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Type	FRR	FRR	FRR	FRR	FRR	FRR	FRR	FRR	FRR	FRR
Commit ID	1a664f5	3e71b5d	e61a754	3d7746c	b84ccd4	f731a65	bade23d	f30a732	f92f83b	dceb5f8
Commit Date	2017-03-08	2017-04-02	2017-04-04	2017-04-25	2017-05-16	2017-05-24	2017-06-02	2017-06-27	2017-07-01	2017-07-21
ANVL-OSPF-1.1 **MUST**	ANVL Setup Validation Test									
	Test Setup Validate OSPF Hello packet from DUT.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-1.6 **MUST**	RFC 2328 Section 12									
	Test Setup The collection of LSAs forms the link-state database. Each separate type of LSA has a separate function. Router-LSAs and network-LSAs describe how an area"s routers and networks are interconnected. Summary-LSAs provide a way of condensing an area"s routing information. AS-external-LSAs provide a way of transparently advertising externally-derived routing information throughout the Autonomous System. Note: ANVL Setup Validation Test									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.1 **MUST**	RFC 1583, s13.3 p132 Next step in the flooding procedure (see also sA.3.5 p179) RFC 2328, s13.3 p148 Next step in the flooding procedure (see also sA.3.5 p199)									
	OSPF Flooding Validate Link State Update packet format.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.2 **MUST**	RFC 1583, s13.3 p131 Next step in the flooding procedure (see also s4.2 p35 and s12.1.3 p103) RFC 2328, s13.3 p148 Next step in the flooding procedure (see also s4.2 p41 and s12.1.3 p117)									
	OSPF Flooding AS external link advertisements are not flooded into/throughout stub areas.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.3 **MUST**	RFC 1583, s13.3 p132 Next step in the flooding procedure RFC 2328, s13.3 p149 Next step in the flooding procedure									
	OSPF Flooding If a neighbor is in a lesser state than Exchange, it does not participate in flooding.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-2.4 **MUST**	RFC 1583, s13.3 p132 Next step in the flooding procedure RFC 2328, s13.3 p149 Next step in the flooding procedure									
	OSPF Flooding Verify that advertisements for neighbors in state Exchange who appear on the Link State Request list are processed correctly									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.5 **MUST**	RFC 1583, s13 p127 The Flooding Procedure RFC 2328, s13 p144 The Flooding Procedure									
	OSPF Flooding If a new advertisement was received from a neighbor such that the receiving interface is DR and sender is not BDR, then the advertisement must be flooded back out the receiving interface.									
	Ubuntu 16.04: unpredict	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: unpredict	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-2.6 **MUST**	RFC 1583, s13.3 p133 The Flooding Procedure RFC 2328, s13.3 p150 The Flooding Procedure									
	OSPF Flooding Do not flood an advertisement back to an interface if it was received from the Designated Router or the Backup Designated Router									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.7 **MUST**	RFC 1583, s13.3 p133 Next step in the flooding procedure RFC 2328, s13.3 p150 Next step in the flooding procedure									
	OSPF Flooding Do not flood a new advertisement back onto the receiving interface if that interface is in state Backup									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.8 **MUST**	RFC 1583, s13.3 p133 Next step in the flooding procedure (see also s12.1.1 p101 and s14 p139) RFC 2328, s13.3 p150 Next step in the flooding procedure (see also s12.1.1 p116 and s14 p156)									
	OSPF Flooding The LS age field must be incremented by InfTransDelay on every hop of the flooding procedure.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.9 **MUST**	RFC 1583, s13.3 p133-134 Next step in the flooding procedure (see also s7.3 p47 and s8.1 p51) RFC 2328, s13.3 p150-151 Next step in the flooding procedure (see also s7.3 p54 and s8.1 p58)									
	OSPF Flooding The Designated Router and its Backup send Link State Update packets to the multicast address AllSPFRouters.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-2.10 **MUST**	RFC 1583, s13.3 p134 Next step in the flooding procedure (see also s8.1 p51) RFC 2328, s13.3 p151 Next step in the flooding procedure (see also s8.1 p58)									
	OSPF Flooding All routers other than the Designated Router and its Backup send their Link State Update packets to the multicast address AllDRouters.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.11 **SHOULD**	NEGATIVE: RFC 1583, s13.3 p133 Next step in the flooding procedure NEGATIVE: RFC 2328, s13.3 p150 Next step in the flooding procedure									
	OSPF Flooding DUT should ignore unexpected Link State Ack during adjacency establishment.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.12 **MUST**	RFC 2328, s13 p145 The flooding procedure									
	OSPF Flooding When a received LSA instance is less recent than a router"s current database copy, the router will respond by flooding back its DB copy.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.13 **MUST**	RFC 2328, s10.6 p100 Receiving Database Description Packets									
	OSPF Flooding Duplicate Database Description packets are discarded by the master.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.14 **MUST**	RFC 2328, s10.6 p100 Receiving Database Description Packets									
	OSPF Flooding Duplicate Database Description packets cause the slave to retransmit the last Database Description packet that it had sent.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-2.15 **MUST**	RFC 2328, s10.6 p99 Receiving Database Description Packets									
	OSPF Flooding If the Interface MTU field in a Database Description packet is larger than the router can accept without framentation, then it is rejected.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-3.1 **MUST**	RFC 1583, s11.1 p96 Routing table lookup RFC 2328, s11.1 p111 Routing table lookup									
	OSPF Routing Table Lookups This routing table entry then provides the outgoing interface and next hop router to use in forwarding the packet. (NOTE: Here we are testing the DUT forwards IP packet to the correct interface and next hop based on an entry in the OSPF routing table.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-3.2 **MUST**	RFC 1583, s11.1 p96 Routing table lookup RFC 2328, s11.1 p111 Routing table lookup									
	OSPF Routing Table Lookups In this case, the packet"s IP destination is considered unreachable. Instead of being forwarded, the packet should be dropped and an ICMP destination unreachable message should be returned to the packet"s source. (NOTE: Here we are testing the DUT sends an ICMP destination unreachable if there is no route to the destination.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-3.3 **SHOULD**	RFC 1583, s11.1 p96 Routing table lookup RFC 2328, s11.1 p111 Routing table lookup									
	OSPF Routing Table Lookups If there is no matching routing table entry then the packet"s IP destination is considered unreachable. Instead of being forwarded, the packet should then be discarded and an ICMP destination unreachable message should be returned to the packet"s source. (NOTE: Here we are testing DUT sends an ICMP destination unreachable if there is no intra-area route for a packet destined for the router"s configured area.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-3.4 **MUST**	RFC 1583, s11.1 p96 Routing table lookup RFC 2328, s11.1 p96 Routing table lookup									
	OSPF Routing Table Lookups DUT forwards IP packets based on the most preferential path type.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-3.5 **MUST**	RFC 1583, s11.1 p96 Routing table lookup RFC 2328, s11.1 p111 Routing table lookup									
	OSPF Routing Table Lookups In this case, the "best match" is the routing table entry that provides the most specific (longest) match. (NOTE: here we are testing DUT forwards IP packets based on the most specific address/mask match.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-3.7 **MUST**	STRESS: RFC 1583, s11.1 p98 Routing table lookup STRESS: RFC 2328, s11.1 p112 Routing table lookup									
	OSPF Routing Table Lookups DUT stays up when receiving an excessive number of Link State Updates.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-3.8 **MAY**	RFC 2328, s16.2 p169 Calculating the Inter-area routes									
	OSPF Routing Table Lookups Range summaries of an area may contain subnets in different areas provided that subnets belonging to other areas are not summarized.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-3.9 **MUST**	RFC 2328, s16.4.1 p175 External Path Preferences									
	OSPF Routing Table Lookups Note that as a result of these rules, there may still be multiple paths of the highest preference. In this case, the path to use must be determined based on cost (NOTE: Here we are testing Intra-area backbone and inter-area paths are of equal preference. In this case, the path to use must be determined based on cost.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-4.1 **MAY**	RFC 1583, s16.7 p157 Events generated as a result of routing table changes RFC 2328, s16.7 p177 Events generated as a result of routing table changes									
	OSPF Routing Table Changes New summary link advertisements are generated when the cost or path type of a routing table entry changes.									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-4.2 **MUST**	RFC 1583, s16.7 p157 Events generated as a result of routing table changes (see also s12.4.3 p120) RFC 2328, s16.7 p177 Events generated as a result of routing table changes (see also s12.4.3 p135)									
	OSPF Routing Table Changes New summary link advertisements are reflooded with LS Age = MaxAge when routing table entries are deleted or are no longer advertisable.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-4.3 **MUST**	RFC 1583, s16.7 p158 Events generated as a result of routing table changes (see also s15 p141) RFC 2328, s16.7 p178 Events generated as a result of routing table changes (see also s15 p159)									
	OSPF Routing Table Changes If the entry indicates that the area border router is newly reachable, the corresponding virtual link is now operational. An InterfaceUp event should be generated for the virtual link, which will cause a virtual adjacency to begin to form. (NOTE: Here we are testing DUT attempts to bring up a virtual link when a changed routing table entry indicates that the endpoint of the virtual link is reachable.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-4.4 **MUST**	RFC 1583, s16.7 p158 Events generated as a result of routing table changes RFC 2328, s16.7 p178 Events generated as a result of routing table changes									
	OSPF Routing Table Changes If the entry indicates that the area border router is no longer reachable,the virtual link and its associated adjacency should be destroyed. This means an InterfaceDown event should be generated for the associated virtual link. (NOTE: Here we are testing the DUT brings down a virtual link when a changed routing table entry indicates that the virtual link endpoint is no longer reachable.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-4.5 **MUST**	RFC 1583, s16.7 p158 Events generated as a result of routing table changes RFC 2328, s16.7 p178 Events generated as a result of routing table changes									
	OSPF Routing Table Changes If the cost of the entry has changed, and there is a fully established virtual adjacency, a new router-LSA for the backbone must be originated. (NOTE: Here we are testing DUT generates new summary link advertisements when the cost of a path to a virtual link endpoint changes in the routing table.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-5.1 **SHOULD**	RFC 1583, s16.1 p146 Calculating the shortest-path tree for an area RFC 2328, s16.1 p164 Calculating the shortest-path tree for an area									
	Intra-Area Shortest Path Calculation DUT should use the shortest of two or more paths (according to OSPF route distance metric) when forwarding packets.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-5.2 **MUST**	RFC 1583, s16.1 p145 Calculating the shortest-path tree for an area RFC 2328, s16.1 p163 Calculating the shortest-path tree for an area									

