

Global Telco Relies on a Cost-Efficient Phantom HD Solution to Enable Security and Compliance at Multiple Virtualized Data Centers

By using Phantom Virtual Tap and Phantom HD, Telco saves substantial cost—leveraging its physical tool investment to monitor and analyze VoIP call center traffic from hundreds of servers

Phantom HD



Industry:
Telecom

Objectives:

- Enable IT staff to inspect complete network traffic of virtual servers
- Satisfy and retain customers with superior call center service
- Meet compliance mandates by maintaining accurate call records
- Optimize the value of existing tools: no need to purchase new monitoring tools for the virtualized environment
- Raise security by speeding traffic to the instrumentation layer
- Keep costs down during transition to new VoIP system

Approach:

- Build network architecture using Phantom HD to terminate, decapsulate, and defragment packets between physical and virtual networks
- Send raw traffic stream on a monitoring port connected to Net Optics Director
- Monitor and preserve packet information for analysis and record keeping
- Virtualize all VoIP customer support communications

Technology Improvements:

- Monitor network traffic on 150+ VMware ESX servers, 1600+ virtual servers including inter-VM activity
- Enable data centers to support all of their call centers
- Virtualize all servers dedicated to customer support
- Enable VoIP systems to monitor and record all support calls
- Leverage existing VoIP and call recording analyzers

Project Outcomes:

- Met compliance requirements without buying new tools
- Shortened issue resolution time
- Reduced inspection time for customer traffic
- Gave IT staff improved monitoring and analysis capabilities
- Lowered operational costs with smaller staff
- Gained the cost savings and efficiency of virtualization
- Improved ability to market new services through call center

Virtualizing and Securing a Telco’s Vital Call Center Infrastructure

This global telecommunications company (“The Telco”) is a leader in delivering broadband, video and other wireless and wireline communications services to consumers, businesses, governments and partners. The Telco maintains one of the world’s largest, most reliable wireless voice and 3G networks and provides communications, information and entertainment services over an advanced fiber-optic network—and as the industry moves to 4G/LTE (Long-Term Evolution), the Telco is playing a leadership role here as well. The Telco’s wireless voice and data network is renowned for its reliability and leadership, marketing mobile-to-mobile calling to more than 80 million subscribers.

For reasons of cost-savings, competitiveness and quality of offerings, this Telco has made virtualization a top priority. Its economic advantages let the Telco focus more resources on creating and marketing popular new services and attracting new customers.

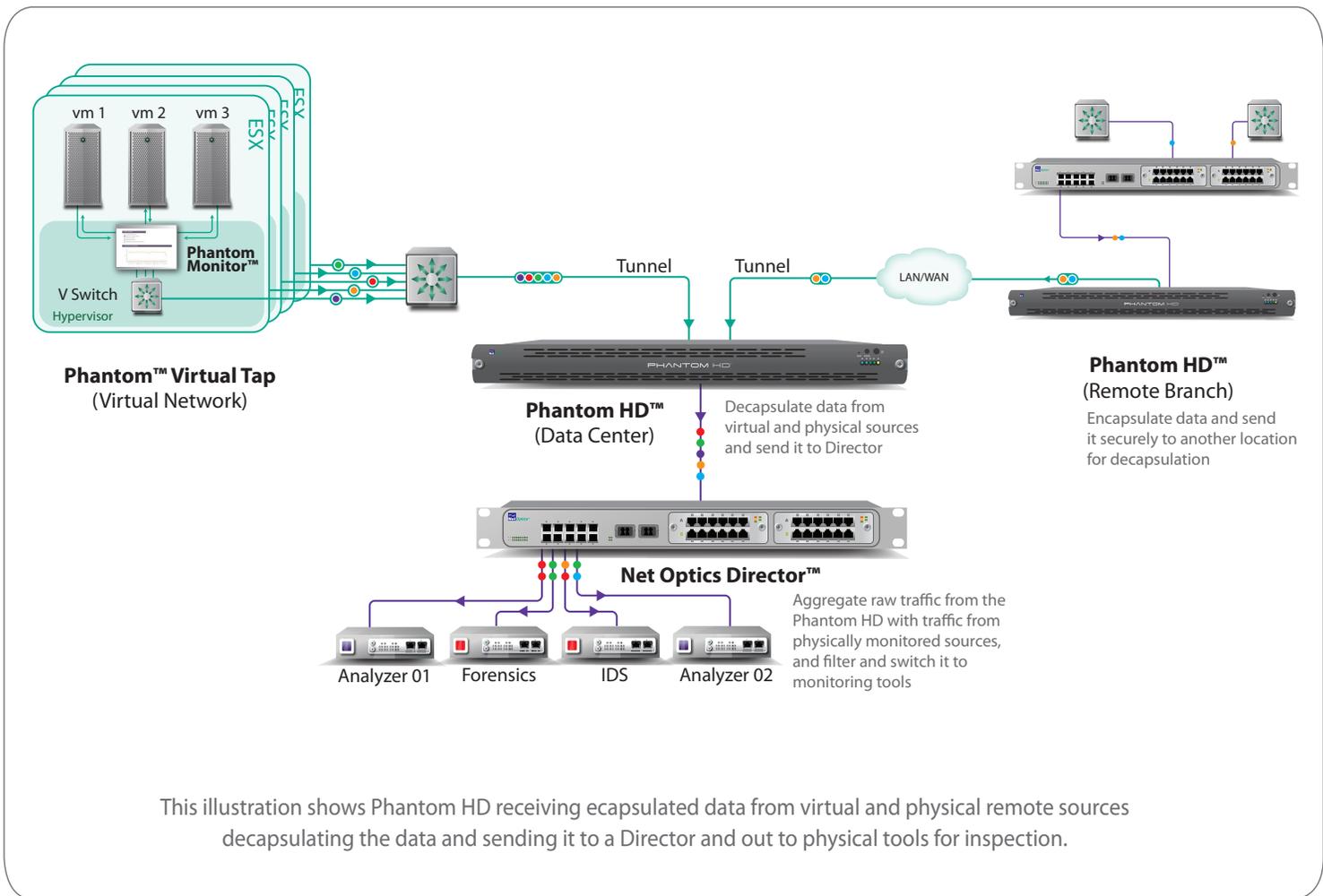
The Telco’s comprehensive virtualization strategy includes virtualizing all the servers that support a proprietary VoIP system developed by the company to monitor and record customer and support calls. The Telco now faced the challenge of maintaining five data centers, located in various geographies across the U.S., to support numerous call centers. This virtualized architecture encompasses more than 150 VMware ESX servers and 1600+ virtual servers.

