Perytons
Network Visibility

RENESAS

Peryton-PLC - Narrow Band Power Line Communication Monitoring & Analysis

Addressing the increasing need for Power-Line Communications networks' debugging and monitoring, the Peryton-PLC is a fully-featured, protocol analyzer and network monitor tool for narrow band protocols such as PRIME, G3 and IEEE P1901.2.

Whether during the product development, quality assurance or network deployment phases, the Peryton-PLC Protocol Analysis solutions contribute to product and network robustness as well as quick time to market.

The Peryton-PLC uses the advanced Renesas Cool Phoenix PLC modem, also chosen by the G3-PLC Alliance as '**G3 golden unit**' to be used by the certification labs, for high quality, PHY compliant, capturing of the narrow-band PLC packets.

Network Visibility

The Network Visibility is a network monitoring tool especially useful to support network deployment by providing visibility of the network power-line communication, analyzing events of significance and generating events and alarms.

Simple 'probes' are placed in key points of the operational power-line networks. These probes use out-of-band IP connection (e.g. cellular, WiFi or local Ethernet) to send all captured data to the Perytons center. The data is logged, processed and allows the network operator to get priceless information related to its behavior.

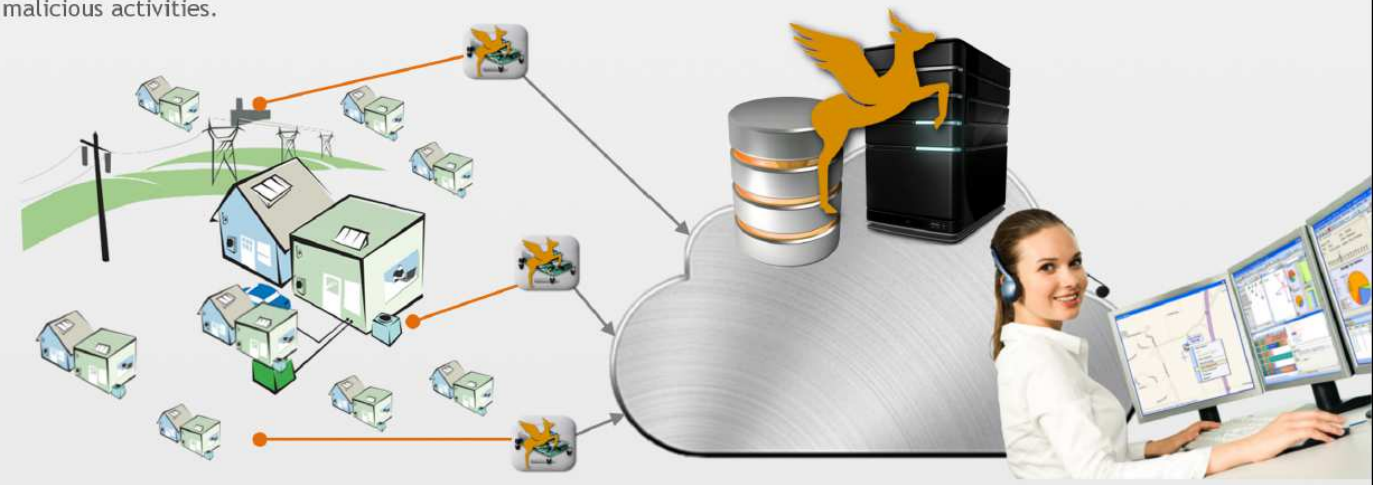
User defined 'rules' permit to automatically identify protocol interoperability problems, analyze performance and detect security attack attempts and malicious activities.

Standalone Analyzer

When used as an independent application, this professional analysis tool allows real-time capture and analysis of PLC networks. Data transmitted over the power-lines is captured by the Renesas Cool Phoenix Hardware and then analyzed by the Perytons Analyzer using in variety of views.

The Perytons PLC Protocol Analyzer auto-discovers and displays the network structure, members, connections and routes, easily identifies erroneous or problematic messages, inspects message contents down to the bit level and allows easily sharing of scenarios of interest with colleagues, vendors or customers, all using integrated sophisticated built-in options.

