-OSPFV3-25.5	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.9 p37 Intra-Area-Prefix-LSAs											
MUST	Intra-Area-Prefix-LSAs A router builds an intra-area-prefix-LSA to advertise prefixes for its attached stub links.											
ANVL-OSPFV3-25.6	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.4.3.9 p38 Intra-Area-Prefix-LSAs											
MUST	Intra-Area-Prefix-LSAs If RTX has one or more virtual links configured through the area, it includes one of its global scope IPv6 interface addresses in the LSA (if it hasn"t already), setting the LA-bit in the PrefixOptions field, the PrefixLength to 128 and the Metric to 0.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-25.7 **MAY**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.4.3.9 p39 Intra-Area-Prefix-LSAs											
	`Intra-Area-Prefix-LSAs` `When network conditions change, it may be necessary for a router` `to move prefixes from one intra-area-prefix-LSA to another.`											
ANVL-OSPFV3-26.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p143 The Flooding Procedure											
	`Flooding` `To make the flooding procedure reliable, each LSA must be` `acknowledged separately. Acknowledgments are transmitted in Link` `State Acknowledgment packets.`											
ANVL-OSPFV3-26.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p143 The Flooding Procedure											
	`Flooding` `For each LSA contained in a Link State Update packet, validate the` `LSA"s LS checksum.  If the checksum turns out to be invalid,` `discard the LSA.`											
ANVL-OSPFV3-26.3 **MUST**	pass	FAIL	FAIL	pass	pass	FAIL	pass	FAIL	FAIL	pass	pass	FAIL
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p144 The Flooding Procedure,											
	`Flooding` `If the LSA"s LS age is equal to MaxAge, and there is currently no` `instance of the LSA in router"s link state database, and none of` `router"s neighbors are in state Exchange or Loading send direct` `Acknowledgment packet to the sending neighbor and discard the LSA.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-26.4 **MUST**	FAIL	pass	pass	pass	pass	pass	FAIL	unpredict	FAIL	FAIL	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p144 The Flooding Procedure											
	Flooding If there is already a database copy, and if the database copy was received via flooding and installed less than MinLSArrival seconds ago, discard the new LSA (without acknowledging it).											
ANVL-OSPFV3-26.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	unpredict	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p144 The Flooding Procedure											
	Flooding If there is no database copy or the received LSA is more recent than the database copy and the database copy was installed more than MinLSArrival seconds ago, immediately flood the new LSA out some subset of the router"s interfaces.											
ANVL-OSPFV3-26.6 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	unpredict	unpredict	FAIL
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p144 The Flooding Procedure											
	Flooding When a new instance of a LSA is installed in database, a router possibly acknowledges the receipt of the LSA by sending a Link State Acknowledgment packet on the receiving interface.											
ANVL-OSPFV3-26.7 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p145 The Flooding Procedure											
	Flooding When the received LSA is at most as recent as the database copy of that LSA then if there is an instance of the LSA on the sending neighbor"s Link State Request list, generate the neighbor event BadLSReq.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-26.8 **SHOULD**	pass	pass	pass	pass	pass	pass	unpredict	pass	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p145 The Flooding Procedure											
	`Flooding` `If the received LSA is the same instance as the database copy` `and is listed in the Link state retransmission list for the` `receiving adjacency, the router itself is expecting an` `acknowledgment for this LSA. The router should remove the LSA` `from the Link state retransmission list.`											
ANVL-OSPFV3-26.9 **MUST**	pass	pass	FAIL	pass	pass	FAIL	pass	pass	pass	pass	pass	FAIL
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13 p145 The Flooding Procedure											
	`Flooding` `If the database copy has LS age equal to MaxAge and LS sequence` `number equal to MaxSequenceNumber, simply discard the received` `LSA without acknowledging it.`											
ANVL-OSPFV3-26.10 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13.4 p151 Receiving self-originated LSAs											
	`Flooding` `A self-originated LSA is detected when the LSA"s Advertising` `Router is equal to the router"s own Router ID and in most cases` `(....), the router must then advance the LSA"s LS sequence` `number one past the received LS sequence number, and originate a` `new instance of the LSA.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-26.11 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13.4 p151 Receiving self-originated LSAs											
	Flooding If the received self-originated LSA is a summary-LSA and the router no longer has an (advertisable) route to the destination instead of updating the LSA, the LSA should be flushed from the routing domain by incrementing the received LSA"s LS age to MaxAge and reflooding. (Summary-LSA has been renamed as Inter-Area-Prefix/Router LSA.)											
