

Veryx vProbe

Virtual Test Probe



Compact virtual probe for testing, diagnostics and monitoring applications in cloud, data center and Telco networks

OVERVIEW

Veryx vProbe is a software-based, virtual test probe that offer high precision wire-speed traffic generation and packet capture solution to meet Ethernet and IP testing needs for applications such as Carrier Ethernet, Data center, Enterprise, Industrial Ethernet and Broadband Access – whether workloads in cloud and data center networks, or VNFs and network services in Telco NFV environments.

Veryx vProbes are available for 1/10 GbE port speeds, can be spun-up on x86 hardware or as VNFs on virtualization capable network elements including switches, routers, uCPEs, etc.

APPLICATIONS

▪ PktBlaster Traffic Generation and Packet Capture toolkit

Veryx Virtual Test probes, by default include a PktBlaster toolkit, for stream-based wire-speed traffic generation and analysis required to perform high precision verification for stress and error conditions. With PktBlaster it is possible to define and generate hundreds of transmit and receive flows with their own unique traffic profiles using programmable packet field modifiers.

PktBlaster consists of an intuitive browser based GUI manager, supporting graphical views of histogram and interface statistics. PktBlaster also comes with TCL/RESTful APIs for custom test automation.

▪ Testing, Monitoring and Diagnostics in Telco networks:

Veryx vProbe is used as a component of SAMTEST to verify configuration and performance of services in both traditional and NFV architectures. These vProbes when deployed at NFVI PoPs, vCPEs, etc., are used to perform service activation testing, application level testing, monitoring and diagnostics based on industry standards such as RFC 2544, Y.1564, MEF CE 2.0, Y.1731, RFC 6349, UDP Echo and other application layer protocols such as VoIP, HTTP, etc. Testing and measurement can be performed for entire VNF Chain, with select VNFs on demand or end-to-end, to facilitate diagnostics.

▪ Monitoring and Diagnostics in Cloud and Data Center

Veryx vProbe is used as a component of RETINA to monitor network performance and perform diagnostics.



KEY BENEFITS

- Cost efficient - as vProbes can be placed in virtual environments
- No additional investment on hardware traffic generators for testing.
- Dynamic migration of vProbes is rapid across the network
- vProbes can be spun-up in seconds

KEY FEATURES

- Compact with pre-built testing, monitoring and auto-diagnostics capabilities.
- Traffic generation/analysis up to 100Gbps
- Compatible with Veryx physical probes
- Supports industry standard hypervisors including KVM and VMware ESXi
- Aligned with ETSI MANO Architecture

SAMPLE USE CASE

Veryx vProbe when used with SAMTEST enables benchmarking of virtualized architecture in lab, on-field pre-deployment validation, NFV (VNFs or VMs) based service activation, monitoring, on-demand measurement and trouble-shooting. It provides both active and passive performance management capabilities. Unlike traditional solutions that rely on hardware based test resources for higher throughput. Veryx vProbe supports 100M, 1G and 10G throughputs with flexibility for measurement with different frame sizes.

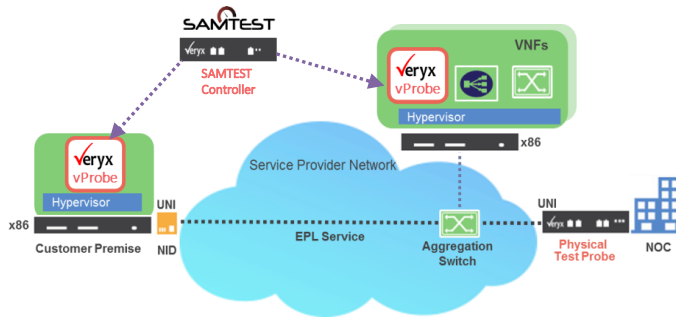


Fig 1: Monitor & troubleshoot Network Service (NS)

In an NFV deployment, finding the end to end latency may be feasible with traditional tools, determining the root cause of latency could be a challenge since it could be the VNF, the platform hosting the VNF or any other component across the network.