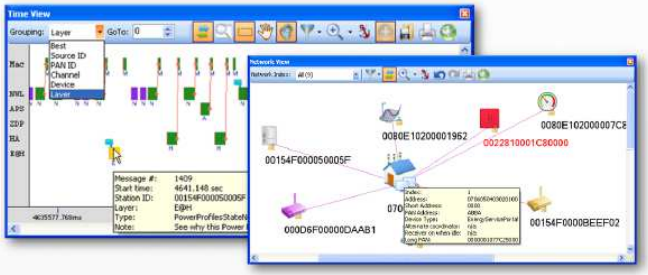
These features and more make the Peryton-PLC Protocol Analyzer an essential tool for R&D and System Integration companies.



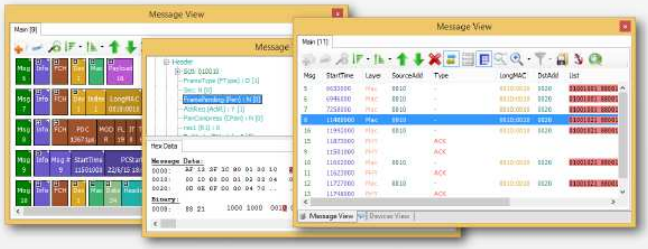
Analysis Views and Features

Whether as a standalone application or as part of the centralized Network Visibility solution, the Perytons PLC tools include many sophisticated views and features:

The **Time View** window provides a unique two dimensional view of the received messages using time as the x-y plot horizontal axis and enables easy understanding of time related processes. Messages can be grouped by different parameters and user-defined text notes can be attached to selected messages.



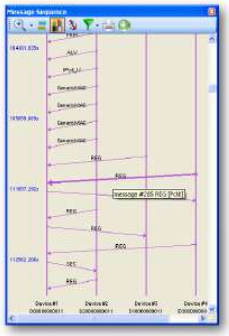
The **Network View** window auto-discovers the network topology. Each device is shown as a symbol according to its type (e.g. Switch, Meter) displaying all known information detail when hovering over it. Communication links between devices and routes are clearly displayed. Devices can be also drawn over a map or floor plan. Messages sent to/from a device or over a specific connection can be easily found with a single mouse click and user-defined notes can be attached to selected devices.



The **Message View** and **Message Tree** windows allows diving down into the message field at bit level using a variety of ways - graphical, tabular or XML-like structure. Field content is shown numerically and textually, with text and tool-tips showing the field name, description and meaning of the current value. Information concluded by the analyzer as well as data deciphered from encrypted fields is clearly marked. Each field is shown with its location in the message as hex data as well as the deciphered data.

These views greatly facilitate quick understanding and eliminate the need to refer to off-line documentation.

The **Message Sequence** window shows the interaction between two or more devices in a single screen while marking message information like encrypted, deciphered, protocol layer, etc. Like in the other views, content of the Message Sequence is synchronized and clicking on any line will also make it recognizable in the Time, Message and Network View



Support of 6LoWPAN and IPv6 layers

The Peryton-PLC Protocol Analyzer includes enhanced features to facilitate analysis of IP based protocols (e.g. 6LoWPAN or IPv6 over G3-PLC). Such features include among others - 6LoWPAN defragmentation and MESH routing.
IPv6 layers are decoded, handling TCP segmentation and acknowledgments and handling upper layer protocols to show full visual HTML pages and XML content presentations.

Enhanced Toolbox

The **Featured Toolbox** provides even deeper analysis possibilities of captured data, including statistics charts, filtering of displayed data, message compare, editing messages and sending them over the Power Lines to stimulate the system, and more.
acknowledgments and handling upper layer protocols to show full visual HTML pages and XML content presentations.

User defined scripts allow the user to customize the analyzer views, automatically generate events and alarms, create statistics charts, change the way messages and devices are being displayed, and integrate the analysis with external applications such as automated tests.

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