	`Intra-Area Shortest Path Calculation`
	`If the LSA LS age is equal to MaxAge, examine the next link in V"s LSA.`
	`(NOTE: Here we are testing router links or network links advertisements`
	`with LS age = MaxAge are not used when building the shortest-path tree`
	`for an area.)`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-5.3 **MUST**	RFC 1583, s16.1 p145 Calculating the shortest-path tree for an area RFC 2328, s16.1 p163 Calculating the shortest-path tree for an area									

	`Intra-Area Shortest Path Calculation`
	`If the LSA does not have a link back to vertex V, examine the`
	`next link in V"s LSA.`
	`(NOTE: Here we are testing DUT does not calculate routes from an`
	`entry in the link state database if that entry has no path back`
	`to the DUT.)`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-5.4 **MUST**	RFC 1583, s16.1 p146 Calculating the shortest-path tree for an area RFC 2328, s16.1 p164 Calculating the shortest-path tree for an area									

	`Intra-Area Shortest Path Calculation`
	`Multiple sets of next hop values are calculated for intra-area routes`
	`when multiple equal-cost destinations to a network exist.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-5.5 **MUST**	RFC 1583, s16.1 p147 Calculating the shortest-path tree for an area RFC 2328, s16.1 p165 Calculating the shortest-path tree for an area									

	`Intra-Area Shortest Path Calculation`
	`If intra-area routes exist to an AS boundary router in more than one`
	`area, the area providing the shortest path is always chosen.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-5.6 **MUST**	RFC 1583, s16.1 p147 Calculating the shortest-path tree for an area RFC 2328, s16.1 p165 Calculating the shortest-path tree for an area									

