

Perytons™ Time View

Background

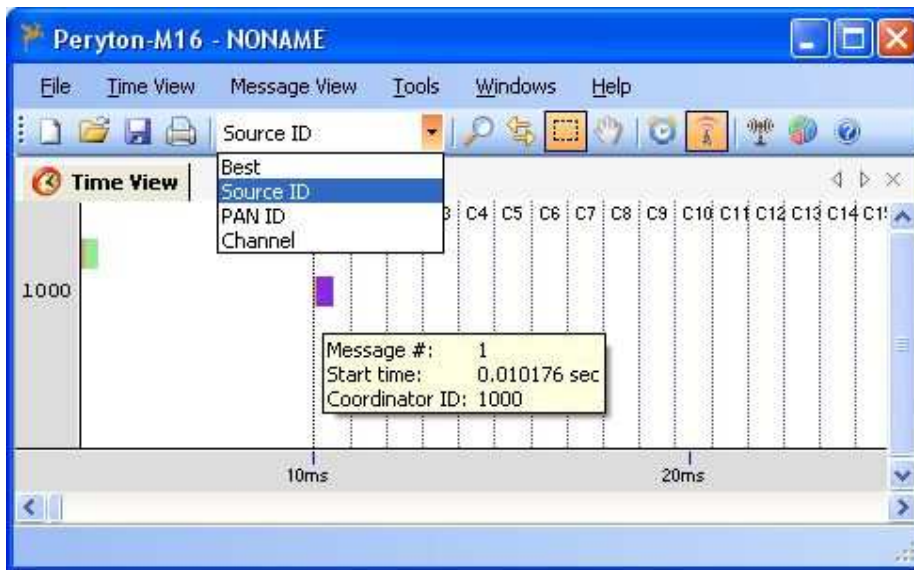
802.15.4/ZigBee/6LoWPAN networks usually comprise of several devices that communicate with each other over a wireless communications medium. Each network has a unique ID (PAN ID), and each station (device) has its own unique Device ID. Several networks may coexist in the same proximity, sharing the same RF channel or using different channels.

For increased efficiency, a network coordinator station may transmit a repetitive beacon, allocating time slots for the different network members' transmissions.

Such time-related events are difficult to analyze by going over a list of messages with the content (or even time stamp) of each of the messages.