Veryx vProbe can be deployed externally on a x86 platform or internally service chained along VNF for performance monitoring.

Veryx vProbe utilizes service chaining to determine the latency caused by select VNFs on-demand. The solution offers the capability to determine intermediate latencies to troubleshoot and determine the actual bottleneck causing service degradation.

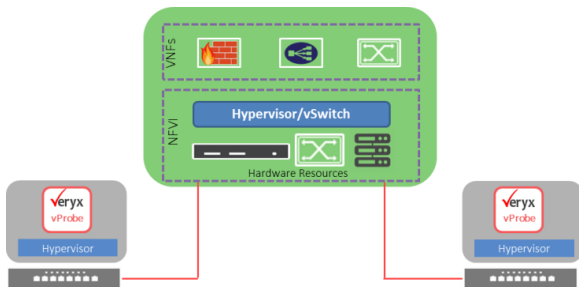


Fig 2: Benchmark with external vProbe

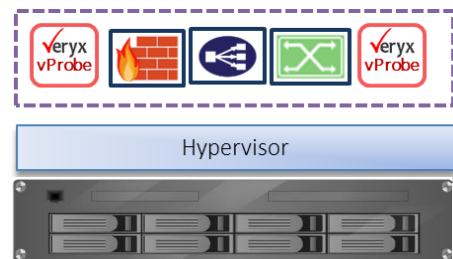


Fig 3: Benchmark with internal vProbe

PktBlaster - Traffic Generation and Capture

Transmission
Transmission streams per port – 16
EMIX
Field modifiers per stream – 8 (32-bit)
Burst Size – Maximum 2048 frames (1 MB total size)
Reception
Wire speed capture up to 128k packets
Port Statistics – TX/RX, Latency, Jitter, Loss
Histogram Statistics
Benchmark tools: RFC2544, ITU-T Y.1564
Loopback – Layer 2, Layer 3
Packet editor with support for both protocol and byte-level packet definitions
Automatic protocol decoding of incoming packets
TCL/RESTful toolkit for custom automation

RETINA - Monitoring and Diagnostics

Active Performance Monitoring and Diagnostics: Y.1731, ICMP, UDP Echo

SAMTEST - Testing & Diagnostics

L2/L3 Tests : RFC 2544, Y.1564, MEF CE 2.0, MEF 3.0*
802.1ag/Y.1731, Smart Loopback
CE 2.0 service attribute verifications - VLAN/CoS Transparency, Bundling, MTU, Service Leakage, L2CP/SOAM handling etc.
Bandwidth profile and Ethernet/IP SLA measurements such as delay, jitter, loss, etc. Burst Testing as per MEF 10.2
Tagging Support: 802.1q, Q-in-Q
CoS – VLAN P-bits, DSCP, MPLS Experimental bits

SAMTEST - Monitoring & Diagnostics

Active Performance Monitoring: MEF 35.1, SOAM (Y.1731/802.1ag), ICMP, and UDP
Auto diagnostics, Path discovery and path trace

System Requirements

Recommended 4 vCPUs (1/10G), 2 GB RAM, 5 GB HDD, Intel DPDK enabled NICs
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ORDERING

Model	Product
VT-110-XA-TG	1x10 GbE Virtual Test Probe with PktBlaster toolkit
VT-110-XA-ABM	1x10 GbE Virtual Test Probe with Application benchmarking (TCP benchmarking (RFC6349), VoIP, HTTP)
VT-101-XA-TG	1x1 GbE Virtual Test Probe with PktBlaster toolkit
VT-101-XA-ABM	1x1 GbE Virtual Test Probe with with Application benchmarking (TCP benchmarking (RFC6349), VoIP, HTTP)

*Roadmap

Contact sales@veryxtech.com for more information

About Veryx Technologies

Veryx Technologies is a provider of innovative testing, automation and monitoring solutions for network service providers, cloud service providers, data centers, Enterprise IT and network equipment vendors. Veryx offers solutions for network testing, performance monitoring and equipment testing applications for technologies such as Carrier Ethernet, IP, Cloud, SDN, NFV and Smart Networks.

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