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Update to OSPF Terminology

Abstract

This document updates some OSPF terminology to be in line with inclusive language used in the industry. The IETF has designated "Guidance for NIST Staff on Using Inclusive Language in Documentary Standards" by the US National Institute of Standards and Technology (NIST) for its inclusive language guidelines. It is intended that all future OSPF documents use this revised terminology even when they reference the RFCs updated by this document.

This document updates RFCs 2328, 4222, 4811, 5243, 5340, 5614, and 5838.

Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at https://www.rfc-editor.org/info/rfc9454.

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1. Introduction

This document updates some OSPF terminology to be in line with inclusive language used in the industry. The IETF has designated "Guidance for NIST Staff on Using Inclusive Language in Documentary Standards" by the US National Institute of Standards and Technology (NIST) [NISTIR8366] for its inclusive language guidelines. It is intended that all future OSPF documents use this revised terminology even when they reference the RFCs updated by this document.

This document updates [RFC2328], [RFC4222], [RFC4811], [RFC5243], [RFC5340], [RFC5614], and [RFC5838].

2. Update to RFC 2328

The base OSPFv2 specification "OSPF Version 2" [RFC2328] defines the synchronization of databases as two routers forming a "master/slave" relationship. All instances of these terms are replaced by "Leader/ Follower", respectively.

In the Database Description packet, the "master (MS) bit" is renamed the "Leader (L) bit".

The operation of OSPFv2 is not modified. The Leader/Follower terminology and Leader (L) bit definition changes impact the following sections: "The Synchronization of Databases" (Section 7.2), "The Neighbor Data Structure" (Section 10), "Neighbor states" (Section 10.1), "Events causing neighbor state changes" (Section 10.2), "The Neighbor state machine" (Section 10.3), "Receiving Database Description Packets" (Section 10.6), "Sending Database Description Packets" (Section 10.8), "An Example" (Section 10.10), and "The Database Description packet" (Appendix A.3.3).

3. Update to RFC 4222

"Prioritized Treatment of Specific OSPF Version 2 Packets and Congestion Avoidance" [RFC4222] is a Best Current Practice (BCP) document. In Appendix C, Item (2), there is an example OSFPv2 packet sequence that refers to the "slave" in a database exchange; this reference is renamed to "Follower".

4. Update to RFC 4811

"OSPF Out-of-Band Link State Database (LSDB) Resynchronization" [RFC4811] is an Informational document. Section 2.4 includes a Database Description packet (Figure 2) and a description of the attendant encoding changes for Out-of-Band Resynchronization. In the figure and the description, all instances of "MS" (when referring to the Database Description packet bit) are renamed to "L". There is also a reference to "Master" in this section that is renamed to "Leader".

5. Update to RFC 5243

"OSPF Database Exchange Summary List Optimization" [RFC5243] is an Informational document. The Introduction (Section 1) references

"Master or Slave"; this is replaced by "Leader or Follower". Section 3 includes an example of the optimized database exchange. In this example, all instances of "Master" and "Slave" are renamed to "Leader" and "Follower", respectively.

6. Update to RFC 5340

The base OSPFv3 specification "OSPF for IPv6" [RFC5340] defines the Database Description process between two routers as one being "designated to be the master and the other is the slave". All instances of these terms are replaced by "Leader/Follower", respectively.

In the Database Description packet, the "Master/Slave (MS) bit" is renamed the "Leader (L) bit".

The operation of OSPFv3 is not modified. The Leader/Follower terminology and Leader (L) bit definition changes impact "The Database Description Packet" (Appendix A.3.3).

7. Update to RFC 5614

"Mobile Ad Hoc Network (MANET) Extension of OSPF Using Connected Dominating Set (CDS) Flooding" [RFC5614] is an Experimental document. "Changes to the Neighbor State Machine" (Section 7.1) contains modifications to the neighbor state machine that were updated from [RFC2328]. In the neighbor state machine modifications, all instances of "Master" and "Slave" are renamed to "Leader" and "Follower", respectively. Additionally, all instances of "MS" (when referring to the Database Description packet bit) are renamed to "L". And in "Receiving Database Description Packets" (Section 7.5), "master or slave" is replaced by "Leader or Follower" in the parenthetical.

