VB330 10G PROBE

The VB330 Probe is the flagship in Bridge Technologies products range. With line-speed 10G performance and a massive multiprocessor architecture the VB330 can deliver monitoring and analytics of thousands of streams and a multitude of technologies in real-time and in parallel. The VB330 utilises the same visual and intuitive approach to monitoring and analytics as other probes.

Figure - The Dual power enhanced chassis equipped with two VB330 modules

The VB330 is aimed at monitoring the full cross section of services commonly found in media related network operations. As such the VB330 is very much a multi use tool to monitor network performance involving signal formats and areas as diverse as video IP multicast, video OTT/ABR streaming, voice trunks, video-on-demand unicast, Ethernet packet micro bursts, PCAP recording and general traffic protocol inspection.

Measurement analytics are avialble via easy drill-down functionality and the patented Bridge Technologies MediaWindow™ techonolgy renders monitoring and analysis of the complex much simpler. Two full VB330 can be placed within a 1 RU chassis, offering a performance to form-factor of up to 40 Gbit/s per 1RU.

Monitor up to 500 OTT/ABR streams at master play-out or at CDN origin server in all common streaming formats using the bulk OTT option. Streaming formats supported currently include Microsoft Smooth Stream™, Apple HLS™, Adobe HDS™, MPEG-DASH and basic RTMP.

Monitor Voice or Video-on-Demand trunks using the Advanced Ethernet Option. Summarise traffic issues across whole trunk dynamically.

Identify packet micro bursting and pinpoint sources in violation. Micro bursting is a particularly important area when traversing 10G/1G network domains where queuing issues often arise with resulting packet loss. These issues are often non-trivial to identify due to their intermittent and complex nature.

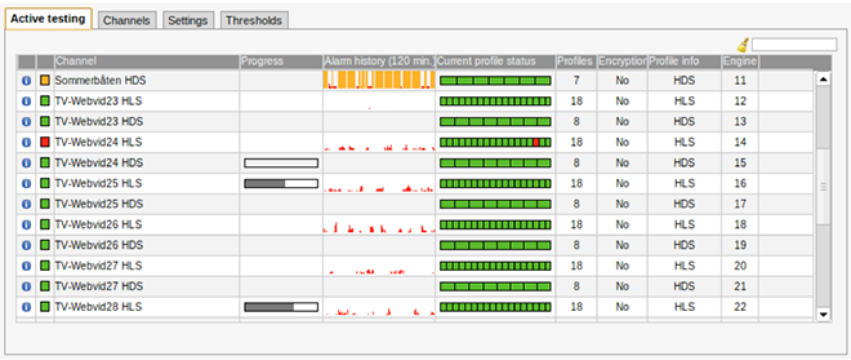

Figure - An extract of the GUI showing the OTT engine in action verifying the performance of a mix of HLS and HDS formatted streams.

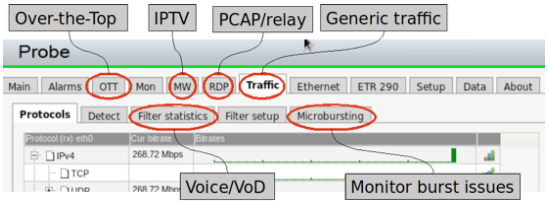

Figure - An extract of the GUI showing the multitude of services the VB330 is capable of monitoring.

Monitor all relevant network and video parameters on up to 2000 IP multicasts concurrently.

Perform deep TR 101 290 analysis on up to 200 streams with all priority levels covered - Level 1, 2 and 3.

Perform PCAP packet capture and retrieval for offline analyis using 3rd party tools such as Wireshark or tcpdump.

All Bridge Technologies modules are self contained and based on embedded electronics. Each probe is built to carrier grade standards satisfying the most stringent requirements of the telecommunications and broadcast industries. Built for 24/7 operations and designed to go into edge and core router environments, the IP-Probes have been designed with industrial use in mind.

TECHNICAL FEATURES

- Continuous monitoring of up to 2000 IP multicasts in parallel
  - Monitor current/min/max UDP payload bitrate
  - Monitor current/min/max TS payload not counting NULL TS packets
  - Count number of IP packets
  - Source/destination IP address
  - Type-of-Service field (TOS/DSCP)
  - Time-to-Live field (TTL)
  - VLAN ID, if appropriate
  - Max/min/average IP packet Inter-Arrival time (IAT) for jitter analysis
  - TS Continuity Counter errors
  - TS Sync errors

SOFTWARE OPTIONS

VB33010G2 | ETR290 | BULK-ETR | OTT | BULK-OTT | AEO | T2MI | SCTE35 | EXTRACTOR | FLASH32

CHASSIS OPTION

EC | EC-DC

RELATED PRODUCTS

VBC

TECHNOLOGIES

MediaWindow | FSM | microETR | RDP | PCAP Recording | Eii | OTT Engine | microBURST

PHYSICAL AND ENVIRONMENTAL SPECIFICATIONS

Operating temperature: 0°C to 45°C
Storage temperature: -20°C to 70°C
Operation humidity: 5% to 95% non-condensing

CONNECTOR SPECIFICATIONS

10GBit Ethernet port A: SFP+ module
10GBit Ethernet port B: SFP+ module
10/100/1000-T management: RJ-45
Initial setup: USB Type A

CI SUPPLY REQUIREMENTS

Power dissipated per VB330+ module 40W
Chassis input voltage: 100-240VAC
Chassis max. power requirement: 150VA@220VAC
Chassis max. power dissipated: 150W

MECHANICAL SPESIFICATIONS

Standard 19" 1RU rack-mount
W x H x D: 483 x 43 x 400 mm
Weight: 8,2 kg fully populated

COMPLIANCE AND SAFETY

Compliant to requirements for US and Canada. Designed for CSA approval. Bridge Technologies continuously improves on products and reserves the right to modify the specifications without prior notice.

