

Monitoring for Virtualized Computing

Net Optics Phantom™ Virtual Tap is a network traffic monitoring and access device for virtualized computing environments including converged data centers. It captures data passing between virtual machines (VMs) and sends traffic of interest to virtual and physical monitoring tools of choice. With Phantom Virtual Taps, you can manage your virtual network's security, compliance, and performance with the latest virtual monitoring tools. Or, you can continue monitoring and smart access using the same policies and physical monitoring tools that you use today because Phantom Virtual Tap bridges virtual to physical in converged environments.

The Virtual Monitoring Challenge

Large networks have been utilizing Tap solutions for network traffic access for many years. Traffic capture, analysis, replay, and logging are now part of every well-managed network environment. In recent years, a significant shift to virtualized environments is yielding great benefits in efficiency, cost effectiveness, and flexibility. However, today's virtualized computing architectures create challenges for network security, compliance, and performance monitoring because the current physical monitoring tools do not extend easily into the new environments. Investing in costly new virtual-specific tools—and in the related processes and training they require—can forfeit some of the economic benefits and cost-savings a company gains by virtualizing as well.

Virtual infrastructures use hypervisor technology to deploy multiple computing environments on a single physical (hardware) server, or across a group of physical servers. Traditional Taps cannot see the traffic between the VMs that reside on the same hypervisor, nor can they "follow" specific VMs as automation moves them from one hypervisor to another to optimize efficiency and availability.

The Phantom Virtual Tap Solution

To augment overall network traffic visibility by extending that visibility to the world of virtual computing, Net Optics offers a new, virtual approach for traffic access: the Phantom Virtual Tap. The Phantom suite of software products provides 100 percent visibility of traffic passing between VMs on hypervisor stacks.

The Phantom Monitor installs in the hypervisor kernel below the virtual switch, the software component that manages communication between the virtual network interface controllers (NICs) of the VMs. Phantom Monitor can replicate all traffic within the virtual switch, apply smart TapFlow™ filtering, and send traffic of interest to any monitoring tools of choice. It can even pass the replicated traffic to a physical port so physical tools can monitor the data. Virtual traffic is bridged to the physical world in an encapsulated tunnel that can be terminated by a Net Optics Director™ Data Monitoring Switch equipped with a Director CPU Module (DCM), or at any capable termination point of your choosing.

At a Glance

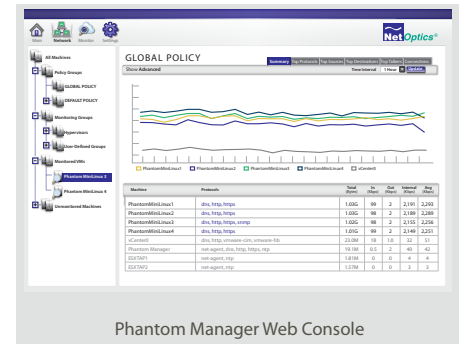
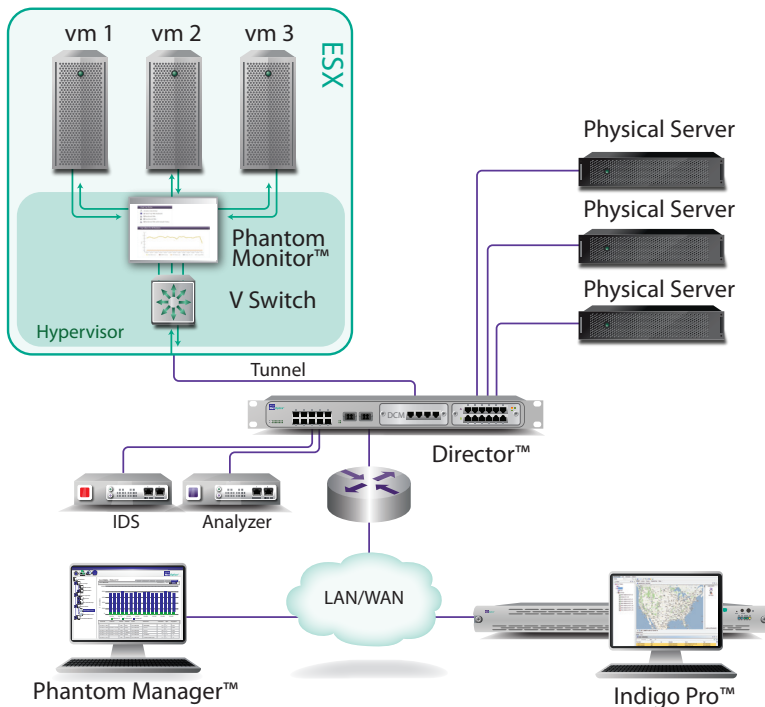
- 100 percent visibility of TCP/IP traffic between Virtual Machines (VMs)
- Follows VMs as they move (vMotion) between physical servers
- Installs in hypervisor kernel for full TCP/IP traffic visibility
- Generates Layer 2 and 3 statistics (packet count, utilization, etc.)
- TapFlow™ multi-layer L2-4 filtering engine
- Replicates Inter-VM traffic to virtual and physical monitoring tools of choice
- Sends mirrored traffic out physical NICs in encapsulated tunnels
- Integrated with Net Optics Indigo Pro™ management platform
- Enables visibility and control of network traffic in VMware ESX/ESXi virtual server environments
- Extends monitoring access into the Inter-VM networking layer
- Applies existing physical monitoring tools, processes, and procedures to the virtual network
- Enables monitoring for security and compliance in virtualized environments
- No interference with the data stream or VMs
- No modifications needed in VMs
- Director CPU Module (DCM) for Net Optics Director Data Monitoring Switch terminates encapsulated tunnels (DCM sold separately Available Q2 2011)
- One Phantom Virtual Tap monitors traffic between VMs (one Phantom Virtual Tap is installed on each hypervisor, that is, in each physical server)
- Scalable to support and administer high-density environments
- Phantom Manager console (included software component) manages multiple Phantom Virtual Taps and network traffic