	`Intra-Area Shortest Path Calculation`
	`If equal-cost intra-area routes exist to an AS boundary router in`
	`different areas, the area with largest OSPF Area ID is chosen.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-5.7 **SHOULD**	RFC 1583, s16.1 p147 Calculating the shortest-path tree for an area RFC 2328, s16.1 p165 Calculating the shortest-path tree for an area									
	Intra-Area Shortest Path Calculation In this case, the current routing table entry should be overwritten if and only if the newly found path is just as short and the current routing table entry"s Link State Origin has a smaller Link State ID than the newly added vertex" LSA.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-5.8 **MUST**	RFC 1583, s16.1 p148 Calculating the shortest-path tree for an area RFC 2328, s16.1 p166 Calculating the shortest-path tree for an area									
	Intra-Area Shortest Path Calculation Multiple sets of next hop values are calculated for intra-area routes to stub networks when multiple equal-cost paths exist.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-5.9 **MUST**	RFC 1583, s16.1 p148-149 Calculating the shortest-path tree RFC 2328, s16.1 p166-167 Calculating the shortest-path tree									
	Intra-Area Shortest Path Calculation Otherwise D is smaller than the routing table cost. Overwrite the current routing table entry by setting the routing table entry"s cost to D, and by setting the entry"s list of next hops to the newly calculated set. (NOTE: Here we are testing stub network routing table entries are updated when a new path with smaller distance is calculated due to received routing information.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-6.1 **MUST**	RFC 1583, s16.2 p150 Calculating the inter-area routes RFC 2328, s16.2 p169 Calculating the inter-area routes									
	Use of Summaries For each summary-LSA: If the cost specified by the LSA is LSInfinity then examine the the next LSA. (NOTE: here we are testing summary link advertisements with cost LSInfinity are not used when calculating inter-area routes.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-6.2 **MUST**	RFC 1583, s16.2 p150 Calculating the inter-area routes RFC 2328, s16.2 p169 Calculating the inter-area routes									
	Use of Summaries For each summary-LSA: if the LSA"s LS age is equal to MaxAge, then examine the the next LSA. (NOTE: here we are testing summary link advertisements with LS age of MaxAge are not used when calculating inter-area routes.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-6.3 **MUST**	RFC 1583, s16.2 p150 Calculating the inter-area routes RFC 2328, s16.2 p169 Calculating the inter-area routes									
	Use of Summaries For each summary-LSA: If the LSA was originated by the calculating router itself, examine the next LSA. (NOTE: Here we are testing if a summary link advertisement was originated by the router itself, it is not used when calculating inter-area routes.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-6.4 **MUST**	RFC 1583, s16.2 p151 Calculating the inter-area routes RFC 2328, s16.2 p169 Calculating the inter-area routes									
	Use of Summaries If it is a Type 3 summary-LSA, and the collection of destinations described by the summary-LSA equals one of the router"s configured area address ranges, and the particular area address range is active, then the summary-LSA should be ignored. (NOTE: Here we are testing a summary link advertisement is ignored if its destinations fall into one of the router"s active configured address ranges.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-6.5 **MUST**	RFC 1583, s16.2 p151 Calculating the inter-area routes RFC 2328, s16.2 p169 Calculating the inter-area routes									
	Use of Summaries Ignore summary links advertisements originated by an area border router if there is no entry for that ABR in the routing table.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-6.6 **SHOULD**	RFC 1583, s16.2 p151 Calculating the inter-area routes RFC 2328, s16.2 p169 Calculating the inter-area routes									
	Use of Summaries Summary (inter-area) routes should be installed into the routing table in preference to existing external type 1 or type 2 routes.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-6.7 **MUST**	RFC 1583, s16.3 p152 Examining transit areas" summary links RFC 2328, s16.3 p170 Examining transit areas" summary links									
	Use of Summaries The purpose of the calculation below is to examine the transit areas to see whether they provide any better (shorter) paths than the paths previously calculated in Sections 16.1 and 16.2. Any paths found that are better than or equal to previously discovered paths are installed in the routing table. (NOTE: Here we are testing the DUT uses a summary link advertisement in a transit area if it has a better cost route to a backbone area network than the virtual link)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: untested
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-7.1 **MUST**	RFC 1583, s16.4 p155 Calculating AS external routes RFC 2328, s16.4 p173 Calculating AS external routes									
	OSPF AS External Route Calculation If the cost specified by the LSA is LSInfinity, or if the LSA"s LS age is equal to MaxAge, then examine the next LSA. (NOTE: Here we are testing the DUT does not use AS external link advertisements with either a metric of LSInfinity or an LS age of MaxAge.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-7.2 **MUST**	RFC 1583, s16.4 p155 Calculating AS external routes RFC 2328, s16.4 p173 Calculating AS external routes									
	OSPF AS External Route Calculation If the LSA was originated by the calculating router itself, examine the next LSA. (NOTE: He we are testing the DUT does not use AS external link advertisements originated by the device itself.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-7.3 **MUST**	RFC 1583, s16.4 p155 Calculating AS external routes RFC 2328, s16.4 p173 Calculating AS external routes									
	OSPF AS External Route Calculation If no entries exist for router ASBR (i.e., ASBR is unreachable), do nothing with this LSA and consider the next in the list. (NOTE: Here we are testing the DUT does not use an AS external link advertisement if there is no routing table entry for the AS boundary router originating the advertisement.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-7.4 **MUST**	RFC 1583, s16.4 p155 Calculating AS external routes RFC 2328, s16.4 p173 Calculating AS external routes									
	OSPF AS External Route Calculation If the forwarding address is non-zero, look up the forwarding address in the routing table. The matching routing table entry must specify an intra-area or inter-area path; if no such path exists, do nothing with the LSA and consider the next in the list. (NOTE: Here we are testing DUT ignores an AS external link advertisement if there is no intra-area or inter-area routing table entry for the forwarding address.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-7.5 **MUST**	RFC 1583, s16.4 p155 Calculating AS external routes RFC 2328, s16.4 p174 Calculating AS external routes									
	OSPF AS External Route Calculation Type 1 external paths are always preferred over type 2 external paths. (NOTE: Here we are testing DUT always treats Type 1 external paths as shorter than type 2 external paths.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-7.6 **MUST**	RFC 1583, s16.4 p155 Calculating AS external routes RFC 2328, s16.4 p174 Calculating AS external routes									
	OSPF AS External Route Calculation If the external metric type is 1, then the path-type is set to type 1 external and the cost is equal to X+Y. (NOTE: Here we are testing DUT compares Type 1 external paths by looking at the sum of the distance to the forwarding address and the advertised type 1 metric.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-7.7 **MUST**	RFC 1583, s16.4 p155 Calculating AS external routes RFC 2328, s16.4 p174 Calculating AS external routes									
	OSPF AS External Route Calculation If the external metric type is 2, the path-type is set to type 2 external, the link state component of the route"s cost is X, and the type 2 cost is Y. (NOTE: Here we are testing DUT compares type 2 external paths by advertised type 2 metrics or by distance to the forwarding addresses if type 2 metrics are equal.)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-11.1 **MUST**	RFC 2328, s2.3 p23 Use of external routing information									
	External Routing Information Use External routing information is flooded unaltered throughout the AS.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.1 **MUST**	RFC 2328, s4 p40 Functional Summary									
	OSPF Operations The router sends Hello packets to its neighbors, and in turn receives their Hello packets.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.2 **MUST**	RFC 2328, s4 p40 Functional Summary									
	OSPF Operations On broadcast networks, the router dynamically detects its neighboring routers by sending its Hello packets to the multicast address AllSPFRouters.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.4 **MUST**	RFC 2328, s4 p40 Functional Summary									
	OSPF Operations A router periodically advertises its state, which is also called link state.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-12.5 **MUST**	RFC 2328, s4 p40 Functional Summary									
	OSPF Operations Link state is also advertised when a router"s state changes.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.6 **MUST**	RFC 2328, s4.3 p42 Routing protocol packets									
	OSPF Operations The OSPF protocol runs directly over IP, using IP protocol 89.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.7 **SHOULD**	RFC 2328, s4.3 p42 Routing protocol packets									
	OSPF Operations Routing protocol packets should always be sent with the IP TOS field set to 0.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.8 **SHOULD**	RFC 2328, s4.3 p42 Routing protocol packets									
	OSPF Operations OSPF protocol packets should have their IP precedence field set to the value Internetwork Control.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.9 **MUST**	RFC 2328, s4.3 p43 Routing protocol packets									
	OSPF Operations Each LSA is tagged with the ID of the originating router and a checksum of its link state contents. This test is for Router-LSA.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.10 **MUST**	RFC 2328, s4.3 p43 Routing protocol packets									
	OSPF Operations 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-12.11 **MUST**	RFC 2328, s4.3 p43 Routing protocol packets									
	OSPF Operations Each LSA is tagged with the ID of the originating router and a checksum of its link state contents. This test is for a Type-3 Summary LSA.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-13.1 **MUST**	RFC 2328, s7.1 p52 The Hello Protocol Bringing up Adjacencies Bidirectional communication is indicated when the router sees itself listed in the neighbor"s Hello Packet.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.2 **MUST**	RFC 2328, s7.1 p52 The Hello Protocol Bringing up Adjacencies On broadcast networks, each router advertises itself by multicasting Hello Packets.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.3 **MUST**	RFC 2328, s7.1 p52 The Hello Protocol Bringing up Adjacencies On broadcast networks, each router advertises itself by periodically multicasting Hello Packets.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.4 **MUST**	RFC 2328, s7.2 p53 The Synchronization of Databases Bringing up Adjacencies 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.5 **SHOULD**	RFC 2328, s7.2 p53 The Synchronization of Databases Bringing up Adjacencies 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.6 **SHOULD**	RFC 2328, s7.2 p53 The Synchronization of Databases Bringing up Adjacencies When the neighbor sees an LSA that is not more recent than its own database copy, it does not make a note that this LSA (which is not newer) should be requested.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-13.7 **MUST**	RFC 2328, s7.2 p53 The Synchronization of Databases									
	Bringing up Adjacencies Database Description Packets sent by the master (polls) are acknowledged by the slave through echoing of the sequence number.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.8 **MUST**	RFC 2328, s7.2 p54 The Synchronization of Databases									
	Bringing up Adjacencies The master is the only one allowed to retransmit Database Description Packets.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.9 **MUST**	RFC 2328, s7.2 p54 The Synchronization of Databases									
	Bringing up Adjacencies The slave is not allowed to retransmit Database Description packets.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.10 **MUST**	RFC 2328, s7.2 p54 The Synchronization of Databases									
	Bringing up Adjacencies Each Database Description contains an indication that there are more packets to follow --- the M-bit.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.11 **MUST**	RFC 2328, s7.2 p54 The Synchronization of Databases									
	Bringing up Adjacencies Database Exchange Process is over when a router has received and sent Database Description Packets with the M-bit off.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.12 **MUST**	RFC 2328, s7.3 p54 The Designated Router									
	Bringing up Adjacencies The Designated Router originates a network-LSA on behalf of the network.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.13 **MUST**	RFC 2328, s7.3 p54 The Designated Router									
	Bringing up Adjacencies If a router is not the DR, it does not generate a network-LSA for the network. This test is with DUT as BDR.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-13.14 **MUST**	RFC 2328, s7.3 p54 The Designated Router									
	Bringing up Adjacencies If a router is not the DR, it does not generate a network-LSA for the network. This test is with DUT as DR-Other									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.15 **MUST**	RFC 2328, s7.3 p54 The Designated Router									
	Bringing up Adjacencies The Link State ID for network-LSA is the IP interface address of the Designated Router.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.16 **MUST**	RFC 2328, s7.4 p56 The Backup Designated Router									
	Bringing up Adjacencies Backup Designated Router becomes Designated Router when the previous Designated Router fails.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-13.17 **MUST**	RFC 2328, s7.4 p56 The Backup Designated Router									
	Bringing up Adjacencies Each Hello Packet has a field that specifies the Backup Designated Router for the network.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-14.1 **MUST**	RFC 2328, s8.1 p58 Sending protocol packets									
	Protocol Packet Processing In the OSPF protocol packet headers version Number is set to 2, the version number of the protocol as documented in this specification.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-14.2 **MUST**	RFC 2328, s8.1 p59 Sending protocol packets									
	Protocol Packet Processing In OSPF protocol packet headers Router ID is set to the identity of the router itself (who is originating the packet).									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-14.3 **MUST**	RFC 2328, s8.1 p59 Sending protocol packets									
	Protocol Packet Processing 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-14.4 **MUST**	RFC 2328, s8.1 p59 Sending protocol packets									
	Protocol Packet Processing The IP checksum of any OSPF packet is the standard IP 16-bit one"s complement checksum of the entire OSPF packet, excluding the 64-bit authentication field. (This test checks the case of sending a Hello packet)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-14.5 **MUST**	RFC 2328, s8.1 p59 Sending protocol packets s10.5 p96 Receiving Hello packets									
	Protocol Packet Processing A router discards any received Hello packet with an invalid IP checksum i.e. which is not the standard IP 16-bit one"s complement checksum of the entire OSPF packet, excluding the 64-bit authentication field.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-14.7 **MUST**	RFC 2328, s8.1 p60 Sending protocol packets									
	Protocol Packet Processing Retransmissions of Link State Update packets are ALWAYS sent directly to the neighbor.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-14.8 **MUST**	RFC 2328, s8.2 p62 Receiving protocol packets									
	Protocol Packet Processing The Received packet"s IP source address is required to be on the same network as the receiving interface.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-14.9 **MUST**	NEGATIVE: RFC 2328, s8.2 p62 Receiving protocol packets									
	Protocol Packet Processing The Received packet"s IP source address is required to be on the same network as the receiving interface.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-14.10 **MUST**	NEGATIVE: RFC 2328, s8.2 p62 Receiving protocol packets									

