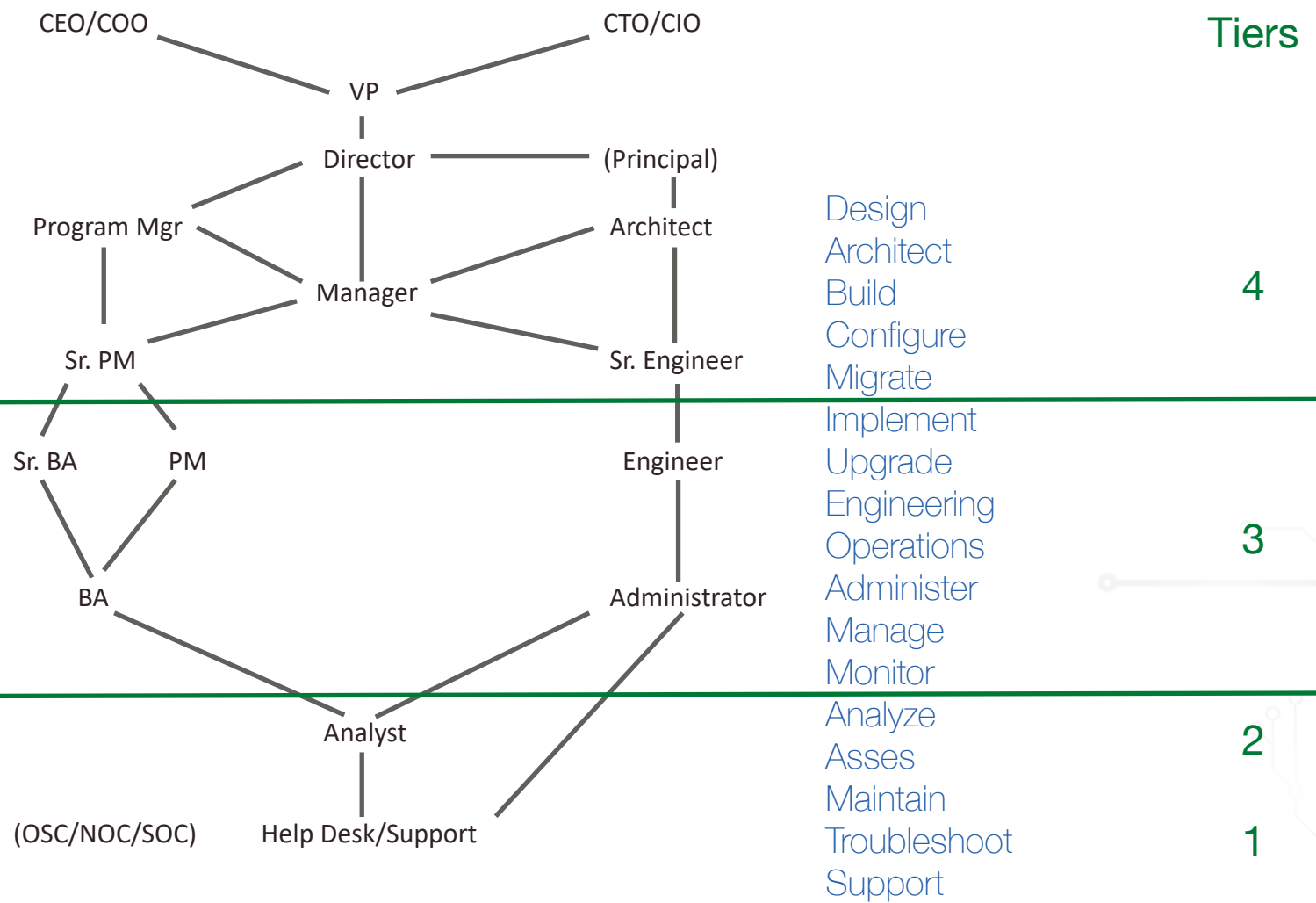


Infrastructure

CONNECTED

DEDICATED



Tiers

4

3

2

1

- Design
- Architect
- Build
- Configure
- Migrate
- Implement
- Upgrade
- Engineering
- Operations
- Administer
- Manage
- Monitor
- Analyze
- Asses
- Maintain
- Troubleshoot
- Support



What is IT Infrastructure

IT Infrastructure is the collection of physical or virtual resources that supports an overall IT environment: Servers, Storage and Network. The infrastructure provides a means of moving data from one place to another. In a practical sense, IT Infrastructure is critical to running every business today.



