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ZebOS®
Network Platform

OSPFv3 Protocol Module

Overview

IP Infusion's ZebOS® Network Platform OSPFv3 (Open Shortest Path First) Protocol Module is portable software that implements the OSPF link state routing protocol for IPv6. IP Infusion's implementation of OSPFv3 is one of the first successful IPv6 versions of OSPF on the market.

Built on IP Infusion's ZebOS® Network Services Module (NSM), the OSPFv3 module is IETF compliant. It supports an extensive set of features, including OSPF Maxage/Refresh Walker for improved processing efficiency; NSSA/AS Summary and Incremental changes to reduce CPU load; SPF Exponential Backoff to support faster convergence and improved scalability for frequent topology changes; multiple instances; multi-area adjacencies; graceful restart; and Constrained Shortest Path First (CSPF).

ZebOS OSPFv3 employs methods that improve the scalability and stability of large networks by processing OSPF Hellos and LSA Acknowledgements at a higher priority than other OSPF packets, and other congestion avoidance procedures. Scalability enhancements to OSPFv3 enable more rapid build-up and teardown of connections, and support for up to 1000 neighbors, 100,000 routers and 500 nodes in an area.

Features

- OSPF Version 3 Support
- Traffic Engineering Extensions
- OSPF Hello Parameter Configuration
- OSPF Interface Configuration
- Graceful Restart Capable
- Multi-Area Adjacency Support
- ABR Support
- OSPF Area Support
- Route Redistribution
- Type 1 and Type 2 External Routing Support
- Virtual Link Support
- Multiple Instances
- Unknown LSA (Link State Advertisement)
- OSPF Management Information Base (MIB)
- Non-broadcast Multi-access (NBMA) Support
- Optimized Maxage/Refresh walker for efficiency
- Scalable to 1000 neighbors, 100,000 routers and 500 nodes in an area

Benefits

- Stable, robust implementation of OSPFv3

- Delivers significant time-to-market advantage for customers
- Can be used in both embedded equipment and on standard server platforms
- Fully independent module that can be installed, configured, and upgraded separately
- Platform-independent implementation

Requirements

- ZebOS Network Services Module
- ZebOS OSPF-CSPF Module (Optional for TE support)

Standards Support

- RFC 2740 — Open Shortest Path First version 3 (OSPFv3) for IPv6 support
- RFC 3101 — OSPF Not-So-Stubby-Area (NSSA) Option
- RFC 3630 — OSPF-TE Traffic Engineering Extensions to OSPF
- RFC 5185 — OSPF Multi-Area Adjacency
- RFC 5187 — OSPFv3 Graceful Restart
- RFC 5243 — OSPF Database Exchange Summary List Optimization (OSPFv2 and OSPFv3)
- RFC 5329 — Traffic Engineering Extensions to OSPF version 3
- draft-ietf-ospf-ospfv3-traffic-01 — Authentication/Confidentiality in OSPFv3
- draft-ietf-ospf-ospfv3-mib-07 — OSPFv3 Management Information Base (MIB: get and get next)

Standard Deliverables

- Source Code (written in ANSI-compliant C)
- Installation Guide
- Configuration Guide
- Command Reference Guide
- Developer Guide