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Flexible Installation Options

The Phantom Virtual Tap is engineered to integrate seamlessly with, and forward traffic to Net Optics family of Director switches. To offer optimal flexibility and further extend your installation options, the Phantom Virtual Tap is available in various bundles of Net Optics software and Director-series hardware, as an add-on to existing Net Optics monitoring infrastructure, and as a software-only standalone solution.



Phantom Manager Web Console

Unique Capabilities

The Phantom Virtual Tap provides these unique capabilities to the virtual computing environment:

- Network monitoring at the hypervisor kernel level providing full view of the traffic flowing between VMs, regardless of their current physical locations
- Ability to differentiate between specific VM instances in replicated environments, and keep monitoring and logging the VMs even as they are moved between hypervisors (different physical servers or locations)
- Integrated physical and virtual network monitoring convergence—Phantom Virtual Tap works seamlessly with Net Optics Director series of data monitoring switches
- Net Optics Indigo Pro™—a unified network management tool—provides an easy-to-use, Web-based GUI interface

System Requirements

ESX/ESXi Server v4.0 or 4.1 (vSphere)

Phantom Manager VM: Management and reporting engine that runs in a VM.

Phantom Monitor: A Phantom Monitor is installed in each ESX/ESXi host. The Phantom monitor has two components: a Phantom Monitor Control VM and a Phantom Monitor Module, which is a hypervisor kernel.

Virtual Center (vCenter) Server 2.5 or later

Access to the VMware Virtual Infrastructure API must be available to allow auto-discovery of VM resources. This can be tested by connecting a Web browser to the Virtual Center Host (<https://<Virtual Center IP Address>/>).

Network Connectivity

The Phantom Manager VM virtual appliance must be accessible via HTTPS to access the application interface. DNS and NTP services should be available for all components.

TCP 443 and 8443 must be available between the Phantom Manager and Phantom Monitor control VMs.

TCP 902 must be available between Phantom Manager and the ESX/ESXi hosts.

Disk Storage

10 GB free space (minimum)

Web Browser

Internet Explorer 6, 7, 8, or later
Firefox 2 or later

Virtual Appliance System Requirements

Compressed size of Virtual Appliances:

Phantom Manager VM: Approximately 250 MB

Phantom Monitor Control VM: Approximately 175 MB

Uncompressed size of system:

Phantom Manager VM: 2 GB

Phantom Monitor Control VM: 900 MB

Size of Virtual Disks:

2 GB operating system

Database administrator configurable (4 to 40 GB)

Memory Size:

Phantom Manager VM: 2 GB (No more than 3GB)

Phantom Monitor Control VM: 385 MB

(No more than 385 MB)

Part Numbers

PT-DC-25 Phantom DC Starter

Phantom Tap software and license:

2 Manager + 25 Monitors perpetual license

PT-DC-50 Phantom DC Standard

Phantom Tap software and license:

5 Manager + 50 Monitors perpetual license

PT-DC-100 Phantom DC Extreme

Phantom Tap software and license: Unlimited number of Managers + 100 Monitors perpetual license

DCM-100 1GB DCM Director CPU Module

DCM-1000 10GB DCM Director CPU Module

HVKT-P-B-50 Phantom 5400 Bundle

Phantom Tap software and license and hardware kit:

2 Net Optics Director 5400, DCM 1GB add-on, Phantom DC Starter, Indigo Manager Pro 50



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