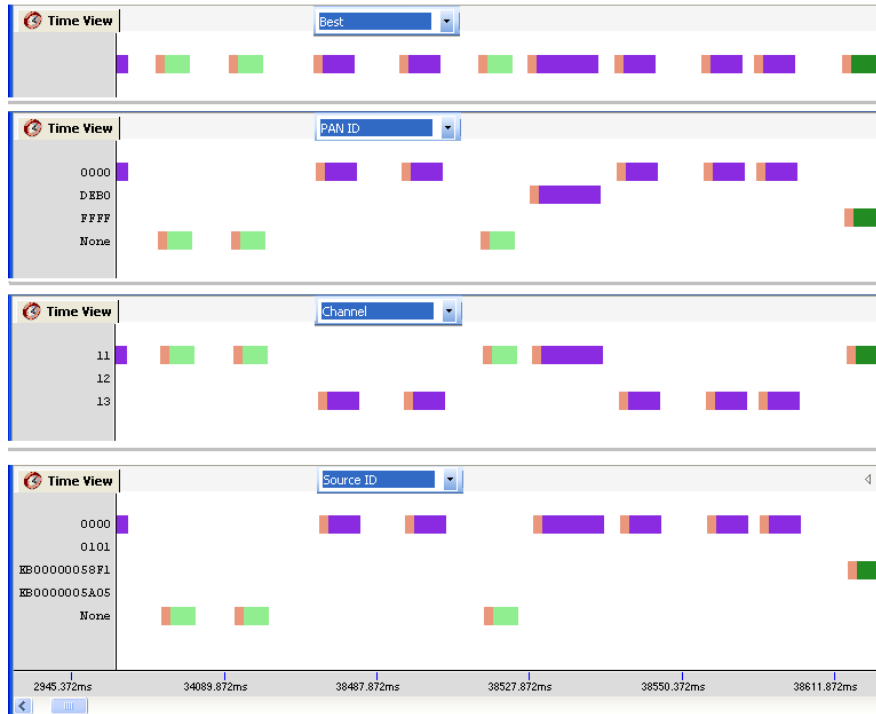
The Perytons Analyzers Time-View window

The Perytons Analyzers provide a unique Time View window that displays messages in a two dimensional grid. In a beacon network, the beacon messages are decoded by the analyzer and beacon gridlines are displayed together with beacon allocation for uplink and downlink messages. The detection of devices transmitting out of the allocated slots now becomes very easy.

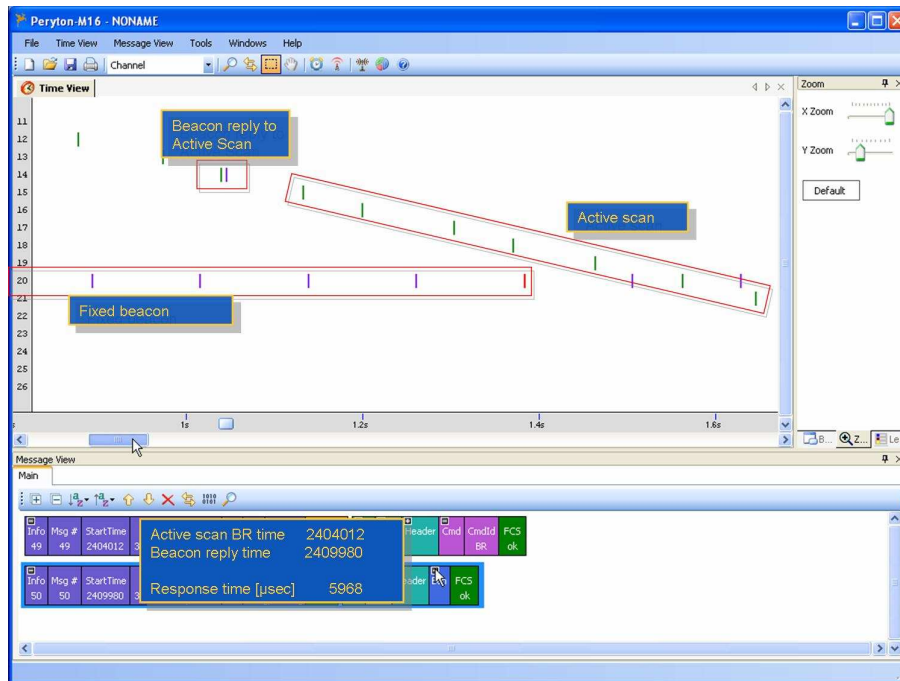


The grid's vertical axis can be used to group messages by channel, source ID, IP address or PAN ID to allow easier understanding of traffic patterns and transactions.

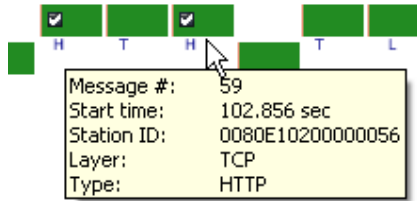
The following figure shows the same set of messages group according to different criteria:



In multi-channel capture mode, time-frequency related processes such as 'Active Scan', can be easily viewed and analyzed:



For each message, a letter showing the message protocol layer is displayed. Pointing on a message displays a hint with basic message information.



For easy understanding of processes and transactions, related messages (such as message-ack, association request-response, ping, pairing, etc.) are automatically connected by the analyzer with lines. Line color is determined by the connection type (default colors can be easily altered based on the user preference).

Pointing on a connection with the mouse shows the connection type as well as transaction latency on a dedicated screentip:

