

ZebOS®
Network Platform

MAC Bridging

Overview

IP Infusion's ZebOS® Network Platform MAC (Media Access Control) Bridging software allows clients to connect multiple LANs (Local Area Networks) together. MAC Bridging relays and filters data sent between LAN segments, reduces network congestion and allows clients to partition networks for administrative purposes. The ZebOS ARS MAC Bridging software supports all ports as defined in the IEEE 802.1d standard.

MAC Bridging permits configuration of redundant paths so that the MAC service is available in the event of a component failure, or the paths between end stations are predictable and configurable based upon network component availability. These two configuration methods improve the availability of the MAC service to all end stations. MAC Bridges also support enhanced security by restricting access to only authenticated and authorized devices.

MAC Bridging employs the Rapid Spanning Tree Protocol (RSTP) for configuring port states on each bridge port, thus ensuring stable connectivity. RSTP also manages the relative priority of each port on a bridge and each bridge in the network.

When implementing a MAC Bridge, the system administrator sets the parameters that control the size of the Filtering Database (FDB) and the permanent database. The settings for the Guaranteed Port Filtering Rate and Guaranteed Bridge Relaying Rate control the performance characteristics.

MAC Bridging also enables the use of remote management protocols, along with multiple Traffic Classes and Extended Filtering Services for relaying and filtering frames. These features contribute to enhanced Quality of Service, thereby providing greater service availability, support for maximum data unit size, designated frame priorities, and defined throughput speeds.

Features

- Supports the MAC Service on all End Stations attached to a Bridged LAN
- Frame Relay and Extended Filtering Services
- MAC Service Preservation in the event of Component Failures
- Enhanced Quality of Service (QoS)
- Implements the Generic Attribute Registration Protocol (GARP)
- Implements the GARP Multicast Registration Protocol (GMRP)
- Provision for the Internal Sublayer Service (ISS) within a MAC Bridge
- Support for token-passing ring, Fibre Distributed Data Interface (FDDI), and Wireless LAN access methods

Benefits

- Redundant Paths ensure continuity of MAC Service
- User Priority as a QoS parameter
- Denial of Service to Unauthenticated and Unauthorized Users

- Priority Traffic receives Priority Handling

Requirements

- ZebOS Network Services Manager

Standards Support

- IEEE 802.1D-2004 — Standard for Local and Metropolitan Area Networks: Media Access Control (MAC) Bridges

Standard Deliverables

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