8. Update to RFC 5838

"Support of Address Families in OSPFv3" [RFC5838] is a Standards Track document. "Database Description Maximum Transmission Unit (MTU) Specification for Non-IPv6 AFs" (Section 2.7) contains a Database Description packet change figure that includes the MS bit. In this figure, the "MS" field is renamed the "L" field.

Additionally, in the first paragraph of "Changes to the Hello Packet Processing" (Section 2.4), the text is updated to remove the non-inclusive terms pertaining to unreachability handling as follows:

> When an OSPFv3 router does not support this specification and an interface is configured with the Instance ID corresponding to an IPv4 AF, packets could be routed toward this interface and dropped. This could happen due to misconfiguration or a router software downgrade. For example, an IPv4 packet could be received on an interface not supporting IPv4 since a router that doesn't support this specification can still include the interface in an SPF-calculated path as long as it establishes adjacencies using the Instance ID corresponding to the IPv4 AF. Note that OSPFv3 Router-LSAs and Network-LSAs are AF-agnostic.

9. IANA Considerations

In the "Database Description (DD) Packet Flags" registry, IANA has updated the description for value 0x01 to "Leader (L-bit)" and has added this document as a reference, as shown below.

Value: 0x01
Description: Leader (L-bit)
Reference: [RFC2328] [RFC9454]

10. Security Considerations

This document updates the terminology used in OSPF RFCs without any modification to the specifications of the protocol. As such, the security characteristics of OSPF do not change.

11. References

11.1. Normative References

[RFC2328] Moy, J., "OSPF Version 2", STD 54, RFC 2328, DOI 10.17487/RFC2328, April 1998, <https://www.rfc-editor.org/info/rfc2328>.

[RFC4222] Choudhury, G., Ed., "Prioritized Treatment of Specific OSPF Version 2 Packets and Congestion Avoidance", BCP 112, RFC 4222, DOI 10.17487/RFC4222, October 2005, <https://www.rfc-editor.org/info/rfc4222>.

[RFC4811] Nguyen, L., Roy, A., and A. Zinin, "OSPF Out-of-Band Link State Database (LSDB) Resynchronization", RFC 4811, DOI 10.17487/RFC4811, March 2007, <https://www.rfc-editor.org/info/rfc4811>.

[RFC5243] Ogier, R., "OSPF Database Exchange Summary List Optimization", RFC 5243, DOI 10.17487/RFC5243, May 2008, <https://www.rfc-editor.org/info/rfc5243>.

[RFC5340] Coltun, R., Ferguson, D., Moy, J., and A. Lindem, "OSPF for IPv6", RFC 5340, DOI 10.17487/RFC5340, July 2008, <https://www.rfc-editor.org/info/rfc5340>.

[RFC5614] Ogier, R. and P. Spagnolo, "Mobile Ad Hoc Network (MANET) Extension of OSPF Using Connected Dominating Set (CDS) Flooding", RFC 5614, DOI 10.17487/RFC5614, August 2009, <https://www.rfc-editor.org/info/rfc5614>.

[RFC5838] Lindem, A., Ed., Mirtorabi, S., Roy, A., Barnes, M., and R. Aggarwal, "Support of Address Families in OSPFv3", RFC 5838, DOI 10.17487/RFC5838, April 2010, <https://www.rfc-editor.org/info/rfc5838>.

11.2. Informative References

[NISTIR8366] National Institute of Standards and Technology (NIST), "Guidance for NIST Staff on Using Inclusive Language in Documentary Standards", NIST Interagency/Internal Report (NISTIR) 8366, April 2021, <https://doi.org/10.6028/NIST.IR.8366>.

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