

ZebOS®
Advanced Routing Suite

TCP/IP Module

SKU# ZOS-TCPIP-VxW

Overview

IP Infusion's ZebOS® Advanced Routing Suite (ARS) TCP/IP Module is a dual stack that supports simultaneous use of IPv4 and IPv6 in a variety of configurations. The ZebOS control plane software communicates via standard routing sockets with the TCP/IP Module to install routes into the Forwarding Information Base (FIB); send and receive packets; and configure interfaces. Other levels of communication use various sockets and/or a set of standard TCP/IP stack APIs such as ioctl(). ZebOS TCP/IP can be deployed in a variety of different configurations, which is often a requirement in embedded systems. Unused features can be removed from the TCP/IP stack, thereby reducing memory footprint.

To implement security features and other types of customizations, the TCP/IP Module contains a packet filtering engine that allows filtering of traffic based on interface, protocol, port tos, ttl, source, destination and many other factors. Remote management and control of the TCP/IP stack is allowed using the SNMP protocol, MIB-II tables include: Interface, IP, Address Translation, ICMP, TCP, and UDP.

In addition to standard functionality, the ZebOS TCP/IP Module supports Virtual Routing (VR) and multiple FIBs simultaneously by partitioning resources (such as interfaces) per FIB. In order to support virtual routing, ZebOS TCP/IP can be used in conjunction with the IP Infusion Virtual Routing Modules for BGP-4, OSPFv2, and RIPv1/2.

Features

- IPv6 Support
- Simultaneous Use of IPv4 and IPv6
- Packet Filtering
- MIB-II Support
- Ad-Hoc Networking
- Highly Configurable
- Flexible Protocol Extensions
- Virtual Routing Support
- Support of VxWorks® real-time operating systems

Benefits

- Stable, robust implementation of TCP/IP
- Delivers significant time-to-market advantage for customer
- Smooth Transition From IPv4

Requirements

SKU	PRODUCT NAME
ZOS-TCPIP-VxW	VxWorks OS using IPI TCP/IP stack

Standard Deliverables

- Source Code (written in ANSI compliant C)
- Installation and Configuration Guide
- Command Reference Manuals
- Ported on VxWorks® Operating Systems

Standards Support

IPv4 AND BASE CONFORMANCE	
RFC 768	User Datagram Protocol
RFC 791	Internet Protocol (IP)
RFC 792	Internet Control Message Protocol (ICMP)
RFC 793	Transmission Control Protocol
RFC 826	An Ethernet Address Resolution Protocol
RFC 894	Standard for the transmission of IP datagrams over Ethernet networks
RFC 919	Broadcasting Internet Datagrams
RFC 922	Broadcasting Internet datagrams in the presence of subnets
RFC 950	Internet Standard Subnetting Procedure
RFC 1042	A Standard for the Transmission of IP Datagrams over IEEE 802 Networks
RFC 1071	Computing the Internet checksum
RFC 1112	Host Extensions for IP Multicasting
RFC 1122	Requirements for Internet Hosts - Communication Layers
RFC 1191	Path MTU Discovery
RFC 1213	Management Information Base for Network Management of TCP/IP-based internets: MIB-II
RFC 1518	An Architecture for IP Address Allocation with CIDR
RFC 1812	Requirements for IP Version 4 Routers
RFC 2113	Router Alert Option
RFC 2236	Internet Group Management Protocol, Version 2
RFC 2581	TCP Congestion Control

IPv6 CONFORMANCE	
RFC 1886	DNS Extensions to support IPv6 (future release)
RFC 1981	Path MTU Discovery for IPv6
RFC 2373	IPv6 Addressing Architecture
RFC 2374	An IPv6 Aggregatable Global Unicast Address Format
RFC 2375	IPv6 Multicast Address Assignments
RFC 2460	IPv6 specification
RFC 2461	Neighbor discovery for IPv6
RFC 2462	IPv6 Stateless Address Autoconfiguration
RFC 2463	ICMPv6 for IPv6 specification
RFC 2464	Transmission of IPv6 Packets over Ethernet Networks
RFC 2465	MIB for IPv6: Textual Conventions and General Group
RFC 2466	MIB for IPv6: ICMPv6 group
RFC 2553	Basic Socket Interface Extensions for IPv6
RFC 2710	Multicast Listener Discovery for IPv6

PPP CONFORMANCE	
RFC 1321	The MD5 Message- Digest Algorithm
RFC 1661	The Point-to-Point Protocol (PPP)
RFC 1662	PPP in HDLC-like Framing
RFC 1332	The PPP Internet Protocol Control Protocol (IPCP)
RFC 1334	PPP Authentication Protocols
RFC 1994	PPP Challenge Handshake Authentication Protocol (CHAP)
RFC 2472	IP Version 6 over PPP

IPSEC CONFORMANCE	
RFC 1826	IP Authentication Header [old AH]
RFC 1827	IP Encapsulating Security Payload (ESP) [old ESP]
RFC 1828	IP Authentication using Keyed MD5
RFC 1852	IP Authentication using Keyed SHA
RFC 1853	IPIP - IP in IP tunneling
RFC 2144	The CAST-128 Encryption Algorithm
RFC 2367	PF_KEY Key Management API, Version 2 [+openbsd ext]
RFC 2401	Security Architecture for the Internet Protocol
RFC 2402	AH - IP Authentication Header
RFC 2403	The Use of HMACMD5- 96 within ESP and AH
RFC 2404	The Use of HMACSHA- 1-96 within ESP and AH
RFC 2405	The ESP DES-CBC Cipher Algorithm With Explicit IV
RFC 2406	ESP - IP Encapsulating Payload
RFC 2410	The NULL Encryption Algorithm and Its Use With IPsec
RFC 2451	The ESP CBC-Mode Cipher Algorithms (blowfish, cast, des, 3des)
draft-ietf-ipsec-monitor-mib-03	IPSec Monitoring MIB
draft-ietf-ipsec-auth-hmac-ripemd- 160-96-02	The use of HMAC-RIPEMD-160-96 within ESP and AH

NAT CONFORMANCE	
RFC 1631	The IP Network Address Translator (Nat)
RFC 2663	IP Network Address Translator (NAT) Terminology and Considerations



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