	`Protocol Packet Processing`
	`The AuType specified in the packet must match the AuType specified`
	`for the associated area.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.1 **MUST**	RFC 2328, s9.5 p78 Sending Hello packets									

	`Interface Data Structure`
	`The Hello Packet also indicates how often a neighbor must be heard`
	`from to remain active (RouterDeadInterval).`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.2 **MUST**	RFC 2328, s9 p66 The Interface Data Structure									

	`Interface Data Structure`
	`The Designated Router is initialized to 0.0.0.0, which indicates the`
	`lack of a Designated Router.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-15.3 **MUST**	RFC 2328, s9 p66 The Interface Data Structure									

	`Interface Data Structure`
	`The Backup Designated Router is initialized to 0.0.0.0, indicating the`
	`lack of a Backup Designated Router`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.4 **MUST**	RFC 2328, s9 p66 The Interface Data Structure									

	`Interface Data Structure`
	`RxmtInterval is the number of seconds between Database Description`
	`packet retransmissions.`
	`This tests for Database Description packet retransmission in ExStart`
	`state.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.5 **MUST**	RFC 2328, s9 p66 The Interface Data Structure									

	`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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-15.6 **MUST**	RFC 2328, s9 p66 The Interface Data Structure									
	`Interface Data Structure RxmtInterval is the number of seconds between LSA retransmissions, for adjacencies belonging to this interface.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.7 **MUST**	RFC 2328, s9.1 p67 The Interface Data Structure									
	`Interface Data Structure No protocol traffic at all will be sent or received on a down interface.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.8 **MUST**	RFC 2328, s9.1 p69 Interface states									
	`Interface Data Structure 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).`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.9 **MUST**	RFC 2328, s9.1 p69 Interface states									
	`Interface Data Structure In Backup state the router establishes adjacencies to all other routers attached to the network.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.10 **MUST**	RFC 2328, s9.1 p69 Interface states									
	`Interface Data Structure In DR state Adjacencies are established to all other routers attached to the network.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.11 **MUST**	RFC 2328, s9.3 p73 The Interface state machine									
	`Interface Data Structure When router is in Waiting state, if BackupSeen event occurs then router calculates the attached network"s Backup Designated Router and Designated Router.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-15.12 **MUST**	RFC 2328, s9.3 p73 The Interface state machine									
	`Interface Data Structure When router is in Waiting state, if WaitTimer event fires then router calculates the attached network"s Backup Designated Router and Designated Router.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.13 **MUST**	RFC 2328, s9.3 p74 The Interface state machine									
	`Interface Data Structure When NbrChange event fires then router recalculates the attached network"s Backup Designated Router and Designated Router.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.14 **MUST**	RFC 2328, s9.4 p75 Electing the Designated Router									
	`Interface Data Structure 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.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.15 **MUST**	RFC 2328, s9.4 p75 Electing the Designated Router									
	`Interface Data Structure 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.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.16 **MUST**	RFC 2328, s9.4 p76 Electing the Designated Router									
	`Interface Data Structure If no routers have declared themselves Backup Designated Router, choose the router having highest Router Priority as Backup Designated Router.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.17 **MUST**	RFC 2328, s9.4 p76 Electing the Designated Router									
	`Interface Data Structure If no routers have declared themselves Backup Designated Router, choose the router having highest Router Priority, again use the Router ID to break ties.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-15.18 **MUST**	RFC 2328, s9.4 p76 Electing the Designated Router									
	Interface Data Structure If one or more of the routers have declared themselves Designated Router the one having highest Router Priority is declared to be Designated Router.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.19 **MUST**	RFC 2328, s9.4 p76 Electing the Designated Router									
	Interface Data Structure In case of a tie in the router priority among routers declaring themselves Designated Router, the one having the highest Router ID is chosen.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.20 **MUST**	RFC 2328, s9.4 p76 Electing the Designated Router									
	Interface Data Structure If no routers have declared themselves Designated Router, assign the Designated Router to be the same as the newly elected Backup Designated Router.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.21 **SHOULD**	RFC 2328, s9.5 p78 Sending Hello packets									
	Interface Data Structure While sending a Hello packet into a stub area the E-bit of the Options field should be clear.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.22 **SHOULD**	RFC 2328, s9.5 p78 Sending Hello packets									
	Interface Data Structure While sending a Hello packet into a non-stub area the E-bit of the Options field should be set.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.23 **MUST**	RFC 2328, s9.5 p78 Sending Hello packets									
	Interface Data Structure 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-15.24 **MUST**	RFC 2328, s9.5 p78 Sending Hello packets									
	Interface Data Structure Hello packet also contains the router"s current choice for Designated Router and Backup Designated Router.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.25 **MUST**	RFC 2328, s9.5 p78 Sending Hello packets									
	Interface Data Structure On broadcast networks, Hello packets are sent to the IP multicast address AllSPFRouters.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.26 **MUST**	RFC 2328, s9.5 p78 Sending Hello packets									
	Interface Data Structure On broadcast networks, Hello packets are sent every HelloInterval seconds.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.29 **MUST**	RFC 2328, s9.5 p78 Sending Hello packets									
	Interface Data Structure On virtual links, Hello packets are sent as unicasts (addressed directly) to the other end of the virtual link)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-15.30 **MUST**	RFC 2328, s9.5 p78 Sending Hello packets									
	Interface Data Structure On virtual links, Hello packets are sent every HelloInterval seconds.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-16.1 **MUST**	RFC 2328, s10 p80 The neighbor Data Structure									
	Neighbor Data Structure The Database Description Packet sent by slave is not allowed to retransmit.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-16.2 **MUST**	RFC 2328, s10 p81 The neighbor Data Structure									
	Neighbor Data Structure 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-17.1 **MUST**	RFC 2328, s10.1 p83 neighbor states									
	Neighbor States After the two routers discover their master/slave status, the state transitions to Exchange. (This test checks the case when DUT eventually becomes master)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-17.2 **MUST**	RFC 2328, s10.1 p83 neighbor states									
	Neighbor States After the two routers discover their master/slave status, the state transitions to Exchange. (This test checks the case when DUT eventually becomes slave)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-17.3 **MUST**	RFC 2328, s10.1 p86 neighbor states									
	Neighbor States 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-17.4 **MUST**	RFC 2328, s10.1 p86 neighbor states									
	Neighbor States 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-17.5 **MAY**	RFC 2328, s10.1 p86 neighbor states									
	Neighbor States In Exchange state Link State Request Packets may also be sent asking for the neighbor"s more recent LSAs.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-18.1 **SHOULD**	RFC 2328, s10.3 p90-91 The neighbor state machine									
	Neighbor State Machine In Init state if the neighbor event 2-WayReceived is triggered and if it is determined that adjacency should be established with the neighbor, the neighbor state transitions to ExStart. Upon entering this state, the router increments the DD sequence number in the neighbor data structure.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-18.2 **MUST**	RFC 2328, s10.3 p91 The neighbor state machine									

