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## Nexus 1000V Portfolio: Spring '11 Public Webinar Series: Q&A

SESSION 2 (Business Track): **Virtual Network Services, April 5th**

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This Q&A is 2 of 10 that support a series of Webinars offered to our customers and partners in the spring of 2011. The session covered in this Q&A is highlighted in yellow below:

Track	Date	Session Title
Business	22-Mar	Nexus 1000V/1010 Overview and Update
Business	5-Apr	Virtual Network Services: vPath, Appl. Acceleration (vWAAS), Monitoring (NAM)
Business	19-Apr	Virtual Security Gateway (VSG) Overview
Business	3-May	Journey to the Cloud w/ N1KV: vCloud Director & Long Distance vMotion
Business	17-May	Secure Virtual Desktop with Nexus 1000V & VSG
Technical	29-Mar	Nexus 1000V Installation & Upgrade
Technical	12-Apr	Nexus 1010 Deployment & Best Practices
Technical	26-Apr	Virtual Security Gateway Installation & Basic Configuration
Technical	10-May	Nexus 1000V Advanced Configuration
Technical	24-May	Nexus 1000V Troubleshooting

The following questions, and corresponding answers, came from our 22-March event:

**Q& for Prime Network Analysis Module (NAM) for Nexus 1010**

QUESTION	ANSWER
<p>How does NAM receive the statistics/information for the VM NICs (vethernets)? Is this through netflow, or is it spanning this information? Thanks.</p>	<p>NAM collects interface statistics using RMON2-MIB ifTable on the managed device</p>
<p>How does NAM recognize applications? Can we define custom applications?</p>	<p>NAM recognizes application on the basis of port number, port number range, stateful inspection of traffic (e.g. voice signaling traffic, FTP), heuristics (e.g. MS-RPC, SUN-RPC) or standardized application identifiers exported by Cisco platforms with NDE. If NAM is not able to recognize an application using any of these mechanisms, the application type of the traffic is reported as “unknown”. Users can configure the application reported as “unknown” as custom applications or create their own custom applications.</p>
<p>Apart from the Cisco Prime NAM for Nexus 1010, what other NAM products can be used for visibility into VM Network?</p>	<p>Apart from Cisco Prime NAM for Nexus 1010, visibility into the VM network traffic can be achieved with standalone NAM appliances or Catalyst 6500 Series NAM blade deployed in the Data Center. These products use embedded management features on Cisco Nexus 1000V switch, namely ERSPAN and NetFlow , to provide insight into network usage behavior, VM-to-VM interactions, and response time information.</p>
<p>How is the Cisco Prime NAM Software secured?</p>	<p>NAM can be secured with up to 256-bit encryption. The NAM also supports role-based user authorization and authentication locally or using TACACS+.</p>
<p>On the same port profile, can you run VPATH to multiple virtual nodes? For instance, for a particular server VM, can you have VPATH redirect to a vWAAS, VSG for security, and NAM?</p>	<p>Not today, although the concept of service chaining is a frequently asked question and a feature we are reviewing.</p>