ANVL-OSPFV3-26.12 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13.4 p151 Receiving self-originated LSAs											
	Flooding If the received self-originated LSA is an AS-external-LSA and the router no longer has an (advertisable) route to the destination instead of updating the LSA, the LSA should be flushed from the routing domain by incrementing the received LSA"s LS age to MaxAge and reflooding.											
ANVL-OSPFV3-26.13 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5 p40 Flooding RFC 2328, s13.4 p151 Receiving self-originated LSAs											
	Flooding If the received self-originated LSA is a network-LSA but the router is no longer Designated Router for the network, instead of updating the LSA, the LSA should be flushed from the routing domain by incrementing the received LSA"s LS age to MaxAge and reflooding.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-27.1 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.5.1 p41 Receiving Link State Update packets											
	`Receiving Link State Update Packets` `Discard the LSA and get the next one from the Link State` `Update packet if the interface area has been configured as` `a stub or NSSA area and the LS type indicates "AS flooding scope"` `(This is to test stub area)`											
ANVL-OSPFV3-27.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5.1 p41 Receiving Link State Update packets											
	`Receiving Link State Update Packets` `if the flooding scope of the LSA"s LS type is set to` `"reserved", discard the LSA`											
ANVL-OSPFV3-28.1 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.5.2 p41 Sending Link State Update packets RFC 2328, s13.3 p149 Next step in the Flooding Procedure											
	`Sending Link State Update Packets` `If the adjacency is not yet full and there is an instance of` `new LSA in Link State request list and if the new LSA is more` `recent delete the LSA from the Link state request list.`											
ANVL-OSPFV3-28.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5.2 p41 Sending Link State Update packets RFC 2328, s13.3 p150 Sending protocol packets											
	`Sending Link State Update Packets` `On broadcast network, the Link State Update packets are multicast` `but Link State Update packets carrying retransmissions are` `always sent directly to the neighbor.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-28.3 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.5.2 p42 Sending Link State Update packets											
	`Sending Link State Update Packets` `If the flooding scope is "AS flooding scope", the` `eligible interfaces are all router interfaces excepting virtual` `links.`											
ANVL-OSPFV3-28.4 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, s4.5.2 p42 Sending Link State Update packets											
	`Sending Link State Update Packets` `If the flooding scope is "area flooding scope", the` `eligible interfaces are those interfaces connecting to the` `LSA"s associated area.`											
ANVL-OSPFV3-28.5 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4.5.2 p42 Sending Link State Update packets											
	`Sending Link State Update Packets` `If the flooding scope is "area flooding scope", the` `eligible interfaces are those interfaces connecting to the` `LSA"s associated area.`											
ANVL-OSPFV3-28.6 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5.2 p42 Sending Link State Update packets											
	`Sending Link State Update Packets` `If the flooding scope is "link-local flooding scope", then there` `is a single eligible interface, the one connecting to the LSA"s` `associated link`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-28.7 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, s4.5.2 p42 Sending Link State Update packets											
	`Sending Link State Update Packets` `If the flooding scope is "link-local flooding scope", then there` `is a single eligible interface, the one connecting to the LSA"s` `associated link`											
ANVL-OSPFV3-28.8 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.5.2 p42 Sending Link State Update packets											
	`Sending Link State Update Packets` `The LS type is unrecognized, and the U-bit in the LS Type is set` `to 1 (store and flood the LSA, as if type understood).....`											
ANVL-OSPFV3-28.9 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.5.2 p42 Sending Link State Update packets											
	`Sending Link State Update Packets` `The LS type is unrecognized, and the U-bit in the LS Type is set` `to 1 (store and flood the LSA, as if type understood).....`											
ANVL-OSPFV3-30.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, s4.7 p44 Virtual links RFC 2328, s15 p158 Virtual Links											
	`Virtual Links` `When an adjacency is established over a virtual link, then OSPF` `packets pertaining to the backbone area will flow over the` `adjacency.`											
ANVL-OSPFV3-30.2 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.7 p44 Virtual links RFC 2328, s15 p158 Virtual Links											
	`Virtual Links` `AS-external-LSAs are NEVER flooded over virtual adjacencies.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-30.3 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.7 p44 Virtual links RFC 2328, s15 p159 Virtual Links											
	Virtual Links The cost of a virtual link is NOT configured.It is defined to be the cost of the intra-area path between the two defining area border routers.											