	`Neighbor State Machine`
	`The area link state database consists of the router-LSAs, network-LSAs`
	`and summary-LSAs contained in the area structure, along with the`
	`AS-external-LSAs contained in the global structure.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-18.3 **MUST**	RFC 2328, s10.3 p91 The neighbor state machine									

	`Neighbor State Machine`
	`AS-external-LSAs are omitted from the Database summary list if the`
	`area has been configured as a stub area.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-18.4 **MUST**	RFC 2328, s10.3 p92 The neighbor state machine									

	`Neighbor State Machine`
	`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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-18.5 **MUST**	RFC 2328, s10.3 p93 The neighbor state machine									

	`Neighbor State Machine`
	`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 Exchange State.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-18.6 **MUST**	RFC 2328, s10.3 p93 The neighbor state machine									

	`Neighbor State Machine`
	`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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-18.7 **MUST**	RFC 2328, s10.3 p94 The neighbor state machine									

	`Neighbor State Machine`
	`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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-18.8 **MUST**	RFC 2328, s10.3 p94 The neighbor state machine									

	`Neighbor State Machine`
	`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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-19.1 **MUST**	RFC 2328, s10.4 p95 Whether to become adjacent									

	`Adjacency Decision`
	`On broadcast, all routers become adjacent to both the Designated Router`
	`and the Backup Designated Router.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-20.1 **MUST**	RFC 2328, s10.5 p96 Receiving Hello Packets									

	`Receiving Hello Packets`
	`The values of the Network Mask 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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-20.2 **MUST**	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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-20.3 **MUST**	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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-20.4 **MUST**	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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-20.5 **MUST**	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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-21.1 **MUST**	RFC 2328, s10.6 p100 Receiving Database Description Packets									

	`Receiving DB Description Packets`
	`In ExStart state if the received Database Description packet has the`
	`I, M and MS bits 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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-21.2 **MUST**	RFC 2328, s10.6 p100 Receiving Database Description Packets									

	`Receiving DB Description Packets`
	`In ExStart state if the received Database Description packet has the`
	`I and MS bits 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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-21.3 **SHOULD**	RFC 2328, s10.6 p102 Receiving Database Description Packets									

	`Receiving DB Description 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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-21.4 **SHOULD**	RFC 2328, s10.6 p102 Receiving Database Description Packets									

	`Receiving DB Description 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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-21.5 **MUST**	RFC 2328, s10.6 p102 Receiving Database Description Packets									

	`Receiving DB Description 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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-21.6 **MUST**	RFC 2328, s10.6 p102 Receiving Database Description Packets									
	`Receiving DB Description 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.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-22.1 **SHOULD**	RFC 2328, s10.7 p102 Receiving Link State Request Packets									
	`Receiving LS Request Packets Link State Request Packets should be accepted when the neighbor is in state Exchange.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-22.2 **SHOULD**	RFC 2328, s10.7 p102 Receiving Link State Request Packets									
	`Receiving LS Request Packets Link State Request Packets should be accepted when the neighbor is in state Loading.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-22.3 **SHOULD**	RFC 2328, s10.7 p102 Receiving Link State Request Packets									
	`Receiving LS Request Packets Link State Request Packets should be accepted when the neighbor is in state Full.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-22.4 **SHOULD**	RFC 2328, s10.7 p102 Receiving Link State Request Packets									
	`Receiving LS Request Packets Link State Request Packets should be ignored when neighbor is in ExStart state.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-22.5 **SHOULD**	RFC 2328, s10.7 p102 Receiving Link State Request Packets									
	`Receiving LS Request Packets Link State Request Packets should be ignored when neighbor is in Init state.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-22.6 **SHOULD**	RFC 2328, s10.7 p102 Receiving Link State Request Packets									
	Receiving LS Request Packets Link State Request Packets should be ignored when neighbor is in Down state.									
	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-22.7 **SHOULD**	RFC 2328, s10.7 p103 Receiving Link State Request Packets									
	Receiving LS Request 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.1 **SHOULD**	RFC 2328, s10.8 p103 Sending Database Description Packets									
	Sending DB Description Packets Interface MTU should be set to 0 in Database Description packets sent over virtual links.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.2 **SHOULD**	RFC 2328, s10.8 p103 Sending Database Description Packets									
	Sending DB Description Packets In Database Description packet the unrecognized bits in the Options field should be set to zero. (Note: we are only checking the option-bit 1 since it is currently reserved and not recognized)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.3 **MUST**	RFC 2328, s10.8 p103 Sending Database Description Packets									
	Sending DB Description Packets In state ExStart the router sends empty Database Description packets, with the initialize (I), more (M) and master (MS) bits set.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.4 **MUST**	RFC 2328, s10.8 p103 Sending Database Description Packets									
	Sending DB Description Packets In state ExStart Database Description packets are retransmitted every RxmtInterval seconds.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-23.5 **MUST**	RFC 2328, s10.8 p104 Sending Database Description Packets									
	Sending DB 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.6 **MUST**	RFC 2328, s10.8 p104 Sending Database Description Packets									
	Sending DB 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.7 **MUST**	RFC 2328, s10.8 p104 Sending Database Description Packets									
	Sending DB 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.8 **MUST**	RFC 2328, s10.8 p104 Sending Database Description Packets									
	Sending DB 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.9 **MUST**	RFC 2328, s10.8 p104 Sending Database Description Packets									
	Sending DB 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-23.10 **MUST**	RFC 2328, s10.8 p104 Sending Database Description Packets									
	Sending DB Description Packets In state Loading reception of a Database Description packet from the master after this interval (RouterDeadInterval) will generate a SeqNumberMismatch neighbor event.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-23.11 **MUST**	RFC 2328, s10.8 p104 Sending Database Description Packets									
	Sending DB Description Packets In state Full reception of a Database Description packet from the master after this interval (RouterDeadInterval) will generate a SeqNumberMismatch neighbor event.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-24.1 **MUST**	RFC 2328, s10.9 p105 Sending Link State Request Packets									
	Sending LS Request 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-24.2 **MUST**	RFC 2328, s10.9 p105 Sending Link State Request Packets									
	Sending LS Request 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-24.3 **MUST**	RFC 2328, s12.1.1 p116 LS age									
	Sending LS Request Packets LSAs are also aged as they are held in each router"s database.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-24.4 **MUST**	RFC 2328, s12.1.1 p116 LS age									
	Sending LS Request Packets The age of an LSA is never incremented past MaxAge.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-24.5 **MUST**	RFC 2328, s12.1.1 p116 LS age									
	Sending LS Request Packets When an LSA"s age first reaches MaxAge, it is reflooded.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-24.6 **MUST**	RFC 2328, s12.1.1 p116 LS age									
	Sending LS Request Packets LSA of age MaxAge is finally flushed from the database when it is no longer needed to ensure database synchronization.									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested

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ANVL-OSPF-24.7 **MUST**	RFC 2328, s12.1.1 p117 LS age									
	Sending LS Request Packets 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-24.8 **MUST**	RFC 2328, s12.1.1 p117 LS age									
	Sending LS Request Packets 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.1 **SHOULD**	RFC 2328, s12.1.2 p117 Options									
	LSA Header The E-bit represents OSPF"s ExternalRoutingCapability. This bit should be set in all LSAs associated with the backbone.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.2 **SHOULD**	RFC 2328, s12.1.2 p117 Options									
	LSA Header 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 Router-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.3 **SHOULD**	RFC 2328, s12.1.2 p117 Options									
	LSA Header 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.4 **SHOULD**	RFC 2328, s12.1.2 p117 Options									
	LSA Header 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 Type-3 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-25.5 **SHOULD**	RFC 2328, s12.1.2 p117 Options									
	LSA Header 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 Type-4 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.6 **SHOULD**	RFC 2328, s12.1.2 p117 Options									
	LSA Header E-bit should be reset (set to 0) in all router-LSAs associated with a stub area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.7 **SHOULD**	RFC 2328, s12.1.2 p117 Options									
	LSA Header E-bit should be reset (set to 0) in all network-LSAs associated with a stub area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.8 **SHOULD**	RFC 2328, s12.1.2 p117 Options									
	LSA Header E-bit should be reset (set to 0) in all summary-LSAs associated with a stub area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.9 **MUST**	RFC 2328, s12.1.3 p117 LS type									
	LSA Header All LSA types defined by this memo, except the AS-external-LSAs (LS type = 5), are flooded throughout a single area only.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.10 **MUST**	RFC 2328, s12.1.4 p119 Link State ID									
	LSA Header When the LSA is describing a router (LS type = 1 or 4), the Link State ID is always the described router"s OSPF Router ID.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.11 **MUST**	RFC 2328, s12.1.5 p119 Advertising Router									
	LSA Header The Advertising Router field specifies the OSPF Router ID of the LSA"s originator.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-25.12 **MUST**	RFC 2328, s12.1.5 p119 Advertising Router									
	LSA Header For router-LSAs, the Advertising Router field is identical to the Link State ID field.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.13 **MUST**	RFC 2328, s12.1.5 p120 Advertising Router									
	LSA Header Summary-LSAs are originated by area border routers.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.14 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. (This test checks for Router-LSAs)									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-25.15 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. (This test checks for Network-LSAs)									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-25.16 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. (This test checks for Type-3 Summary-LSAs)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.17 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	LSA Header A router uses InitialSequenceNumber the first time it originates any LSA. (This test checks for Type-4 Summary-LSAs)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-25.18 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	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)									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-25.19 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	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)									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-25.20 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	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 Type-3 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.21 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	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 Type-4 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.22 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-25.23 **MUST**	RFC 2328, s12.1.6 p120 LS sequence number									
	LSA Header As soon as this flooding of a LSA with LS sequence number MaxSequenceNumber has been acknowledged by all adjacent neighbors, a new instance can be originated with sequence number of InitialSequenceNumber.									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-25.24 **MUST**	RFC 2328, s12.1.7 p121 LS checksum									
	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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.25 **MUST**	RFC 2328, s12.1.7 p121 LS checksum									
	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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.26 **MUST**	RFC 2328, s12.1.7 p121 LS checksum									
	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 Type-3 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.27 **MUST**	RFC 2328, s12.1.7 p121 LS checksum									
	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 Type-4 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-25.28 **SHOULD**	RFC 2328, s12.1.7 p121 LS checksum									
	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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-26.1 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database An LSA is deleted from a router"s database when it has been overwritten by a newer instance during the flooding process. (This test checks for Router-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.2 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database An LSA is deleted from a router"s database when it has been overwritten by a newer instance during the flooding process. (This test checks for Network-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.3 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database An LSA is deleted from a router"s database when it has been overwritten by a newer instance during the flooding process. (This test checks for Type-3 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.4 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database An LSA is deleted from a router"s database when it has been overwritten by a newer instance during the flooding process. (This test checks for Type-4 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.5 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database An LSA is deleted from a router"s database when it has been overwritten by a newer instance during the flooding process. (This test checks for Type-5 AS-External-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.6 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-26.7 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.8 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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 Type-3 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.9 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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 Type-4 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.10 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.11 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.12 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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 Type-3 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-26.13 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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 Type-4 Summary-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-26.14 **MUST**	RFC 2328, s12.2 p122 The link state database LS Database 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 Type-5 AS External-LSA)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.1 **MUST**	RFC 2328, s12.4 p123 Originating LSAs LSA Origination 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 Type-3 Summary-LSA.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.2 **MUST**	RFC 2328, s12.4 p123 Originating LSAs LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.3 **MUST**	RFC 2328, s12.4 p124 Originating LSAs LSA Origination Whenever a new instance of an LSA is originated, its LS sequence number is incremented, its LS age is set to 0.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.4 **MAY**	RFC 2328, s12.4 p125 Originating LSAs LSA Origination A change in an interface"s state may mean that it is necessary to produce a new instance of the router-LSA.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-27.5 **SHOULD**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination If an attached network"s Designated Router gets changed a new router-LSA should be originated.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.6 **SHOULD**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination When Designated Router changes and if the router itself is now the Designated Router, a new network-LSA should be produced.									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-27.7 **SHOULD**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.8 **MAY**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.9 **MAY**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.10 **MAY**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination An intra-area route has been added in the routing table. This may cause a new instance of a summary-LSA (for this route) to be originated in each attached area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-27.11 **MAY**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination An intra-area route has been modified in the routing table. This may cause a new instance of a summary-LSA (for this route) to be originated in each attached area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.12 **MAY**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination An intra-area route has been deleted in the routing table. This may cause a new instance of a summary-LSA (for this route) to be originated in each attached area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.13 **MAY**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination In case of an area border router an inter-area route has been added in the routing table. This may cause a new instance of a summary-LSA (for this route) to be originated in each attached non-backbone area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.14 **MAY**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination In case of an area border router an inter-area route has been modified in the routing table. This may cause a new instance of a summary-LSA (for this route) to be originated in each attached non-backbone area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.15 **MAY**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination In case of an area border router an inter-area route has been deleted in the routing table. This may cause a new instance of a summary-LSA (for this route) to be originated in each attached non-backbone area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.16 **MUST**	RFC 2328, s12.4 p125 Originating LSAs									
	LSA Origination In case of an area border router an inter-area route has been added in the routing table. This never causes a new instance of a summary-LSA (for this route) to be originated in the attached backbone area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-27.17 **MUST**	RFC 2328, s12.4 p125 Originating LSAs LSA Origination In case of an area border router an inter-area route has been modified in the routing table. This never causes a new instance of a summary-LSA (for this route) to be originated in the attached backbone area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.18 **MUST**	RFC 2328, s12.4 p125 Originating LSAs LSA Origination In case of an area border router an inter-area route has been deleted in the routing table. This never causes a new instance of a summary-LSA (for this route) to be originated in the attached backbone area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.19 **MUST**	RFC 2328, s12.4 p126 Originating LSAs, LSA Origination If the router becomes newly attached to an area it must then originate summary-LSAs into the newly attached area for all intra-area and inter-area routes in the router"s routing table.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.20 **MAY**	RFC 2328, s12.4 p126 Originating LSAs LSA Origination When the state of one of the router"s configured virtual links changes, it may be necessary to originate a new router-LSA into the virtual link"s Transit area, as well as originating a new router-LSA into the backbone. This test is for DUT which is ABR between backbone and non-backbone areas.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.21 **MUST**	RFC 2328, s12.4.1 p127 Router-LSAs LSA Origination A router also indicates whether it is an area border router, by setting the appropriate bits (bit B, respectively) in its router-LSAs.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.22 **SHOULD**	RFC 2328, s12.4.1 p127 Router-LSAs LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-27.23 **MUST**	RFC 2328, s12.4.1 p128 Router-LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.24 **MUST**	RFC 2328, s12.4.1 p129 Router-LSAs,									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.25 **MUST**	RFC 2328, s12.4.1.3 p131 Describing virtual links									
	LSA Origination For virtual links, a link description is added to the router-LSA only when the virtual neighbor is fully adjacent.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.26 **SHOULD**	RFC 2328, s12.4.2 p134 Network-LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.28 **MUST**	RFC 2328, s12.4.3. p136 Summary-LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.29 **MUST**	RFC 2328, s12.4.3. p136 Summary-LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-27.30 **SHOULD**	RFC 2328, s12.4.3. p136 Summary-LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.31 **MUST**	RFC 2328, s12.4.3. p136 Summary-LSAs									
	LSA Origination 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-27.32 **MUST**	RFC 2328, s12.4.4 p139 AS-external-LSAs									
	LSA Origination A default route for the Autonomous System can be described in an AS-external-LSA by setting the LSA"s Link State ID to DefaultDestination (0.0.0.0).									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-28.1 **MUST**	RFC 2328, s13 p143 The Flooding Procedure									
	Flooding Procedure To make the flooding procedure reliable, each LSA must be acknowledged separately. Acknowledgments are transmitted in Link State Acknowledgment packets.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-28.2 **MUST**	RFC 2328, s13 p143 The Flooding Procedure									
	Flooding Procedure 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-28.3 **MUST**	RFC 2328, s13 p143 The Flooding Procedure									
	Flooding Procedure For each LSA contained in a Link State Update packet, examine the LSA"s LS type. If the LS type is unknown, discard the LSA.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-28.4 **MUST**	RFC 2328, s13 p143 The Flooding Procedure									
	Flooding Procedure For each LSA contained in a Link State Update packet, if this is an AS-external-LSA (LS type = 5) and the area has been configured as a stub area discard the LSA.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-28.5 **MUST**	RFC 2328, s13 p144 The Flooding Procedure,									
	Flooding Procedure 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 Acknowledgement packet to the sending neighbor and discard the LSA.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-28.6 **MUST**	RFC 2328, s13 p144 The Flooding Procedure									
	Flooding Procedure 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).									
	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict
	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: FAIL	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested
ANVL-OSPF-28.7 **MUST**	RFC 2328, s13 p144 The Flooding Procedure									
	Flooding Procedure 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-28.8 **MUST**	RFC 2328, s13 p144 The Flooding Procedure									
	Flooding Procedure 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-28.9 **MUST**	RFC 2328, s13 p145 The Flooding Procedure,									
	Flooding Procedure 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-28.10	RFC 2328, s13 p145 The Flooding Procedure									

