

# Cisco Technologies

## Data Center and Virtualization Products

2/6/11

### Objective

This is a continuation of my effort to go through the products on the Cisco website. The first file covering Borderless Networks can be found on the server. This continuation will cover the data center and virtualization product line. A brief overview and any questions I have as I review the products will be reported in this paper.

### Data Center Switching

#### 1. Nexus 7000 Series

- Business size switch
- Up to 10 GB Ethernet Switching
- Fabric architecture scales beyond 15 Terabytes per second
- Says "With an optional Scalable Feature License, the module can operate in the enhanced XL mode, which enables utilization of the full forwarding table, essential for large-scale deployments such as Internet peering environments. This larger FIB table can support multiple copies of the full Internet route table for use in Internet-facing deployments with Virtual routing and forwarding (VRF) and virtual device context (VDC) support." - **Does this mean it is using link-state?**
- **What are NetFlow Entries and ACL in regards to a switch?**
- Interesting fact: Data sheet provides a Mean time between failure statistic. This is 52, 107 hours for this product.
- [http://www.cisco.com/en/US/prod/collateral/switches/ps9441/ps9402/data\\_sheet\\_c78-574915.html](http://www.cisco.com/en/US/prod/collateral/switches/ps9441/ps9402/data_sheet_c78-574915.html)

#### 2. Nexus 5000 and 2000 Series

- Less interfaces (only 4 instead of 8)
- 10 Gigabit Ethernet or lower
- The 2000 allows for smooth transition from 1GB to 10GB
- [http://www.cisco.com/en/US/prod/collateral/switches/ps9441/ps9670/data\\_sheet\\_c78-618603.html](http://www.cisco.com/en/US/prod/collateral/switches/ps9441/ps9670/data_sheet_c78-618603.html)

#### 3. Nexus 1000V series

- This is set up to deliver Virtual machine-aware network services
- **What is the hypervisor?**
- **Why is there a difference between a switch specifically set up for Virtual**

### **Machines and one that is a “normal” switch?**

- [http://www.cisco.com/en/US/prod/collateral/switches/ps9441/ps9902/data\\_sheet\\_c78-492971.html](http://www.cisco.com/en/US/prod/collateral/switches/ps9441/ps9902/data_sheet_c78-492971.html)

## **Data Center Management and Automation**

This section is a suite of software packages that aid in the setup, analysis, and configuration of the data center hardware.

## **Storage Networking Solutions**

This section contains two more switch configurations which are multi-layered. It also contains several software packages to unify SANs and LANs.

## **Application Networking Solutions**

### **1. WAAS Family of Products**

- WAAS= Wide Area Application Services Software
- Provides high performance WAN access to applications, storage, and video

### **2. ACE Family of Products**

- Integrates applications with primary data center components like switches, routers, and computing platforms.
- Improves virtual machine availability

## **Data Center Security**

### **1. Web Application Firewall**

- Reduces your networks exposure to web-based attacks

### **2. ACE XML Gateway**

- Brings more application intelligence into the network
- Deploys web service environments based on XML and SOAP
- Ensures XML messages securely meet their desired targets

### **3. Advanced Security Appliance 5500**

- Provides intelligent threat defense and secure communication services
- protect multimedia, highly transactional, and latency-sensitive applications at the Internet edge and the data center

### **4. Secure Access Control Server (ACS)**

- Integrate Access Control and enforce network policies (similar to what we are learning in Security)
- improve compliance costs
- Works with other access control systems

## **Unified Computing System**

### **1. Blade Servers / Blade server chassis / Rack-Mount server**

- For virtualized and non-virtualized applications
- Adaptive processor performance depending on demands

- The chassis and rack-mount hold the blade servers

## **2. UCS 6100 Series Fabric Interconnects**

- Line-rate, low-latency, lossless 10 GB ethernet and Fiber Channel over Ethernet functions
- LAN and SAN connectivity for all blades within the devices domain

## **3. UCS Manager (Software Package)**

- role and policy based management using service profiles and templates