EMC: EN 55022I CISPR 22 Class A, EN 55024I CISPR 24, EN 61000-3-2/ IEC 61000-3-2, EN 61000-3-3/ IEC 61000-3-3, 47 CFR, Class B **SAFETY**: EN 60950-1, IEC 60950-1 Edition 2.0

ENVIRONMENTAL COMPLIANCE POLICY

Bridge Technologies co as is committed to fulfilling all statutory environmental requirements in accordance with the WEEE scheme.

In order to prevent the generation of hazardous waste, Bridge Technologies undertakes the responsibility for taking back and recycling electrical and electronic equipment.

This will provide incentives to design electrical and electronic equipment in an environmentally more efficient way which takes waste management aspects fully into account.

Bridge Technologies Co AS,
Address: Bentsebrugata 20, NO-0476 Oslo, Norway.
Phone: +47 22 38 51 00. Web: www.bridgetech.tv
VAT NO987002808MVA, DUNS: 7303 64945

- Media Loss Rate - number of TS packets lost
- Source/destination MAC address
- RTP dropped packets, duplicate packets, out-of-order packets
- RTP max/min hole size, hole separation
- Forward Error Correction analysis according to MPTE 2022

- Visual graphing of jitter, packet loss and bandwidth performance with at least 4 days of history for all IP multicasts
- Framework for automatic detection of present multicast/unicast stream
- Protocol hierarchy view with bandwidth and packet count statistics for each active video interface
- Functionality for relaying any IP multicast monitored to a different IP destination for further analysis or recording (Remote Data Path - RDP)
- IGMPv2/v3 protocol logging and analysis framework
- Flexible template based alarming system to allow custom configuration of what parameters result in an alarm being generated on a per-TS level
- PCAP capture of up to 2GB of data for further analysis using Wireshark or similar
- Microbursting jitter analysis for monitoring total 10G trunk load
- IEEE 802.1Q VLAN tagging support
- Thumbnail decoding of uni/multicast IP transport streams
- ETSI TS 102 034 support
- SMPTE 2022 FEC support
- 2 x SFP+ optical 10G ports
- 1 x 10/100/1000-T RJ45 Ethernet management port
- 1 x 1PPS TTL level 50 ohm SMA female input for future GPS synchronization usage
- Microsoft mediaRoom X-bit RTP header extension support
- Alarm on changes to TOS/DSCP and TTL for detection of changes in network prioritization
- Time loss distance measurements according to RFC3357
- MediaWindow™ visualisation technology for trending packet loss and jitter over time
- Full Service Monitoring of any network device via built-in ICMP and HTTP query agents
- Searchable alarm lists
- Alarm forwarding to 3rd party systems via SNMP TRAP via up to 3 unique destinations
- NTP client time synchronization support according to RFC2030
- DHCP client support on management and video ports according to RFC2131
- Easy web-based software and license upgrade
- XML-based configuration save and retrieval via web
- Powerful and openly available XML-based External Integration Interface (Eii) for 3rd party integration
- Condensed mosaic thumbnail view of all services monitored

PRODUCT ORDERING CODE	
VB330	IP-Probe Blade w/1 active 10GigE SFP. NB: Requires EC

PRODUCT ORDERING CODES SOFTWARE	
VB33010G2-OPT	Additional 10G SFP+ input for VB330 probe, factory ordered
VB33010G2-UPGR	Additional 10G SFP+ input for VB330 probe, upgrade
ETR290-OPT	ETSI TR 101 290. Licence for VB3 series, factory ordered
ETR290-UPGR	ETSI TR 101 290. Upgrade licence VB3 series. Upgrade
BULK-ETR-OPT	50 engines with testing of ETSI TR 101 290 VB3 series, factory ordered
BULK-ETR-UPGR	50 engines with testing of ETSI TR 101 290 VB3 series, field upgrade
OTT-ENG-OPT	1 engine w/active testing of 1 channel or 10 channels round robin (up to 5 engines or 50 channels) factory ordered
OTT-ENG-UPGR	1 engine w/active testing of 1 channel or 10 channels round robin (up to 5 engines or 50 channels), upgrade
BULK-OTT-OPT	25 engines w/ active testing of 25 channels or 250 channels round robin for VB3 series, factory ordered. NB Requires v4.9 SW or newer
BULK-OTT-UPGR	25 engines w/ active testing of 25 channels or 250 channels round robin for VB3 series, upgrade. NB Requires v4.9 SW or newer
AEO-OPT	Advanced Ethernet Option w/ Traffic filtering - VoD Monitoring - Microburst Analysis - PCAP Recording. Factory ordered
AEO-UPGR	Advanced Ethernet Option w/ Traffic filtering - VoD Monitoring - Microburst Analysis - PCAP Recording. Upgrade
T2MI-OPT	DVB-T2MI Encapsulation Synhcronisation monitoring option, factory ordered
T2MI-UPGR	DVB-T2MI Encapsulation Synhcronisation monitoring option. Upgrade.
EXTRACT-OPT	Content Extraction and Alarming Option - factory ordered - requires v5 sw
EXTRACT-UPGR	Content Extraction and Alarming Option - requires v5 sw, upgrade
SCTE35-OPT	SCTE35 Signaling Analysis and Logging. License factory ordered Requires v5 sw and ETR Engine
SCTE35-UPGR	SCTE35 Signaling Analysis and Logging. Upgrade license. Requires v5 sw and ETR Engine
FLASH32-OPT	Flash Storage 32GB Option. Factory ordered - requires sw v5.1
FLASH32-UPGR	Flash Storage 32GB Option. Upgrade - requires sw v5.1