SHOULD	`Flooding Procedure`
	`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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-28.11	RFC 2328, s13 p145 The Flooding Procedure									

MUST	`Flooding Procedure`
	`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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-29.1	RFC 2328, s13.1 p145 Determining which LSA is newer									
MUST	`Newer LSA Determination` `The LSA having the newer LS sequence number is more recent.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-30.1	RFC 2328, s13.3 p149 Next step in the Flooding Procedure									

MUST	`Flooding Procedure Next Step`
	`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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-30.2	RFC 2328, s13.3 p150 Sending protocol packets									

MUST	`Flooding Procedure Next Step`
	`On broadcast network, the Link State Update packets are multicast but`
	`Link State Update packets carrying retransmissions are always sent`
	`directly to the neighbor.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-31.1	RFC 2328, s13.4 p151 Receiving self-originated LSAs									

MUST	`Self-Originated LSA Receipt`
	`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 (when the LS`
	`sequence number of the received LSA is greater than that of the`
	`current instance), 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.`									

	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-31.2 **MUST**	RFC 2328, s13.4 p151 Receiving self-originated LSAs									
	Self-Originated LSA Receipt A self-originated LSA is detected when the LSA is a network-LSA and its Link State ID is equal to one of the router"s own IP interface addresses. In this case the LSA is flushed from the routing domain.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-31.3 **SHOULD**	RFC 2328, s13.4 p151 Receiving self-originated LSAs									
	Self-Originated LSA Receipt 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-31.4 **SHOULD**	RFC 2328, s13.4 p151 Receiving self-originated LSAs									
	Self-Originated LSA Receipt 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-31.5 **SHOULD**	RFC 2328, s13.4 p151 Receiving self-originated LSAs									
	Self-Originated LSA Receipt 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-32.1 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									
	Sending LSA Packets If the new LSA has been flooded back out receiving interface no acknowledgement is sent.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-32.2 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									
	Sending LSA 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 acknowledgement is sent if advertisement is received from Designated Router, otherwise nothing is done.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-32.3 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									
	Sending LSA 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 acknowledgement is sent. (This test checks the case when router state is DR Other)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-32.4 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									
	Sending LSA 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 acknowledgement is sent. (This test checks the case when router state is DR)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-32.5 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									
	Sending LSA Packets If the new LSA is a duplicate, and was treated as implied acknowledgement and if the receiving router is in state Backup then delayed acknowledgement is sent if advertisement is received from Designated Router, otherwise nothing is done.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-32.6 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									
	Sending LSA Packets If the new LSA is a duplicate, and was treated as implied acknowledgement and if the receiving router is not in state Backup then no acknowledgement is sent. (This test checks the case when router state is DR Other)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-32.7 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									
	Sending LSA Packets If the new LSA is a duplicate, and was treated as implied acknowledgement and if the receiving router is not in state Backup then no acknowledgement is sent. (This test checks the case when router state is DR)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-32.8 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									
	Sending LSA Packets If the new LSA is a duplicate, and was not treated as implied acknowledgement and if the receiving router is in state Backup then direct acknowledgement is sent.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-32.9 **MUST**	RFC 2328, s13.5 p152-153 Sending Link State Acknowledgment packets									

	`Sending LSA Packets`
	`If the new LSA is a duplicate, and was not treated as implied`
	`acknowledgement and if the receiving router is not in state Backup`
	`then direct acknowledgement is sent.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-33.1 **MUST**	RFC 2328, s13.7 p156 Receiving link state acknowledgments									

	`LSA Receipt`
	`If the acknowledgment is for the same instance that is contained on`
	`the Link state retransmission list, remove the item from the list.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-34.1 **MUST**	RFC 2328, s15 p158 Virtual Links									

	`Virtual Links`
	`When an adjacency is established over a virtual link, the virtual`
	`link will be included in backbone router-LSAs.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-34.2 **MUST**	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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-34.3 **MUST**	RFC 2328, s15 p158 Virtual Links									
	`Virtual Links` `AS-external-LSAs are NEVER flooded over virtual adjacencies.`									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-34.4 **MUST**	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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-34.5 **SHOULD**	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.`									