ANVL-OSPFV3-30.4 **SHOULD**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.7 p44 Virtual links RFC 2328, s15 p159 Virtual Links											
	Virtual Links When the cost of a virtual link changes, a new router-LSA should be originated for the backbone area.											
ANVL-OSPFV3-30.5 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.7 p44 Virtual links RFC 2328, s15 p159 Virtual Links											
	Virtual Links The time between link state retransmissions, RxmtInterval, is configured for a virtual link.											
ANVL-OSPFV3-30.6 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, s4.7 p44 Virtual links											
	Virtual Links LSAs having AS flooding scope are never flooded over virtual adjacencies, nor are LSAs with AS flooding scope summarized over virtual adjacencies during the Database Exchange process.This is a generalization of the IPv4 treatment of AS-external-LSAs.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-30.7	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
MUST	RFC 5340, s4.7 p44 Virtual links											
	`Virtual Links` `Like all other IPv6 OSPF interfaces, virtual links are assigned` `unique (within the router) Interface IDs.These are advertised in` `Hellos sent over the virtual link and in the router"s` `router-LSAs.`											
ANVL-OSPFV3-31.1	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
MUST	RFC 5340, s4.8.3 p47 Calculating the Inter-Area Routes RFC 2328, s16.2 p168 Calculating the inter-area routes											
	`Calculating the Inter-Area Routes` `If the router has active attachments to multiple areas, only` `backbone summary-LSAs are examined.` `(Type 3 Summary LSA has been renamed as Inter-Area-Prefix-LSA)`											
ANVL-OSPFV3-31.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
SHOULD	RFC 5340, s4.8.3 p47 Calculating the Inter-Area Routes											
	`Calculating the Inter-Area Routes` `Prefixes having the NU-bit set in their Prefix Options field` `should be ignored by the inter-area route calculation.`											
ANVL-OSPFV3-32.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 5340, s4.8.5 p48 Calculating AS External and NSSA Routes											
	`Calculating AS External Routes` `The default route in AS-external-LSAs or NSSA-LSAs is advertised` `by a zero-length prefix.` `(This is to test AS-external-LSA)`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-33.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
SHOULD	RFC 5340, sA.1 p57 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets As such, the multicast addresses have been chosen with link-local scope, and packets sent to these addresses should have their IPv6 Hop Limit set to 1.											
ANVL-OSPFV3-33.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
SHOULD	RFC 5340, sA.1 p57 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets As such, the multicast addresses have been chosen with link-local scope, and packets sent to these addresses should have their IPv6 Hop Limit set to 1. (This test is for OSPF-DD> packet)											
ANVL-OSPFV3-33.3	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
SHOULD	NEGATIVE RFC 5340, sA.1 p57 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets As such, the multicast addresses have been chosen with link-local scope, and packets sent to these addresses should have their IPv6 Hop Limit set to 1. (This test is for OSPF-LSR> packet)											
ANVL-OSPFV3-33.4	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
SHOULD	RFC 5340, sA.1 p57 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets As such, the multicast addresses have been chosen with link-local scope, and packets sent to these addresses should have their IPv6 Hop Limit set to 1. (This test is for OSPF-LSU> packet)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-33.5 **SHOULD**	pass	pass	pass	pass	pass	pass	unpredict	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, sA.1 p57 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets As such, the multicast addresses have been chosen with link-local scope, and packets sent to these addresses should have their IPv6 Hop Limit set to 1. (This test is for OSPF-LSA> packet)											
ANVL-OSPFV3-33.12 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.1 p58 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets This multicast address has been assigned the value FF02::5. All routers running OSPF should be prepared to receive packets sent to this address.											
ANVL-OSPFV3-33.13 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.1 p58 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets Hello packets are always sent to this destination (AllSPFRouters).											
ANVL-OSPFV3-33.14 **MUST**	pass	FAIL	unpredict	pass	unpredict	pass	pass	unpredict	unpredict	pass	pass	unpredict
	RFC 5340, sA.1 p58 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets This multicast address has been assigned the value FF02::6. Both the Designated Router and Backup Designated Router must be prepared to receive packets destined to this address. (This test is for Designated Router.)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-33.15 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 5340, sA.1 p58 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets This multicast address has been assigned the value FF02::6. Both the Designated Router and Backup Designated Router must be prepared to receive packets destined to this address. (DUT is in state DROther)											
ANVL-OSPFV3-33.16 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.1 p58 Encapsulation of OSPF Packets											
	Encapsulation of OSPF Packets This multicast address has been assigned the value FF02::6. Both the Designated Router and Backup Designated Router must be prepared to receive packets destined to this address. (This test is for Backup Designated Router.)											
