

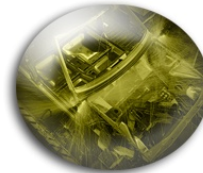


Managing your Networks

Remote network element monitoring and control

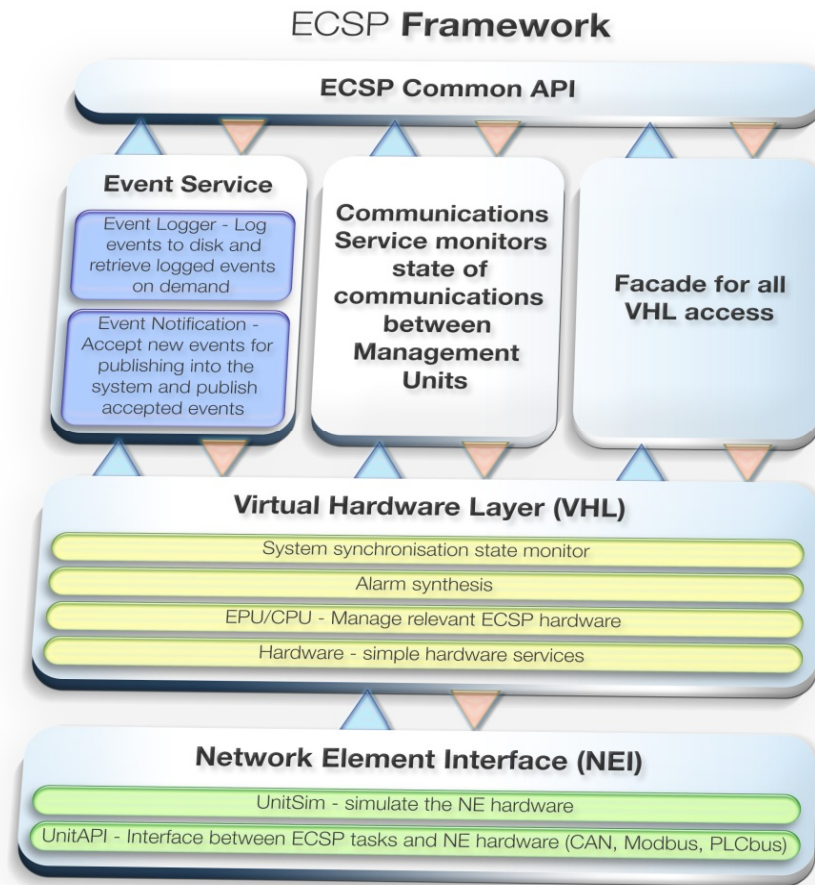
We provide off-the-shelf and
bespoke solutions for managing
Network Elements.

- we provide the technology and expertise to get your network systems running and keep them running.
- Whatever the application, if your products need **remote, embedded monitoring and control solutions**, then PSS Networks can enhance their performance and increase their functionality and reliability.



Element Control Software Platform

- The ECSP is a real-time network management framework
- It provides a base for the development of a complete Network Element (NE) management solution.
- It can be applied to any device requiring real time supervisory, control or data acquisition facilities.
- Provides a framework for managing tasks such as:
 - general purpose input/output,
 - protocol handling,
 - event and alarm handling
 - logging services.



Common API

- Common API
 - Provides you with an external interface from which to control your remote appliance
 - Four industry-standard interfaces are available



- Customised interfaces can be developed



VHL Façade

- The Virtual Hardware Layer (VHL) façade provides a unified interface at the VHL boundary and provides a simple default view of the of the VHL service layer.
- The façade defines a higher-level interface that makes the subsystems easier to use.
- It hands off the service requests to the appropriate sub-system objects without you needing to know the internal architecture of the VHL.

Event Service

- The Event Service provides standard event service facilities for the distribution of ECSP events to external clients.
- It comprises **Event Logging**, **Event Notification** and **Naming** services.
- The **Event Logger** provides the necessary services for the logging of ECSP events to hard store. All events are logged to a disk-based FIFO to be retrieved on demand.
- The **Event Notification** task provides the necessary services for both raising and receiving event.
 - It accepts new events from client tasks for publishing into the system
 - It publishes accepted events to all tasks which have registered an interest.
- The **Naming Service** resolves ECSP object names allowing for object identification without location or reference knowledge.

Communication Service

- The **Communication Service** monitors and reports the state of communication with the network element.
- It generates events and dispatches them to the event notification task for processing.

Virtual Hardware Layer

- The **Virtual Hardware Layer** (VHL) sub-system provides a virtual layer between the Network Element hardware and the rest of the ECSP.
- In general terms this includes the following responsibilities:
 - model Network Element hardware;
 - notify the ECSP of hardware alarms and events;
 - synchronise hardware with the ECSP;
 - support both low-level and high-level operations;
 - maintain current alarm status;
 - co-ordinate complex requests, such as cross-connects, protection, etc.

Network Element Interface

- The NEI acts as an interface between the ECSP tasks and the NE hardware.
- It provides the capability of simulating the network element in the absence of actual hardware, allowing for parallel software and hardware development.
- The '**UnitSim**' task simulates the ECSP hardware and provides an interface equivalent to that of UnitAPI.
- The '**UnitAPI**' task presents a proprietary interface to an ECSP client for the getting and setting of data on the Network Element boards.

Features and Benefits

- The ECSP provides a flexible framework that can be adapted to control any type of network element.
- It can easily be configured for your needs.
- Event or time-driven system
- Prioritised alarm synthesis for passing alarms through quicker based on priority
- Inventory management is available to track any movement of your network elements or expansion of your network.
- Interface to Network Element via **CAN bus, PLCbus** or **Modbus**
- Runs on any POSIX-base RTOS like **QNX** and **Linux**
- Written in C++ and UML using Rational Rose visual modeling tool
- Low memory footprint
- Modular system enabling customisation, sub-system implementation and code re-use
- Flexible platform that can be ported to any architecture

Support

- In addition to providing on-site and off-site technical support of our ECSP solutions, we offer:
 - Long-term support and enhancements of your systems;
 - Consultancy to ensure you receive the solutions best suited to your needs;
 - ECSP solutions customised to your requirements and platforms;
 - Simulations & Proof of Concepts to ensure your specification is right for you prior to commitment.

Conclusion

- The ECSP has to date been deployed in telecommunications environments and is the result of 3 man years worth of development.
- The platform will save you many man months of development time cost and risk.
- Our expertise will ensure that you receive the support you need to get your network running and keep it running.
- Please feel free to contact us on
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