MARBEN GMPLS

THE ULTIMATE OPTICAL AND PACKET CONTROL PLANE SOFTWARE

THE FULL AND MODULAR IMPLEMENTATION OF GMPLS PROTOCOLS THAT ALLOWS EQUIPMENT VENDORS TO FOCUS THEIR EFFORTS ON DIFFERANTIATING ADVANTAGES.

GET PROVEN SOLUTION – *TRUST MARBEN TO SOLVE GMPLS PROTOCOLS' MATTERS AND GET FOCUS ON DIFFERENTIATORS.*

SHORT TIME TO MARKET

- Get GMPLS COTS services such as full and pre-planned rerouting, 1+1 protection in 4 to 6 months embedded into equipment.
- Get expert support close to your development team.

EASY INTEGRATION

- High level C APIs for ASON/GMPLS profiles UNI – I-NNI – E-NNI.
- Designed for proprietary extensions if required.

GET THE MOST ADAPTIVE AND UP-TO-DATE SOLUTION – *ACCELERATE THE TRANSITION TO A FULLY AUTOMATED NETWORK.*

STANDARD DRIVEN SOLUTION

- Largest interoperability references in worldwide interop demo
- Active contributions into large R&D program and to the standards.

MEET MULTI LAYER AND INTER DOMAIN REQUIREMENTS

- Multi-layer transport solution from Ethernet to WDM through TDM and OTN through ASON or MLN/MRN architecture.
- PCE architecture combined within GMPLS signaling and routing.

MEET CARRIER GRADE REQUIREMENTS– *MARBEN GMPLS HAS BEEN DEPLOYED IN DEMANDING LARGE TIER1 NETWORK OPERATORS.*

RESILIENCY

- Graceful restart on all protocols.
- Non Stop-routing and signaling on HA capabilities in SAF respect.

SERVICEABILITY

- Complete MIB support and multiple levels of tracing facility.

TARGET APPLICATIONS

MSPP, Optical Crossconnect, Metro ROADM, Core Crossconnect for high added value services - BoD, BoS, Automatic Inventory, protection / recovery.
Path computation Element, GMPLS proxy.

About Marben

A leading provider of key software solutions for next generation service-driven networks.

More than 30 years of experience

Delivers interoperable, robust and efficient signaling, routing and AAA solutions to accelerate the delivery of network services.

Marben Customers

Airbus, Be-Mobile, Bosch, Ciena, Cisco, Continental, CSG, Ericsson, ESA, Fujitsu, GMV, HP, Nokia, NEC, Oracle, Siemens, Sprint, Telstra, Valeo, Verizon, Volvo …

MARBEN GMPLS

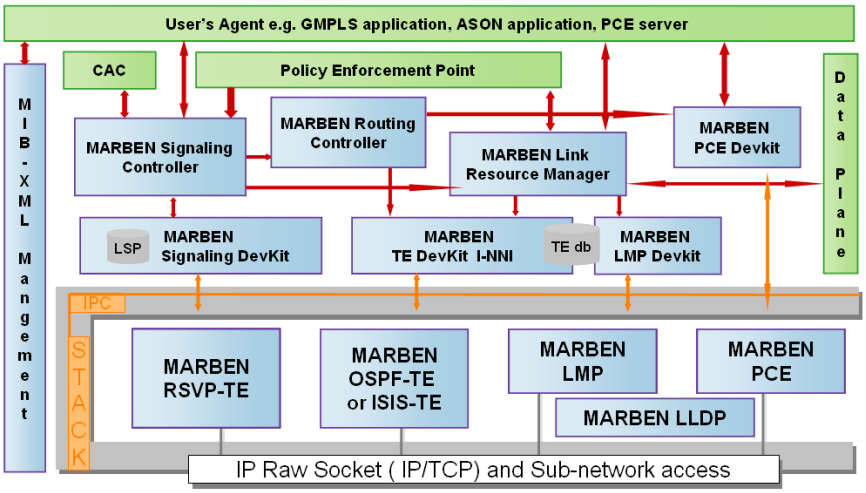
Technical Overview

MARBEN GMPLS is a set of C source building blocks that runs independently each other through synchronous or asynchronous public interface and a protocol daemon running the protocol state machines. Every block is a standalone part number and pay-as-you use component.

Architecture

MARBEN GMPLS consists of three controllers - the Signaling Controller, the Routing Controller and the Link Resource Manager. These controllers are profiled for pre-integrated application such as GMPLS peer, UNI client and network and E-NNI nodes.

MARBEN Signalling Controller mainly offers a set of standardized procedures leading to the setup and teardown of calls and connections in respect of pre-profiled services such as 1+1 protection, full rerouting and pre-planned rerouting. It invokes services from the Routing Controller and the Link Resource manager to achieve such a goal.



MARBEN Link Resource Manager performs local TE-Links management: TE-Links include local data-links, bundles – see RFC-4201, and Forwarding Adjacencies – see RFC-4206. Therefore MARBEN Link Resource Manager uses the MARBEN Traffic Engineering Development Kit and its LMP Development Kit extension to advertise local TE-Links through the OSPF-TE or ISIS-TE protocols. It manages the transport plane resource allocation/de-allocation through an asynchronous interface to access the physical transport plane resource and cross-connection facility. Such Link resource manager supports Ethernet port switching, EPL, EVPL, SONET/SDH VC4-X and OTN OCH.

MARBEN Routing Controller provides path computation capabilities through embedded Marben or homemade algorithms such as node diverse or link disjoint Dijkstra shortest-path-first algorithm or remote capabilities with a PCE thanks to PCE-P – see RFC-5440. The Routing controller is in charge of extracting routing information from the Traffic Engineering development kit database, pruning nodes or links according to exclude routes, requested bandwidth, priorities and resource affinities, etc…

The underlying protocols i.e. RSVP-TE, OSPF-TE, ISIS-TE, LMP and PCE-P are embedded into the MARBEN framework stack that provides advanced memory management, tracing facility, filtering mechanism and MIB based management facilities. All these IP protocols but ISIS can rely on the native IP of the target platform with the support of IPinIP and GRE tunnels. The signaling database that contains the LSP characteristics and the traffic engineering database that contains opaque LSA information can be duplicated through a SAF compatible checkpoint service.

Conformance

CCAMP/PCE /MPLS IETF RFCs and Current drafts

OIF UNI and E-NNI implementation agreements

ITU-T SG15 Q14 recommendations

SA Forum conformant check-pointing service

System Requirements

Portable solution with qualified porting kits on:

All 32/64 bits commercial or home-grown Linux

VxWorks (5.5 to 6.8), FreeBSD 5.0, OSE, QNX

Sun Solaris 8, 9 and 10

Flash memory 4,2MB, RAM memory 30MB to 120 MB.

Related Offers

MARBEN RSVP-TE, MARBEN LDP, MARBEN OSPF-TE, MARBEN GMPLS Emulator, MARBEN PCE as standalone component.

Consulting, training and custom services.

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