## Q & A for vWAAS:

QUESTION	ANSWER
Is the DRE space available, is that set per vWAAS model? So, having a 50TB second virtual hd, will/can the vWAAS be configured to use some or more of this space for DRE?	Every vWAAS model has a pre-determined specified amount of DRE space available. Your Cisco account team will be able to help with appropriate sizing for your environment.
Does vWAAS require Enterprise Plus?	vWAAS does not require Enterprise Plus. vWAAS may be deployed using either WCCP or Nexus 1000V. Enterprise Plus license is required when Nexus 1000V is deployed.
Is it possible to start vWAAS on the Nexus 1010?	No, vWAAS is not available on Nexus 1010.
Is vWAAS compatible w/ Riverbed?	No. vWAAS is a solution from Cisco. It is industry's only credible cloud-ready WAN optimization solution for private and virtual private clouds. Riverbed is a different vendor, which is not compatible with Cisco WAAS & vWAAS products.
Summarize the benefits of vWAAS please?	<p>Cisco vWAAS is designed for both enterprises and service providers to offer private and virtual private cloud-based application delivery service over the WAN.</p> <p>vWAAS provides</p> <ul style="list-style-type: none"> <li>• On-demand orchestration of WAN optimization,</li> <li>• Fault tolerance with virtual machine (VM) mobility awareness, and</li> <li>• Lower operating expenses for customers migrating their applications to the cloud</li> <li>• Uses policy-based configuration in the Cisco Nexus 1000V to associate with server VMs as they are instantiated or moved,</li> <li>• Helps enable cloud providers to offer rapid creation of WAN optimization services in cloud-based environments, and</li> <li>• Supports transparent deployment at the network edge using WCCP, providing deployment flexibility and feature consistency.</li> </ul>
Which version of ESX/ESXi supported with vWAAS?	vWAAS is tested & supported on ESX/ESXi 4.0 update 1 and above.
Which VMware license is required for vWAAS?	vWAAS does not need any particular license from VMware to install. You can install vWAAS VM with general VMware instance based or socket based license. In case of vPath interception, Cisco Nexus 1000V requires Enterprise Plus license. Customer must purchase the Enterprise Plus license for vPath interception to work.
What are the different interception methods available for vWAAS?	Traffic to vWAAS may be redirected for optimization using various interception options. Cisco vWAAS will support a new, innovative

QUESTION	ANSWER
	Cisco Nexus 1000v based vPath interception for deep-in-the-datacenter deployment along with server VMs for cloud-ready WAN optimization. In addition, traditional out-of path interception such as WCCP and PBR are also supported. All interception options are available in datacenter/private cloud and virtual private cloud.
Is vWAAS only supported on Cisco UCS Hardware?	Cisco vWAAS is supported on Cisco UCS hardware with sizing & performance characterizations. Customers may use these results as a sizing benchmark to perform their own characterizations to deploy vWAAS on other x86 platforms listed in <a href="#">VMware Hardware Compatibility List (HCL)</a> for vSphere 4.x.
What are the different models of vWAAS and vCM available?	vWAAS is currently available in 3 models – one that optimized 750 TCP connections, 6000 TCP connections and 12000 TCP connections. Each one has different sizing requirements. Please contact your local account team to help you with sizing. vCM comes in 2 models currently – one that manages 100 WAAS & vWAAS Nodes, and other that manages 2000 WAAS & vWAAS Nodes.
What are the different monitoring options for Cisco vWAAS?	Cisco vWAAS can be monitored from WAAS Central Manager for configuration, monitoring and reporting. WAAS Central Manager can be either a physical appliance or a Virtual Central Manger (vCM). For vWAAS, there are some enhancements in WAAS 4.3.1 to show the number of CPU and TCP connections on the device page. Apart from monitoring from Central Manager, vWAAS can also be monitored from VMware vCenter server as virtual machine.
Is it possible to include vWAAS into WAAS device group?	Yes, it is possible to include vWAAS VM and WAAS into same device group if you are using WCCP as an interception. If vWAAS is using vPath interception, it is advisable to create a separate device group for vWAAS devices.
Is vMotion of vWAAS VM supported?	Yes, vMotion of vWAAS VM is supported. vWAAS is a normal virtual machine and both storage vMotion and live vMotion of vWAAS VM are supported. Customer need to satisfy the basic requirements of vMotion (like CPU compatibility and shared storage). Please refer to the <a href="#">VMware VMotion and CPU Compatibility</a> guide for more information.
How many disks are supported in vWAAS?	Cisco vWAAS supports 2 virtual disks (.vmdk). The first disk is an emulated 4 GB flash disk and the second disk is the systems disk. Size of the system disk varies based on the different vWAAS models. Similar to appliances, the vWAAS system disk has many different partitions. These partitions store the various systems files such as DRE cache, CIFS cache, etc.

QUESTION	ANSWER
Does vWAAS require RAID?	RAID provides reliability of storage through redundant disk. RAID configurations in VMware ESXi are independent of the virtual machine. The Cisco vWAAS VM does not require any specific RAID configuration. At the time of installation of ESXi, a customer must configure RAID levels depending upon the disk or storage reliability requirements.