

Cisco Technologies

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Objective:

The objective of this document is to report my findings, questions, and other information while I go through the Cisco website. I will be researching and trying to gain knowledge on some of the Cisco Product line.

Cisco organizes their products into three separate groups. These are Borderless Networks, Collaboration, and Virtualization. Knowing the position I am about to take, I believe all of these will be important, however I wish to focus my study more on Borderless Networks and Virtualization. I will also cover Collaboration technologies later, but for now I am going to start with the ones I know the least about.

Company Overview

To get a good general understanding of the company and what areas they are involved in, I found valuable information on the Cisco investor's page: <http://investor.cisco.com/>

- Here are some useful links to understanding the company:
 - http://newsroom.cisco.com/dlls/corpinfo/corporate_overview.html
- This link is to the Annual Report. Page 20 gives a break down of their business areas
 - https://materials.proxyvote.com/Approved/17275R/20100920/AR_67529/HTML1/cisco-ar2010_0022.htm
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Borderless Networks Technologies

Link to Borderless Networks Products: <http://www.cisco.com/en/US/netsol/ns1015/products.html>

1. Switches:

Function: Connects network segments - layer 2 or 3 device

- Switch Groups:
 - Campus LAN - Core
 - Campus LAN - Access

- Campus LAN - Compact
- Data Center
- Service Provider- Aggregation
- Service Provider - Ethernet Access
- These Fall under Campus LAN
 - Catalyst 6500
 - i. Flagship Switching Solution
 - ii. Datasheet Link:
 - http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps708/prod_brochure0900aecd8036447b.pdf
 - iii. Ethernet Options:
 - Gigabit
 - 10/100/1000
 - 10/100
 - 10 Gigabit
 - iv. Port Numbers:
 - 4, 8, 24,48,96
 - Catalyst 4500E
 - i. Leading Borderless switch
 - ii. Datasheet Link:
 - http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_models_comparison.html
 - iii. There are four different models with different performance statistics
 - iv. **QUESTIONS:**
 - **Why is throughput so different between IPv4 and IPV6?**
 - **What do some of the stats mean? Could we go through some of these?**
 - Catalyst 3750-X
 - i. Stackable fixed-configuration
 - ii. http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps6406/data_sheet_c78-584733.pdf
 - Catalyst 2960-S
 - i. Enhanced LAN services, Layer 2 switching
 - ii. http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps6406/product_at_a_glance0900aecd8047794c.pdf
 - Catalyst Compact
 - i. zero-touch deployment
 - ii. http://www.cisco.com/en/US/prod/collateral/switches/ps11527/ps11289/data_sheet_c78-639705.pdf
 - iii. http://www.cisco.com/en/US/prod/collateral/switches/ps11527/ps11289/at_a_glance_c45-639194.pdf

2. Routers

Router Function: Sends data through / across networks. Layer 2 or 3 devices

- Branch routers
 - i. 5 subset router families
- WAN - Wide Area Network
 - i. 3 subset families
- Service Provider
 - i. 5 subset families

3. Wireless

Wireless Devices contained here are mostly not wireless routers. Rather, they are large systems that facilitate wireless networks for enterprises and service providers. Most deal with cell phones and 3G technology. <http://www.cisco.com/en/US/products/hw/wireless/index.html>

- Wireless for Enterprises
 - Aironet products
 - i. these are wireless routers for companies who need enhanced security and widespread wireless coverage
 - Wireless Lan Controller
 - i. Allows connection of up to 500 access points
 - Wireless Control System
 - i. Software package allowing you to control your wireless networking efficiently
 - 3300 Series Mobility Services Engine
 - i. Turns existing Lans into mobility networks
 - ii. Offers multidevice, multinetwork application delivery
 - iii. <http://www.cisco.com/en/US/products/ps9742/index.html>
- Wireless for Service Providers
 - MWR 2900 Mobile Wireless Routers
 - i. Optimize, aggregate, and transport mixed-generation radio access networks (RANs) and cell-site traffic
 - 7600 Serier Routers
 - i. Enable network convergence through the delivery of business, residential, and mobile services on a common platform
 - ASR 5000
 - i. Meets requirements for large high-demand 3G and migration to 4G networks
 - ii. Works with CDMA, LTE, UMTS/HSPA, Femtocell, Wi-Fi, and WiMAX mobile networks
 - 3G Femtocell
 - i. a consumer product to allow for improved indoor coverage of 3G networks
 - Wireless Security Gateway
 - i. Solution for securely tunneling Femtocell and 3G/4G macrocell voice and data traffic over fixed broadband networks to the mobile core network
 - ii. Improves coverage and capacity while reducing costs and congestion.

4. Security

Cisco has a vary wide array of security products. They are broken down into the following categories:

- Network Security
 - Products here serve to provide firewalls, VPN, stop malicious traffic (including worms, spyware, adware, viruses, and application abuse), content security, and intrusion prevention.
- Email and Web Security
 - Fight spam, viruses, prevents data loss / leaks, encryption in the cloud, malware filtering, and enforce compliance
- Security Management
 - Centralized reporting, message tracking, and spam quarentine. Identify threats by learning network topology, configuration, and behavior of the environment.
- Secure Access Control
 - Enforces network security policies on all devices by allowing only compliant and trusted devices. Reduces malware by promoting efficiency.
- Secure mobility
 - VPN services, automated wireless vulnerability and performance monitoring, maintains constant awareness of RF environment, monitors wireless network anomolyies. Contains products for employees to work from other areas and still connect securely and safely to the networks.

5. Optical Networking

- Metro Core Products
 - These products include multiservice switching and provisioning platforms, high-capacity wavelength-division multiplexing capabilities.
- Metro DWDM Products
 - Multiservice transport platform that delivers any service type to any network location.
 - Metro and regional dense wavelength division multiplexing
- Metro Edge Access
 - Cisco has the industries first packet-optical transport system
- Optical Network Management
 - This is a software suite which has an element management system that enhances security and service continuity

Most of these products are for service providers. They are what are implemented at metropolitan areas and at hub locations.

6. Network Management and Automation

- This collection of products is comprised of software packages for various types of industries. They are all packages which allow for you network to be setup and monitored in the way you like and they allow for many tasks to be automated.

7. Physical Security and Building Systems

- This topic includes a suite of products for the physical security of a building or area. They have video surveillance equipment, IP cameras, Access Control equipment, Incident Response equipment, and building management products. I am not going to go into this because it will not be needed in my job.