A Telco’s call centers are a major resource for retaining customers and raising revenue by marketing lucrative new services. In addition, the security of its call centers is one of the company’s highest concerns, critical to corporate brand and customer trust. In today’s permeable online environment, protecting call center data is always a challenge. The practices of outsourcing and offshoring further raise the stakes.

It’s critical for any telco to maintain an effective arsenal of monitoring tools to counter potential intrusions and breaches of call center information. In addition, regulatory compliance requires that a telco keep records of the highest veracity for auditing purposes. The Telco already had a large investment in its physical tools that it wished to optimize for business reasons. So its virtualization strategy needed to include the ability both to monitor virtualized traffic and to leverage its current tool investment for cost-saving purposes.

“We’re thrilled with Phantom HD. It not only lets us protect and secure huge traffic volumes from thousands of servers—but does it cost-effectively with current tools!”

—Network Analyst



Phantom HD Answers the Challenges of Virtualization and 4G/LTE

Unfortunately, after its physical to virtual migration, this Telco discovered that it had practically no ability to monitor the traffic on its ESX servers. It urgently needed a vendor that could enable its IT staff to monitor and analyze high call center traffic. The ability to analyze and monitor all this data from a central location would be far and away the ideal approach for convenience, continuity, verifiability, and cost control.

With the Telco's new wireless 4G/LTE network in full swing and growing apace, virtualization of its call centers had become even more essential—key to the company's ability to address feedback from real-world use, market 4G/LTE services, and resolve threats quickly.

The Telco chose Net Optics Phantom™ HD, working in conjunction with the Net Optics Phantom Virtual Tap, to fulfill this complex demand. Only the Phantom solution delivers the necessary robustness to process extremely high data bandwidths.

The Phantom HD appliance transports traffic in raw packets of data at wire speed over any IP network from remote locations to one aggregation point—the Telco's centralized bank of

monitoring tools and central recording system. Phantom HD is an advanced, high-throughput tunneling appliance that turns traffic tunneled from the Phantom™ Virtual Tap (which is installed within the hypervisor stack to provide complete or selective traffic access) back into raw physical monitoring traffic. The Phantom Virtual Tap gives IT staff the ability to monitor inter-VM traffic and customize specific VoIP traffic they need to audit and inspect.

Phantom HD terminates and decapsulates GRE-encapsulated traffic as well as defragmenting any fragmented packets. It then lays out the resulting raw traffic stream on a monitoring port connected to a switch, such as a Net Optics Director™, which forwards traffic of interest to multiple analyzer tools in the instrumentation layer already in place for their physical servers. Phantom HD also lets the Telco leverage its tools—including existing VoIP and call recording analyzers—for these call center servers, optimizing the value of those tools.

The Telco was already a Net Optics customer using Net Optics Fiber Channel taps and Director Pro™ switches to tap into its 10GB links and regenerate them out into their 1GB ports; however the Phantom solution is designed to work smoothly with the installed switches of other vendors as well. Using Phantom HD, the Telco can now collect traffic of interest from its multiple locations, transport that traffic and aggregate it to at a central location for inspection and recording.

Realizing the Financial Benefits of Traffic Monitoring and Inspection

Phantom HD lets the Telco better realize the value of its investment in the sophisticated monitoring tools of its instrumentation layer. IT staff can view this whole layer as one coherent picture for quick issue detection and resolution.

Phantom HD also shortens inspection time and compliance audits. Its data consolidation capabilities allow the Telco to do more without hiring additional staff. And IT staff appreciates Phantom HD's ease-of-use features: "We found the Phantom HD amazingly easy to deploy and flexible to manage, since it has its own CLI—alternatively, we can take advantage of the Director CLI as well. We like the choice and autonomy we have in how to use the device," said the Telco's IT Manager. "This is as close to plug-and-play as you can get!"

Phantom HD also offers the option of managing by means of the Net Optics Indigo Pro™ Management Platform, with Google Earth integration for configuring and managing at distributed locations.

Challenge: The Risk of Invisible Traffic

- Inter-VM traffic is hidden from tools on the wired network
- Traffic is invisible to most virtualized monitoring solutions
- Invisibility prevents monitoring, auditing, troubleshooting
- Specialized virtual tools are costly, need special training

Solution: The Phantom Virtual Tap

- Delivers total visibility of network traffic including inter-VM traffic
- Makes visible all traffic from virtualized servers, hypervisors
Supports best-of-breed hypervisors, virtual switches
- Streamlines integration with physical tools
- VMsafe, tight integration with VMware Center
- Fault-tolerant, non-disruptive and compact
- Minimal impact on hypervisor performance
- Does not require routing manipulation, promiscuous probes

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