Agenda

- The Next Generation Data Center
- For a change: Let’s NOT talk about servers
- Brothers in Arms – an example
- The Next Step
- Cisco & Accenture
Accenture’s Next Generation Data Center Vision

The NGDC is a highly flexible, pooled resource, built on standards based component hardware, software and services

Evolutionary Forces

The NGDC Vision is ...

- pooled and virtualized infrastructure
- integrated heterogeneous environment
- automated technology and IT processes
- infrastructure provisioned dynamically
- optimized to provide elastic service on-demand
  - using predictive operations
- service oriented, focussing on business outcomes
- sourced internally and from services outside the firewall

Several maturing technologies enable the realization of the NGDC
The Next Generation Data Center
Reference Architecture

Business Service Management (BSM)

Service Catalogue
- Policy Rules
- Requests
- DC Model

Orchestration & Provisioning

Compute
- Windows
- Linux
- Sun Solaris
- Virtualization
- DMZs
- Red zone
- Yellow zone
- Green zone
- Storage Net

Storage
- SAN
- NAS
- Backup
- Archive

Network
- Orchestration & Provisioning
- Service Catalogue

Predictive Operations

Metering & Billing

Configuration Management Database (CMDB)

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Virtualisation = The integration of the services layer into the network

Capabilities that were previously limited to particular applications become shared services with SOA-based interfaces.
Beyond the server

- The natural extension of server virtualisation
- Providing full logical separation between environments
  - Increased security
  - Reduced risk
  - Increased flexibility
- Enhancing DC transformation by reducing costs & risk and increasing flexibility & availability
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Establishing a Dynamic Resource Management and Provisioning lifecycle is key.
In the Provisioning Lifecycle, resources are logically moved to the network zone representing its state.

1. Spare server or VM build begins. Machine deployed into Build VLAN, where it is prepared and configured for the target VLAN.

2. Machine is then switched onto target VLAN using existing soft VLAN technology, where it becomes operational.

3. When a machine is no longer required, it is moved into a quarantine VLAN where the hard drive is wiped securely to remove any persistent data or passwords.

4. Once the machine has been secured, it is moved back into the spare pool.
Permanent and static connection to the management network

Connection of Servers to the Network

- All server and storage infrastructure would initially enter the shared service via the POOL network – a holding area for spare capacity
- When requested the infrastructure components are provisioned into the BUILD network for configuration
- When ready for deployment the server components are redeployed into one of the LIVE networks. NAS would pass into a storage network of the same security classification
- When no longer required the infrastructure components are moved to the QUARANTINE network where data & applications are removed before the components is passed back to the POOL

- All networks are separated by firewalls
- A server/NAS is only attached to one of the four network zones at anyone time, in addition to the Management network.

Connection to the management network to allow the provisioning tasks and predictive operations control the deployment of the resource

- Data and storage network interfaces change according to both the security classification of the server and it’s location in the provisioning lifecycle (see above)
- A server/NAS is only attached to one of the four network quadrants at anyone time, in addition to the Management network.
- The server does not allow connections between the management and data networks to be bridged
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Service Virtualization

- Services are not bound to the physical underlying infrastructure.
- Moving further than traditional resource virtualization, service virtualization attempts to encapsulate all the virtualized components of an end-to-end business service and allow them to be managed as a unit.
- Provisioning lifecycle used to allocate/de-allocate pooled resources into the Service.
- Service no longer limited to traditional boundaries of the internal provider.
- Extends to the Cloud.
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Virtualization: server, network, storage
Products and Services

**Cisco Products**
- MDS 9500 series
- MDS 9200 series
- MDS 9100 series
- MDS Intelligent Fabric Applications
- Nexus 1000v
- Nexus 5000 Series
- Unified Computing System

**Services**
- SAN Assessment Service
- Director SAN Planning and Design Service
- Fabric SAN Planning and Design Service
- SAN Optimization Service
- Data Mobility Manager & design service
- Data Mobility Manager Support (SASU)
- Server Virtualization Service
- Virtualization Assessment
- Virtualization Accelerator
- Virtual Desktop Infrastructure Service
- Nexus 1000v Services
  - **UCS Accelerator Services**

**Third Party Products and Services**

**Storage partners:** to test and validate data center and SAN solutions
Cisco and Accenture work closely with multiple storage partners: NetApp, EMC, VMware


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