Terms Overview

Systems

- Windows
 - Active Directory, Group Policy,
 - PowerShell
 - MCSA, MCSE
- Unix / Linux
 - RHEL (Red Hat Enterprise Linux), Ubuntu, Debian, SUSE, Apple-OS, Solaris, AIX, HP-UX
- Virtualization
 - VMware (VCA, VCP)
 - Hyper-V
 - Citrix

Storage

- EMC, NetApp, HP, 3PAR
- Backup
 - Networker, Veeam, Avamar, NetBackup

Network

- Route / Switch
 - Cisco, Juniper
 - CCNA, CCNP, CCIE
 - LAN / WAN
 - Routing Protocols - BGP, OSPF, EIGRP, MPLS
 - CLI or GUI
- Network Security
 - Firewalls
 - ASA, SRX, Palo Alto, Check Point
- Load Balancers
 - F5, A10
- Telecom
 - VOIP

Cloud

- AWS
- Azure
- Rackspace
- Pivotal
- Google Cloud



Systems Engineering

Types of Systems

- Windows
 - NT, NT4, 2003, 2008, 2008R2, 2012, 2012R2
 - Computer Operating System
 - Developed by Microsoft to run personal/work computers
- Linux
 - RHEL (Red Hat Enterprise Linux), Ubuntu, Debian, SUSE, Apple-OS, etc...
 - Open source;
 - Most popular for OS for Web Servers
- Unix
 - Solaris, AIX, HP-UX
 - Similar to Linux, except Unix is copyrighted name owned by IBM
 - (AIX), SUN (Solaris) and HP (HP-UX)

Scripting

Windows: PowerShell

Unix / Linux: Bash or Perl



Network Engineering

Types of Network Engineers

- Wide Area Network Engineer
 - Routing-BGP, MPLS, IPv4, Sonet DWDM
- Local Area Network Engineer
 - Switching – TCP-IP, Spanning Tree, Firewalls, Load Balancing, VPN, etc...)
- Network Security Engineer
 - Firewalls, Load Balancers, CISS

Technology Brand Leaders

- Cisco, Juniper, HP, F5, Brocade, Citrix

Latest & Greatest Technologies

- SDN (Software Defined Networking)
- Nexus 9ks
- Palo Alto Firewalls
- A10 Load Balancers
- Cloud (Infrastructure as Code)

Overview

- *Routing – Connect 2 different networks*
 - *Protocols: BGP, OSPF, EIGRP, MPLS*
- *Switching – Connect devices in LAN (computers, printers, etc)*
 - *Catalyst, RIP, TCP, UDP*
- *Firewalls: Cisco ASA/Pix, Juniper SRX, Palo Alto, Checkpoint, Fortinet*
- *Load Balancers: F5 Big IP, Cisco Ace, Citrix Netscalers*
- *CLI vs GUI*



IT Infrastructure Personnel

Network

- Network Engineers
 - WAN Engineers
 - LAN Engineers
- Network Security Engineers
- VoIP/Telecom Engineers

Systems

- System Engineers
 - Windows Engineers
 - Unix Engineers
 - Linux Engineers
- Storage Engineers
- Backup Engineers
- Virtualization Engineers



Industry Trends

- Virtualizing Data Centers
- Reducing the physical footprint
- Outsourcing to public/private cloud providers

“Hottest” Trends

- “Converged Infrastructure” – Blade Servers such as Cisco UCS are becoming a critical component of the IT Infrastructure as it is the tool that ties together everything from VMware, Servers, Storage and Networking to allow Virtualization to be possible.
- Hybrid Cloud Model- Allows for employees and clients to access shared network information that would have previously been only allowed for direct employees.
- Storage- With the amount of data being produced today, storage of the data and recovering it is a massive initiative for companies in across all industries.



Questions for Candidates

- What % of your work is route/switch vs security vs load balancing
- How many servers are in the environment?
- What OS are the servers running?
- What routing protocols have you worked with?
- Are you working on the Command Line or GUI?
- What's the largest environment you supported (end users and machines)?
- How many servers/routers have you set up and configured from scratch?
How many did you maintain?
- Migrations, integrations or upgrades?
 - How large of a migration have you done?
 - How many workstations and/or servers were integrated into the network?
 - What type of upgrades have you done?
- How many remote sites are connected?
- Do you have experience with server virtualization? (VMware, Hyper-V, etc.)
- Do you have experience with NAS (network attached storage) or SAN (storage area network)?



Questions for Clients

- What is the size of the network this person will be working on? (Number of site locations, number of servers, workstations, etc..)
- What type of servers will this individual be working on?
- Will this individual be working at your customer sites or internal projects?
- What system and network management tools does your shop work with?
- How many users will they support? (# of servers, # of workstations)
- Will this individual be responsible for troubleshooting and diagnostics?
- Any certifications required?

