

Visibility in Virtual Environments

The transition to a fully virtualized telecoms network will be achieved through a **process of gradual evolution**. During this period, a combination of virtualized and traditional physical network assets will co-exist. Monitoring Systems will evolve, and with them also Network Visibility, to enable Network Operators to have a **seamless view across their virtual and physical networks**.

Microtel Innovation virtual TAP

Microtel Innovation M-vTAP is a software solution that addresses these challenges, providing **complete visibility of VM traffic in virtual computing environments**, by feeding virtual and physical probes with Virtual Traffic information.

M-vTAP supports industry standard hypervisors like **OpenStack KVM and VMware ESXi**, and implements **advanced traffic filtering** capabilities and **tunneling encapsulation**, like VxLAN, GRE, and VLAN, for traffic forwarding.

It uses a **negligible amount of system resources**, without creating additional processing overhead to the production vSwitch.

Combined with **Aster XFE Streamliner**, M-vTAP provides aggregation, filtering, advanced packet processing, and application-layer intelligence before delivering the traffic to the monitoring tools.

Key features

- Enables **360° visibility** of VMs traffic
- Supports **traffic isolation at VM and tenant level** with VxLAN, GRE, and VLAN Tunneling encapsulation
- Advanced **traffic segregation** option for trouble shooting, as it can clearly segregate ingress direction and egress direction
- Advanced **traffic filtering** capabilities, based on MAC, ARP, MPLS, IP, IPv6, TCP, UDP, ICMP
- Support for **Openstack KVM and VMware ESXi**
- **Pre-integrated with OpenStack** orchestration software
- Supports **one touch deployment with zero downtime**, since it does not require hypervisor kernel update



Highlights

- Enables full traffic visibility while **retaining complete system resources for hosting VMs**. Scales as the network grows
- Consumes **less than 2% CPU** utilization per hypervisor
- Optimized monitoring using **multi-level traffic filtering**
- **Complements existing physical taps**
- Provides centralised control with **single dashboard** for VMs orchestration and monitoring
- Enables **SLA compliance** and trouble-shooting.
- Provides proactive threat detection enabling **full packet analysis**.

Product Description

Microtel Innovation M-vTAP is a software based solution that captures data passing between virtual machines (VMs) and sends traffic to infrastructure monitoring tools of choice. It **provides 360° visibility of inter-VM traffic both within and across hypervisors**.

M-vTAP comprises of a centralized **M-vTAP controller**, which can be deployed as VM and manages a set of M-vTAP deployed across several hypervisors. Depending on the hypervisor technology, M-vTAP is deployed in different ways:

- With OpenStack, it is a **lightweight pluggable software component** that installs in the hypervisor as an application along with virtual switch;
- With VMware, it is **lightweight and easily installable VM**, which requires a **negligible amount of system resources**.

In both cases M-vTAP has a **very small footprint**, thus allowing service providers to retain system resources for the VMs/VNFs hosted in the systems.

M-vTAP **can replicate all VM traffic without interrupting the regular VM traffic streams** or adding additional processing overheads to hypervisor and sends the traffic to any monitoring tools of choice. It is pre-integrated with OpenStack Orchestration software and provides OpenStack users a capability to orchestrate VMs and virtual network monitoring from a single dashboard.

M-vTAP can work in conjunction with existing physical network visibility solutions, thus supporting existing hybrid networking environments where **both physical and virtual components co-exist**.

System Requirements

- **M-vTAP controller** requirements, when it is deployed as Virtual Machine:
 - * 2 vCPU
 - * 2GB RAM
 - * 4GB HDD
- **Orchestrator Version:**
 - * Openstack Ocata and later versions
 - * vSphere 6.5
- **Hypervisor Supported:**
 - * OpenStack KVM
 - * VMware ESXi