ANVL-OSPFV3-34.1 **SHOULD**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, sA.2 p59 The Options Field											
	The Options Field V6-bit If this bit is clear, the router/link should be excluded from IPv6 routing calculations.											
ANVL-OSPFV3-34.2 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.2 p59 The Options Field RFC 2328, s12.1.2 p117 Options											
	The Options Field The E-bit represents OSPF"s ExternalRoutingCapability. This bit should be set in all LSAs associated with the backbone.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-34.3 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.2 p59 The Options Field RFC 2328, s12.1.2 p117 Options											
	The Options Field The E-bit represents OSPF"s ExternalRoutingCapability. This bit should be set in all LSAs associated with (non-backbone) non-stub areas. (This test checks for Network-LSA)											
ANVL-OSPFV3-34.4 **SHOULD**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, sA.2 p59 The Options Field RFC 2328, s12.1.2 p117 Options											
	The Options Field The E-bit represents OSPF"s ExternalRoutingCapability. This bit should be set in all LSAs associated with (non-backbone) non-stub areas. (This test checks for Inter-Area-Router-LSA)											
ANVL-OSPFV3-34.5 **SHOULD**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, sA.2 p59 The Options Field RFC 2328, s12.1.2 p117 Options											
	The Options Field E-bit should be reset (set to 0) in all router-LSAs associated with a stub area.											
ANVL-OSPFV3-34.6 **SHOULD**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, sA.2 p59 The Options Field RFC 2328, s12.1.2 p117 Options											
	The Options Field E-bit should be reset (set to 0) in all router-LSAs associated with a stub area.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-34.7 **SHOULD**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, sA.2 p59 The Options Field RFC 2328, s12.1.2 p117 Options											
	`The Options Field` `E-bit should be reset (set to 0) in all network-LSAs associated` `with a stub area.`											
ANVL-OSPFV3-34.8 **MUST**	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 5340, sA.2 p59 The Options Field											
	`The Options Field` `R-bit This bit (the `Router" bit) indicates whether the originator` `is an active router. ... Clearing the router bit would be` `appropriate for a multi-homed host that wants to` `participate in routing, but does not want to forward` `non-locally addressed packets.`											
ANVL-OSPFV3-35.1 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, sA.3.1 p61 The OSPF packet header											
	`The OSPF Packet Header` `Packets traversing a virtual link are labeled` `with the backbone Area ID of 0.`											
ANVL-OSPFV3-35.2 **MUST**	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	NEGATIVE RFC 5340, sA.3.1 p61 The OSPF packet header											
	`The OSPF Packet Header` `Packets traversing a virtual link are labeled` `with the backbone Area ID of 0.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-35.3	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.3.1 p62 The OSPF packet header											
MUST	The OSPF Packet Header +-+ | Checksum | Instance ID | 0 | +-+ 0 These fields are reserved. They must be 0. (NOTE: Here we are testing that the field following the Instance ID field is set to 0 in the OSPFv3 Packet Header)											
ANVL-OSPFV3-36.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.3.2 p62 The Hello Packet											
MUST	The Hello Packet All routers connected to a common link must agree on certain parameters (HelloInterval and RouterDeadInterval). Thes e parameters are included in Hello packets allowing differences can inhibit the forming of neighbor relationships. (This test is for HelloInterval.)											
ANVL-OSPFV3-36.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.3.2 p62 The Hello Packet											
MUST	The Hello Packet All routers connected to a common link must agree on certain parameters (HelloInterval and RouterDeadInterval). These parameters are included in Hello packets allowing differences can inhibit the forming of neighbor relationships. (This test is for RouterDeadInterval.)											
ANVL-OSPFV3-37.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.4.1.1 p70 Prefix Options											
SHOULD	Prefix Options NU-bit The "no unicast" capability bit. If set, the prefix should be excluded from IPv6 unicast calculations											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-38.1	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, sA.4.3 p75 Router-LSAs											
MUST	Router-LSAs bit V When set, the router is an endpoint of one or more fully adjacent virtual links having the described area as Transit area (V is for virtual link endpoint).											
ANVL-OSPFV3-39.1	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 5340, sA.4.5 p77 Inter-Area-Prefix-LSAs											
MUST	Inter-Area-Prefix-LSAs Default summary routes are used in stub areas instead of flooding a complete set of external routes. When describing a default summary route, the inter-area-prefix-LSA"s PrefixLength is set to 0.											
