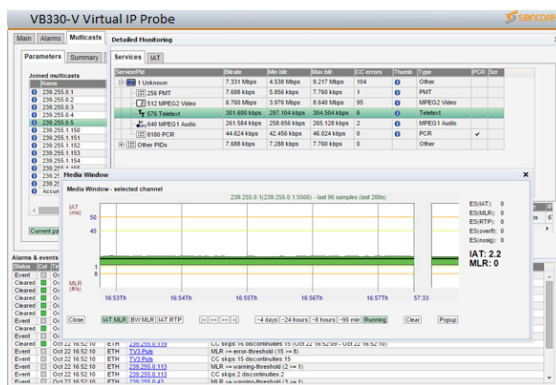
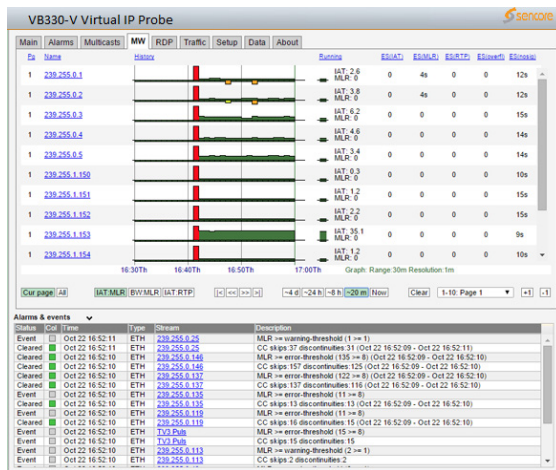
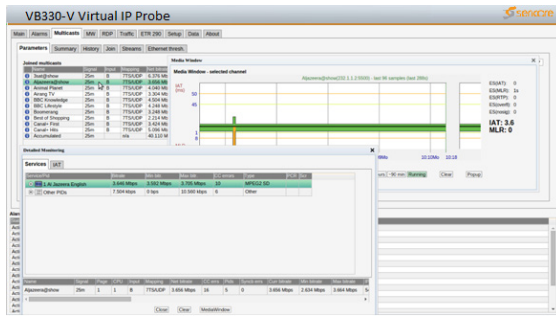


# Virtual 10G Monitoring Probe VB330-V



## VIRTUAL PROBE OVERVIEW

- Future proof for long life deployments
- Optimize Headend performance
- Install on standard Intel hardware
- Fully VMware and OpenStack compliant
- Feature parity to HW VB330
- Option equality and license equality
- Deliverable as ISO installer or OVF image
- Multi-Core CPU utilization architecture

Building on the incredible hardware-based IP monitoring capabilities of Sencore's VideoBRIDGE probes, the VB330-V is a virtual probe that operates on any standard, high-performance server blade. It has the same feature set and capabilities as the hardware-based VB330 10G probe and they can be mixed and matched to achieve the best configuration for each customer's requirements.

The VB330-V is aimed at monitoring the full cross section of services commonly found in media related network operations. The VB330-V is a very flexible tool for monitoring 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 available via easy drill-down functionality and the patented MediaWindow™ technology simplifies monitoring and analysis of this complex data. Multiple VB330s can be placed in a 1RU chassis, offering a performance of up to 40 Gbit/s per 1RU.
- Monitor up to 2000 IP multicasts/unicasts in parallel
- Monitor up to 500 OTT/ABR streams at master play-out or at CDN origin server in all the common streaming formats using the bulk OTT option. Streaming formats supported currently include Microsoft SmoothStream™, Apple HLS™, Adobe HDST™, MPEG-DASH and basic RTMP.
- Monitor Voice or Video-on-Demand trunks using the Advanced Ethernet Option. Summarize traffic issues across the whole trunk dynamically.
- Identify packet micro bursting and pinpoint sources of violations. Micro bursting is a particularly important area when traversing 10G/1G network domains where queuing issues often arise and result in packet loss. 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 analysis using 3rd party tools such as Wireshark or tcpdump.

The VB330-V virtual probe has been developed specifically for data center and headend deployment. With full VMware and OpenStack compliance, it can be installed almost instantly on standard blade servers to allow mass deployment and rapid scaling of capacity.

# Virtual 10G Monitoring Probe

VB330-V

## KEY FEATURES

- Continuous monitoring of up to 2000 IP multicasts in parallel
- Monitor 500 OTT/ABR streams
- 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 multicast/unicast IP transport streams
- ETSI TS 102 034 support
- SMPTE 2022 FEC support
- 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™ visualization 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
- 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

## MULICAST/UNICAST MONITORING FEATURES

- 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 present
- Max/min/average IP packet Inter-Arrival time (IAT) for jitter analysis
- TS Continuity Counter errors
- TS Sync errors
- 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 SMPTE 2022