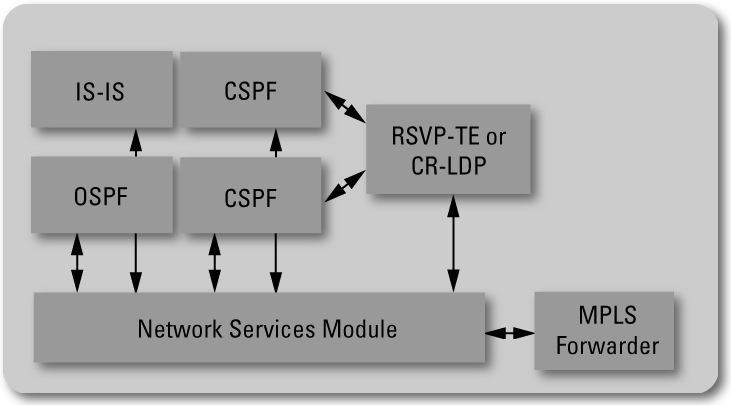
ZebOS®
Advanced Routing Suite

CSPF Protocol Modules

SKU ZOS-OS-CSPF
SKU ZOS-IS-CSPF

Overview

IP Infusion's ZebOS® Advanced Routing Suite (ARS) Constraint-based Shortest Path First (CSPF) Protocol Module relies on the OSPF or IS-IS database to calculate the shortest path through the network. The CSPF is built on the ZebOS Network Services Module (NSM). The CSPF software calculates an optimum explicit route (ER), based on specific constraints. CSPF relies on a Traffic Engineering Database (TED) to do these calculations; the resulting explicit route is then used by RSVP-TE or CR-LDP to set up LSPs. Refer to RSVP-TE or CR-LDP modules for more detailed specification.



IP Infusion's CSPF solution can be used in embedded equipment. It is a control plane software module that can also be integrated into a range of network processor environments and is pre-configured to support many popular operating systems. The ZebOS ARS modules are written in the ANSI C programming language.

Benefits

- Stable, robust implementation of CSPF
- Delivers significant time-to-market advantage for customers
- Can be used in both embedded equipment and on standard server platforms
- Platform-independent implementation
- Allows effective link utilization through traffic engineering
- DiffServ-TE enabled

Requirements

SKU	PRODUCT NAME
ZOS-NSM	ZebOS Network Services Module
ZOS-OSPF	ZebOS OSPFv2 Module
ZOS-ISIS	ZebOS IS-IS Module
ZOS-LDP-CR	ZebOS CR-LDP Extension Module (optional)
ZOS-RSVP-TE	ZebOS RSVP-TE Module (optional)

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Background: Constraint-Based Shortest Path First (CSPF)

Conventional IP Routing Inter-domain Routing Protocols use different techniques to optimize routes from source to destination address. For example, RIP uses Bellman-Ford algorithm to compute a path with the minimum number of hops, while OSPF and IS-IS use the Dijkstra shortest path first (SPF) algorithm to compute a path that has minimum cost (costs are set by network admin). When routing protocols calculate a path from source to destination that is optimal and by the same token does not violate a set of constraints then it is called

Constraint-Based Routing. In Constraint-Based Routing the route setup between two routers (source and destination router) happens at the source router whereas in conventional IP Routing a route/path is computed in a distributed fashion by every router in a network. So when routing uses SPF algorithm for optimum route/path and does not violate certain constraints then it is called CSPF. Constraint-based routing combines this path with two types of constraints: Performance and Administrative. The resultant path is not strictly the shortest/lowest cost, but it is the shortest lowest-cost path that conforms to the constraint criteria.

Standard Deliverables

- Source Code (written in ANSI compliant C)
- Installation and Configuration Guide
- CSPF Command References
- Developer Guides

Supported Operating Systems

- Linux
- MontaVista Professional Edition
- NetBSD
- VxWorks®

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