	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-34.6 **MUST**	RFC 2328, s15 p159 Virtual Links Virtual Links In each endpoint"s router-LSA for the backbone, the virtual link is represented as a Type 4 link whose Link ID is set to the virtual neighbor"s OSPF Router ID and whose Link Data is set to the virtual interface"s IP address.(This test checks the case of router between backbone area and a non-backbone area)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-34.7 **MUST**	RFC 2328, s15 p159 Virtual Links Virtual Links In each endpoint"s router-LSA for the backbone, the virtual link is represented as a Type 4 link whose Link ID is set to the virtual neighbor"s OSPF Router ID and whose Link Data is set to the virtual interface"s IP address.(This test checks the case of router between two non-backbone areas)									
	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: unpredict	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-34.8 **MUST**	RFC 2328, s15 p159 Virtual Links Virtual Links The time between link state retransmissions, RxmtInterval, is configured for a virtual link.									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-35.1 **MUST**	RFC 2328, s16.2 p168 Calculating the inter-area routes Interarea Route Calculation If the router has active attachments to multiple areas, only backbone summary-LSAs are examined.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.1 **MUST**	RFC 2328, sA.1 p185 Encapsulation of OSPF packets OSPF Packet Encapsulation To ensure that the OSPF packets sent to multicast addresses will not travel multiple hops, their IP TTL must be set to 1.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.2 **SHOULD**	RFC 2328, sA.1 p186 Encapsulation of OSPF packets OSPF Packet Encapsulation All routers running OSPF should be prepared to receive packets sent to the address 224.0.0.5. Hello packets are always sent to this destination. (This test checks the case when router is in state DR Other)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-36.3 **SHOULD**	RFC 2328, sA.1 p186 Encapsulation of OSPF packets									
	OSPF Packet Encapsulation All routers running OSPF should be prepared to receive packets sent to the address 224.0.0.5. Hello packets are always sent to this destination. (This test checks the case when router is in state DR)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.4 **SHOULD**	RFC 2328, sA.1 p186 Encapsulation of OSPF packets									
	OSPF Packet Encapsulation All routers running OSPF should be prepared to receive packets sent to the address 224.0.0.5. Hello packets are always sent to this destination. (This test checks the case when router is in state Backup)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.5 **MUST**	RFC 2328, sA.1 p186 Encapsulation of OSPF packets									
	OSPF Packet Encapsulation The Designated Router must be prepared to receive packets destined to the multicast address 224.0.0.6.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.6 **MUST**	RFC 2328, sA.1 p186 Encapsulation of OSPF packets									
	OSPF Packet Encapsulation The Backup Designated Router must be prepared to receive packets destined to the multicast address 224.0.0.6.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.7 **MUST**	RFC 2328, sA.3.2 p194 The Hello packet									
	OSPF Packet Encapsulation 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.8 **MUST**	RFC 2328, sA.3.2 p194 The Hello packeta									
	OSPF Packet Encapsulation 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-36.9 **MUST**	RFC 2328, sA.3.2 p194 The Hello packet									
	OSPF Packet Encapsulation 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.10 **MUST**	RFC 2328, sA.3.2 p194 The Hello packet									
	OSPF Packet Encapsulation 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)									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.11 **MUST**	RFC 2328, sA.3.6 p201 The Link State Acknowledgment packet									
	OSPF Packet Encapsulation A Link State Acknowledgment packet is sent either to the multicast address AllSPFRouters, to the multicast address AllDRouters, or as a unicast									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.12 **MUST**	RFC 2328, sA.4.2 p206-207 Router-LSAs									
	OSPF Packet Encapsulation When bit V is set, the router is an endpoint of one or more fully adjacent virtual links having the described area as Transit area.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.13 **MUST**	RFC 2328, sA.4.2 p208 Router-LSAs									
	OSPF Packet Encapsulation When connecting to an object that also originates an LSA (i.e., another router or a transit network) the Link ID is equal to the neighboring LSA"s Link State ID.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.14 **MUST**	RFC 2328, sA.4.2 p208 Router-LSAs									
	OSPF Packet Encapsulation For connections to stub networks, Link Data specifies the network"s IP address mask.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-36.16 **MUST**	RFC 2328, sA.4.2 p208 Router-LSAs									
	OSPF Packet Encapsulation For connections to transit network Link Data specifies the router interface"s IP address.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.17 **MUST**	RFC 2328, sA.4.4 p212 Summary-LSAs									
	OSPF Packet Encapsulation Type 3 summary-LSAs are used when the destination is an IP network.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-36.18 **MUST**	RFC 2328, sA.4.4 p212 Summary-LSAs									
	OSPF Packet Encapsulation When the destination is an AS boundary router, a Type 4 summary-LSA is used.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-37.1 **MUST**	RFC 2328, sB p217 Architectural Constants									
	Architectural Restraints MinLSInterval is the minimum time between distinct originations of any particular LSA. The value of MinLSInterval is set to 5 seconds.									
	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: unpredict	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: unpredict	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-37.2 **MUST**	RFC 2328, sB p218 Architectural Constants									
	Architectural Restraints 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-37.3 **MUST**	RFC 2328, sB p218 Architectural Constants									
	Architectural Restraints 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.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: unpredict	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-37.4 **MUST**	RFC 2328, sB p218 Architectural Constants Architectural Restraints InitialSequenceNumber is the value used for LS Sequence Number when originating the first instance of any LSA. Its value is the signed 32-bit integer 0x80000001.									
	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL	Ubuntu 16.04: FAIL
	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested	FreeBSD 10.3: FAIL	FreeBSD 10.3: FAIL	FreeBSD 10.3: untested
ANVL-OSPF-38.1 **MUST**	RFC 2328, sD.3 p229 Cryptographic Authentication Cryptographic Authentication When cryptographic authentication is used, the 64-bit Authentication field in the standard OSPF packet header is redefined as 0 1 2 3 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 +-+ | 0 | KeyID | Auth Data Len | +-+ | Cryptographic sequence number | +-+									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-38.2 **MUST**	RFC 2328, sD.3 p229 Cryptographic Authentication Cryptographic Authentication (6) The message digest is then calculated and appended to the OSPF packet. The authentication algorithm to be used in calculating the digest is indicated by the ke itself. Input to the authentication algorithm consists of the OSPF packet and the secret key. When using MD5 as the authentication algorithm, the message digest calculation proceeds as follows: (a) The 16 byte MD5 key is appended to the OSPF packet. (b) Trailing pad and length fields are added, as specified in [Ref17]. (c) The MD5 authentication algorithm is run over the concatenation of the OSPF packet, secret key, pad and length fields, producing a 16 byte message digest (see [Ref17]). (d) The MD5 digest is written over the OSPF key (i.e., appended to the original OSPF packet). The digest is not counted in the OSPF packet"s length field, but is included in the packet"s IP length field. Any trailing pad or length fields beyond the digest are not counted or transmitted.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested
ANVL-OSPF-38.3 **MUST**	RFC 2328, sD4.3 p233 Generating Cryptographic authentication Cryptographic Authentication (2) The checksum field in the standard OSPF header is not calculated, but is instead set to 0.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested

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ANVL-OSPF-38.4	RFC 2328, p243 Security Considerations									
MUST	Cryptographic Authentication When using the Cryptographic authentication option, each router appends a "message digest" to its transmitted OSPF packets. Receivers then use the shared secret key and received digest to verify that each received OSPF packet is authentic.									
	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass	Ubuntu 16.04: pass
	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: untested	FreeBSD 10.3: pass	FreeBSD 10.3: pass	FreeBSD 10.3: untested