

Metro Ethernet Gateway

The Challenge

Ethernet is becoming the ubiquitous transport solution for access networks. Calsoft offers standards compliant/interoperable high performance solution for ODM customers optimized for Cavium OCTEON processor based platforms.

The Solution

Calsoft has developed an architecture that could scale the capacity and throughput as the number of MIPS64 cores in the OCTEON processor increases. The solution uses COTS/Open source components that accelerate the development/integration efforts.

The roadmap includes developing the support for :

- 802.1Q based VLAN switching/MSTP
- 802.1ak based multiple registration protocols
- 802.1ad (Q-in-Q)
- 802.1ah (MAC-in-MAC)
- Service OAM (CFM/Y.1731)
- MPLS PWE3 and VPLS features

Currently the solution can function as a VLAN aware switch/Router for small enterprises and customer premises. The L3+ features use Linux based TCP/IP stack and open source routing protocol implementations.

With the future feature releases, the solution can function as a fully featured MEF UNI device.

Technology and Resources

- **OS:** Linux, Cavium OCTEON SDK
- **Software/Tools:** OCTEON GNU Toolchain
- **Testing Tools:** Smartbits/IXIA, Software Traffic Generators
- **Hardware:** 6-Port 1U rack-mount communication appliance based on Cavium OCTEON MIPS64 processors

- **Languages:** C and MIPS assembly Language
- **Protocols**
 - **Layer-2:** MMRP, MVRP, MSTP, CFM/Y.1731
 - **Routing:** RIP/v2/ng, OSPFv2/v3, BGP-4, PIM-SM/DM, DVMRP
 - **MPLS:** LDP, RSVP-TE, IGP Traffic Engineering Extensions, PWE3, VPLS
- **Human Resources:** 15
- **Technologies**

Switching / Routing	VLAN Aware Ethernet Switch MAC Filtering Multiple Spanning Tree Protocol Multiple Registration Protocols Ethernet Service OAM Protocols Provider Bridging Provider Backbone Bridging IGP/EGP Routing Tunneling Multiprotocol Label Switching Layer-2 VPNs
Management	CLI SNMP

If you wish to know more about Calsoft Labs and its offerings, please feel free to mail us at info@calsoftlabs.com

About Calsoft Labs

Calsoft Labs provides specialized concept to market Product Engineering and embedded design and engineering services in select market segments – ISVs, New Media Companies, Networking and Datacom OEMs, computer hardware manufacturers, semiconductor companies and consumer electronics companies.

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