The tradeoff between Cisco VM-FEX and Nexus 1000v

Today's Network in Virtualization World is Changing

- §Desire for VM-level access-layer policy & monitoring
- §Virtualization is driving higher link utilization
- §More demanding role of network (i.e. DRS)
- §Current approaches lead to inconsistent network policies

Transparency in the Eye of the Beholder, with virtualization, VMs have a transparent view of their resources. But its difficult to monitor & apply network and storage policy back to virtual machines. Scaling globally depends on maintaining transparency while also providing operational consistency.

So what is the vision:

- VMotion may move VMs across physical ports—policy must follow
  - Impossible to view or apply policy to locally switched traffic
  - Cannot correlate traffic on physical links—from multiple VMs

So how do we achieve this? Yeah we have VN-Link.

What is VN-Link

- VN-Link, or Virtual Network Link, is a term which describes a new set of features and capabilities that enable VM interfaces to be individually identified, configured, monitored, migrated and diagnosed.
- The term literally refers to a VM specific link that is created between the VM and Cisco switch. It is the logical equivalent & combination of a NIC, a Cisco switch interface and the RJ-45 patch cable that hooks them together.
- VN-Link requires platform support for Port Profiles, Virtual Ethernet Interfaces, Virtual Center Integration, and Virtual Ethernet mobility.

So we have two solution to achieve this VN-Link. VN-Link with the Cisco Nexus 1000v and VN-Link with the Cisco Nexus 5000. We will explore each option now and shall tell you the tradeoff in between these two.

VN-Link With the Cisco Nexus 1000V

Cisco Nexus 1000V – Software Based

- Industry's first third-party ESX switch
- Built on Cisco NX-OS
- Compatible with switching platforms
- Maintain vCenter provisioning model unmodified for server administration but also allow network administration of Nexus 1000V via familiar Cisco NX-OS CLI

VN-Link with the Cisco Nexus 5000

Nexus Switch with VN-Link - Hardware Based

- Allows scalable hardware-based implementations through hardware switches
- Standards-based initiative: Cisco & VMware proposal in IEEE 802 to specify "Network Interface Virtualization"
- Combines VM and physical network operations into one managed node

- Future availability

Now to do a Tradeoff I will show you a picture, which will tell you all you need.