ANVL-OSPFV3-39.2	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.4.5 p78 Inter-Area-Prefix-LSAs											
MUST	Inter-Area-Prefix-LSAs When the Inter-Area-Prefix-LSA is describing a route to a range of addresses (see Section C.2) the cost is set to the maximum cost to any reachable component of the address range. (Note: we are testing that the metric of nter-Area-Prefix-LSA from DUT will be greater than the Advertised Value)											
ANVL-OSPFV3-40.1	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.4.10 p85 Intra-Area-Prefix-LSAs											
SHOULD	Intra-Area-Prefix-LSAs If Referenced LS type is 0x2001, the prefixes are associated with a router-LSA, Referenced Link State ID should be 0 and Referenced Advertising Router should be the originating router"s Router ID.											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-40.2 **SHOULD**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sA.4.10 p85 Intra-Area-Prefix-LSAs											
	`Intra-Area-Prefix-LSAs` `If Referenced LS type is 0x2002, the prefixes are associated with a network-LSA, Referenced Link State ID should be the Interface ID of the link"s Designated Router and Referenced Advertising Router should be the Designated Router"s Router ID.`											
ANVL-OSPFV3-41.2 **MUST**	FAIL	FAIL	FAIL	pass	pass	FAIL	FAIL	FAIL	FAIL	FAIL	pass	FAIL
	RFC 5340, sB p86 Architectural Constants RFC 2328, sB p218 Architectural Constants											
	`Architectural Constants` `LSInfinity is the metric value indicating that the destination described by an LSA is unreachable. Used in summary-LSAs as an alternative to premature aging. It is defined to be the 24-bit binary value of all ones: 0xffffff.` `(Type 3 Summary-LSA has been renamed as Inter-Area-Prefix-LSA)`											
ANVL-OSPFV3-41.3 **MUST**	FAIL	FAIL	FAIL	pass	pass	FAIL	FAIL	FAIL	FAIL	FAIL	pass	FAIL
	RFC 5340, sB p86 Architectural Constants RFC 2328, sB p218 Architectural Constants											
	`Architectural Constants` `LSInfinity is the metric value indicating that the destination described by an LSA is unreachable. Used in AS-external-LSAs as an alternative to premature aging. It is defined to be the 24-bit binary value of all ones: 0xffffff.`											
ANVL-OSPFV3-42.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 5340, sC.3 p89 Router Interface Parameters											
	`Router Interface Parameters` `Instance ID` `The OSPF protocol instance associated with this OSPF interface.` `Defaults to 0.`											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-43.1 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, s2.3 p23 Use of external routing information											
	RFC 2328 Compatibility External routing information is flooded unaltered throughout the AS.											
ANVL-OSPFV3-43.2 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, s10 p81 The neighbor Data Structure											
	RFC 2328 Compatibility The initialize(I), more (M) and master(MS) bits, Options field, and DD sequence number contained in the last Database Description packet received from the neighbor are used to determine whether the next Database Description packet received from the neighbor is a duplicate.											
ANVL-OSPFV3-43.3 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	NEGATIVE RFC 2328, s10 p81 The neighbor Data Structure											
	RFC 2328 Compatibility The initialize(I), more (M) and master(MS) bits, Options field, and DD sequence number contained in the last Database Description packet received from the neighbor are used to determine whether the next Database Description packet received from the neighbor is a duplicate.											
