



# Ethernet (G.8031) Linear Automatic Protection Switching Software

## Key Features

- Fully integrated with Ethernet OAM TMS module
- Full implementation of linear APS state machine
- Transmission and reception of APS Packets
- 1+1 and 1:1 models supported
- Unidirectional and Bidirectional modes of operation
- Revertive and non-revertive operation
- Designed to operate in multiprocessor environments
- Built-in Wait-To-Restore feature
- Built-in Exercise feature

## Standards Compliance

- IEEE 802.1ag/802.1Q
- ITU Y.1731
- ITU G.8031

## Key Benefits

- Fully Standards Compliant
- Turnkey solution
- OS independent
- Pre-ported to Linux
- Easy to use APIs
- Sample application included
- ANSI C Source Code
- Driver Included
- Software deployed worldwide
- Zero defect policy

With NComm's proven source code and protocol stack, you have the quality and standard compliance interfaces that you need for less cost than you can do it yourself.

## Product Overview

APS (Automatic Protection Switching) is one of the key features of Ethernet networks. Linear APS is well defined by standards and provides a mechanism to keep traffic operational during network failures.

NComm's APS modules in the NComm TMS® family of source code provides the necessary functionality to monitor each Ethernet interface as well as the control/switching over multiple lines.

The Linear APS models can be implemented in either the 1+1 or 1:1 architectures. Uni-directional/bi-directional and revertive/non-revertive modes of operation are supported.

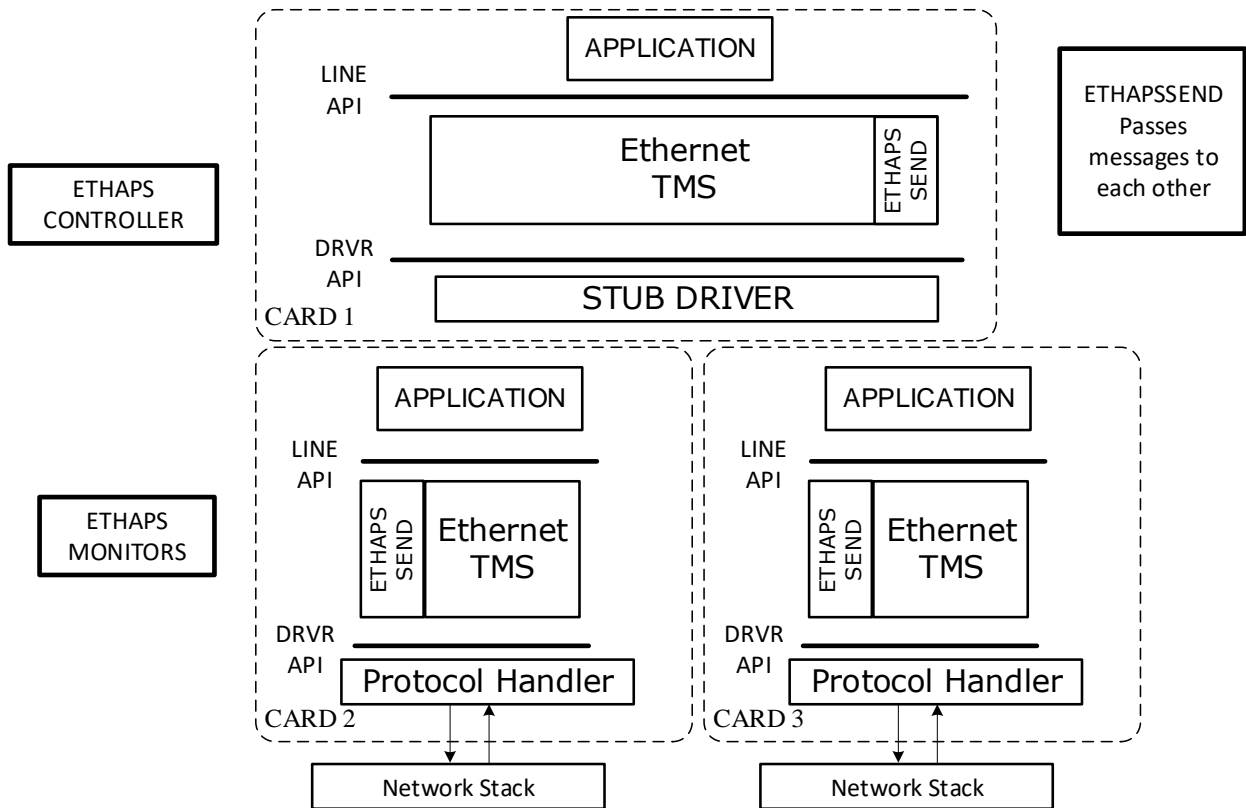
NComm's Ethernet Linear APS TMS is supplied as ANSI C source code. User manuals, implementation training and technical support are also included with each license. A sample demo application provides functionality very quickly. This sample application also functions as a guide for integration of the Ethernet Linear APS API into the upper management or control systems of your choice.

## Applications

- Bridges
- Critical network systems
- Routers
- Remote Access devices

## Ethernet Linear APS TMS Architecture

As in the entire TMS family of OAM software, Linear APS TMS is architected to be hardware and operating system independent. Well-defined APIs are employed for faster first time integration and ease of reuse.



## Ethernet Linear APS Software Architecture

The Linear APS Software API is comprised of a set of ANSI C functions and macros that encapsulate all functionality and data of the Linear APS Software. The API provides a clean interface to the Linear APS Software simplifying the integration of the Linear APS Software to the target application. The target application is implemented on top of the Linear APS Line Management API layer, using the API to access all functionality provided by the Linear APS Software.

The Ethernet 802.1ag and Y.1731 modules are used to configure an Ethernet System that will be managed by the Linear APS TMS.

The NComm Ethernet Linear software architecture for Automatic Protection Switching (APS) supports either a

monolithic, or a distributed APS arrangement. In a monolithic environment, all processes, tasks, and controls execute on the same CPU. However, protection-switching environments may require distributed environments that have more than one process, task, or controller, and may execute among multiple CPUs. NComm provides a simple and clean interface to aid in the implementation and support of a distributed environment.

The protocol handler layer and its associated API provide the interface between the Linear APS Software and the network stack or device as appropriate.

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