ALBEDO Telecom

the Path to Excellence

Net.Hunter is a hardware-based capture device capable to monitor every single packet transmitted in full duplex GbE links. Complaint packets with a trigger condition, or any of the 15 programmable filters, can be either saved at wire-speed in local hard-disk either taped to a 1000BASE-T LAN.

Datasheet

ALBEDO Net.Hunter

Net.Hunter is a FPGA based capturing hand-held device, that connected in pass-through mode, is able to identify and capture traffic at wire-speed without disturbing the traffic at all. Compliant packets with any criteria described on a programmable trigger or one of the 15 filters can be save in local disk at -full wirespeed- or taped to a LAN.

1. Configuration

1.1 Ports and Interfaces

- SPAN Ports: SFPs based 1 Gb/s
- DROP Ports: Dual RJ-45 port for electrical connection 10/100/1000BASE-T
- SFP interfaces including: 10BASE-T, 100BASE-TX, 100BASE-FX, 1000BASE-T, 1000BASE-SX, 1000BASE-LX

1.2 Formats and Protocols

- Ethernet frame: IEEE 802.3, IEEE 802.1Q
- IP packet: IPv4 (IETF RFC 791)
- Jumbo frames: up to 17 kB MTU (Maximum Transmission Unit)
- Throughput between measurement SPAN ports: 2x1 Gbit/s or 2x1,500,000 frames/s
- Autonegotiation parameters including bit rate (10, 100, and 1000 Mbit/s) and duplex mode
- Configurable MTU size

2. Internal Hard Disk

- Local Storage: Capture and Save
- Wirespeed
- Save in PCAP format
- Transfer to a host by Ethernet
- Several Sizes up to 120 GBytes
- Results download thought 100BASE-T, SD card, and VNC when remotely connected

3. Operation

- SPAN ports: GbE SFP interfaces are used to connect -in pass thought- to the network Host A and Host B
- DROP Ports: GbE RJ45 interfaces to forward captured packets to the protocol analyzer device
- STORAGE: captured frames saved in internal hard disk
- All frames coming to Net.Hunter are forwarded to destination without delay or lost
- Frames compliant with trigger or filter conditions and copied to a device
- Operation is based on 15 filters per SFP port
- Filtered frames can be aggregated in one drop port

4. Ethernet PHY and MAC Blocks

- Ethernet frame formats: IEEE 802.3, IEEE 802.1Q
- Jumbo frames with MTU up to 10 kB
- Throughput 2xGbE (up to 2 x1.500.000 frames/s)
- Pass-thru Ports support 10BASE-T, 100BASE-TX, 100BASE-FX 1000BASE-T, 1000BASE-SX and 1000BASE-LX
- Drop Ports support: 10BASE-T, 100BASE-TX, 1000BASE-T

5. Trigger

- One programmable trigger
- Dump to hard disk

6. Filters

- 15 simultaneous filters can be applied to the traffic
- The Filtering process is executed sequentially

- When a packet satisfies a filter is sent to the Drop Port and immediately forwarded to the output. No more filters are processed
- Each packet may modify only the statistics of one filter
- Customizable filters defined by field contents on Ethernet, IP, UDP and TCP headers
- Agnostics filters defined by 16 bits masks and user defined offset
- Lawful filter: 64 byte pattern match at any place in the frame payload

6.1 Ethernet filters

- Ethernet Selection
- By source and destination MAC addresses. Selection of MAC address sets with masks
- By Ethertype value with selection mask.
- By VLAN-VID with selection mask
- By VLAN-CoS value with selection mask

6.2 IP filters

- IPv4 address: source, destination, and source-and-destination
- IP address group: subset of addresses filtered by masks
- Protocol encapsulated in the IP packet (TCP, UDP, Telnet, FTP, etc.)
- DSCP field, single value and range
- TCP/UDP port, single value and range

7. Results

- Autonegotiation results including current bit rate, duplex mode, Ethernet interface
- SFP presence, vendor, and part number
- Traffic statistics per each of the Four Ports
- Statistics for both transmit and receive directions
- Frame counts: Ethernet, and IEEE 802.1Q
- Frame counts: unicast, multicast and broadcast
- Basic error analysis: FCS errors, undersized frames, oversized frames, fragments, jabbers, collisions
- Frame size counts: 64, 65-127, 128-255, 256-511, 512-1023, and 1024-1518 bytes
- Four byte counts: Port A (Tx / Rx) and Port B (Tx / Rx)
- All traffic counters follow RFC 2819
- Counters and statistics per filter

8. User Interface

- Direct configuration and management in graphical mode using the keyboard and display of the instrument
- Remote access for configuration and management in graphical mode from remote IP site thought the Ethernet interface of the control panel
- Remote access with command line (CLI) using of either Telnet or SSH offering for configuration, management and task automation
- Remote access via SNMP for configuration, management and integration
- VNC based remote control for any client supporting standard versions such as PC, iPad, iPhone, etc
- Remote connection with Password using public / private Ethernet, IP network including Internet.

9. General

- *Instant On* (the equipment measures immediately after power on)
- Operation time with batteries: 3.5 hours (minimum, two battery packs)
- Configuration and report storage and export through attached USB port
- TFT color screen (480 x 272 pixels)
- Dimensions: 223 mm x 144 mm x 65 mm
- Weight: 1.0 kg (with rubber boot, one battery pack)