ANVL-OSPFV3-43.4 **MUST**	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, s12.2 p122 The link state database											
	RFC 2328 Compatibility An LSA is deleted from a router"s database when the router originates a newer instance of one of its self-originated LSAs. (This test checks for Router-LSA)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-43.5	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, s12.2 p122 The link state database											
MUST	RFC 2328 Compatibility An LSA is deleted from a router"s database when the router originates a newer instance of one of its self-originated LSAs. (This test checks for Network-LSA)											
ANVL-OSPFV3-43.6	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
	RFC 2328, s12.2 p122 The link state database											
MUST	RFC 2328 Compatibility An LSA is deleted from a router"s database when the router originates a newer instance of one of its self-originated LSAs. (This test checks for Inter-Area-Prefix-LSA)											
ANVL-OSPFV3-43.7	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, s12.2 p122 The link state database											
MUST	RFC 2328 Compatibility An LSA is deleted from a router"s database when the router originates a newer instance of one of its self-originated LSAs. (This test checks for Inter-Area-Router-LSA)											
ANVL-OSPFV3-43.8	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, s12.2 p122 The link state database											
MUST	RFC 2328 Compatibility An LSA is deleted from a router"s database when the LSA ages out and is flushed from the routing domain. (This test is for Router-LSA)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-43.9	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 2328, s12.2 p122 The link state database											
	RFC 2328 Compatibility An LSA is deleted from a router"s database when the LSA ages out and is flushed from the routing domain. (This test is for Network-LSA)											
ANVL-OSPFV3-43.10	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
MUST	RFC 2328, s12.2 p122 The link state database											
	RFC 2328 Compatibility An LSA is deleted from a router"s database when the LSA ages out and is flushed from the routing domain. (This test is for Inter-Area-Prefix-LSA)											
ANVL-OSPFV3-43.11	FAIL	FAIL	pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	pass	pass
MUST	RFC 2328, s12.2 p122 The link state database											
	RFC 2328 Compatibility An LSA is deleted from a router"s database when the LSA ages out and is flushed from the routing domain. (This test is for Inter-Area-Router-LSA)											
ANVL-OSPFV3-43.12	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
MUST	RFC 2328, s12.2 p122 The link state database											
	RFC 2328 Compatibility An LSA is deleted from a router"s database when the LSA ages out and is flushed from the routing domain. (This test is for AS-External-LSA)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-43.13	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, sA.3.2 p194 The Hello packet											
MUST	RFC 2328 Compatibility If Router Priority set to 0, the router will be ineligible to become Backup Designated Router. (This test checks the case when router itself has Router Priority 0)											
ANVL-OSPFV3-43.14	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, sA.3.2 p194 The Hello packet											
MUST	RFC 2328 Compatibility If Router Priority set to 0, the router will be ineligible to become Backup Designated Router (This test checks the case when a neighbor has Router Priority 0)											
ANVL-OSPFV3-43.15	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, sA.3.2 p194 The Hello packet											
MUST	RFC 2328 Compatibility If Router Priority set to 0, the router will be ineligible to become Designated Router (This test checks the case when router itself has Router Priority 0)											
ANVL-OSPFV3-43.16	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, sA.3.2 p194 The Hello packet											
MUST	RFC 2328 Compatibility If Router Priority set to 0, the router will be ineligible to become Designated Router. (This test checks the case when a neighbor has Router Priority 0)											

OSPFV3 Results

	Master 2017-01-16 --- Ubuntu 16.04	Master 2017-01-16 --- FreeBSD 10.3	Stable 2.0-rc1 --- FreeBSD 10.3	Stable 2.0-rc1 --- Ubuntu 16.04	Stable 2.0-rc2 --- Ubuntu 16.04	Stable 2.0-rc2 --- FreeBSD 10.3	Master 2017-02-24 --- Ubuntu 16.04	Master 2017-02-24 --- FreeBSD 10.3	Master 2017-03-07 --- FreeBSD 10.3	Master 2017-03-07 --- Ubuntu 16.04	Release 2.0 --- Ubuntu 16.04	Release 2.0 --- FreeBSD 10.3
ANVL-OSPFV3-43.17	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, sA.3.2 p194 The Hello packet											
MUST	RFC 2328 Compatibility If Router Priority set to 0, the router will be ineligible to become Designated Router. (This test checks the case when two router has Router Priority 0)											
ANVL-OSPFV3-43.18	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, sA.3.6 p201 The Link State Acknowledgment packet											
MUST	RFC 2328 Compatibility A Link State Acknowledgment packet is sent either to the multicast address AllSPFRouters, to the multicast address AllDRouters, or as a unicast (NOTE: This test is for multicast address AllSPFRouters)											
ANVL-OSPFV3-43.19	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
	RFC 2328, sA.3.6 p201 The Link State Acknowledgment packet											
MUST	RFC 2328 Compatibility A Link State Acknowledgment packet is sent either to the multicast address AllSPFRouters, to the multicast address AllDRouters, or as a unicast (NOTE: This test is for multicast address AllDRouters)											
ANVL-OSPFV3-43.20	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
	RFC 2328, sA.3.6 p201 The Link State Acknowledgment packet											
MUST	RFC 2328 Compatibility A Link State Acknowledgment packet is sent either to the multicast address AllSPFRouters, to the multicast address AllDRouters, or as a unicast (NOTE: This test is for unicast address)											