Cisco IT Global Cloud Strategy
Application Management on Cloud Ready Network

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IT Director Cisco Systems
Cisco IT at a Glance

- 93 Countries
- 458 Offices
- 139,317 Connected Stakeholders
- 60,900 Virtual Machines
- 4.8 Billion DNS Requests Per Day
- 13,630 UCS Blades
- 26 Data Centers
- 17,000 Containers
- 98 IT Services
- 3000 apps
- 500+ SaaS Apps
- <15 Min Infra Provisioning Time

Global Distribution of IT Staff:
- SJC 45%
- RTP 14%
- EU/EM 7%
- India 21%
- AM Other 6%
- AP Other 7%
- Global Distribution of IT Staff
The Journey
Digital Transformation Journey

ACCELERATOR
Global Cloud Strategy

FOUNDATION
- ITaaS
- DC Virtualization

DESTINATION
Secure Digital Business
Cisco IT Global Cloud Strategy

**Virtualization**
- Growth Enablement
- Service Transformation
- Resiliency (Build)

**Programmability**
- Speed
- App/Data Transformation
- Software-Defined Intelligence
- Capacity (Optimize & Extend)

2007 – 2015
Global Data Center Strategy

In Progress
Global Cloud Strategy
SDN

ACI
(Application Centric Infrastructure)
Defining and Applying Network Setup and Policy
Past vs. ACI

Define Setup And Policy
Translate Setup and Policy
Network and Policy Instantiate

Past
Weeks

ACI
Minutes

Faster Instantiation
Portability
Better Visibility
Re-Usability

permit tcp host 72.163.6.116 host 10.102.14.116 eq www
permit tcp host 72.163.6.116 host 10.102.14.116 eq 443
permit tcp host 72.163.6.116 host 10.102.14.116 eq 50124
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Multiple Devices:
Switches, Load-Balancers, Firewalls

Translate Setup
and Policy
Define Setup
And Policy

Vlan
Routing
Trunking
VIP
Listing port
Forwarding port
http SLB protocol
Servers to forward to

Application Network Profile
EPG: DB
EPG: App
EPG: Web

Tenant
Controller

Security Configuration
Network Switch Configuration
Load balancer Configuration

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**ALLN Data Center – Traditional vs. ACI**

### Traditional

- **Data Center Gateway** (7018)
- **DC POD Gateway** (7018/5672)
- **Access** (56XX)
- **Service Switches** (6509)
- **Load Balancers**
- **IP Storage POD**
- **4 PODs**

### ACI Fabric

- **Spines** (9336)
- **Leafs** (9318)
- **Compute**
- **Storage**
- **Service**
- **Load Balancers**
- **IP Storage**

### Function Count Table

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Data Center ROI for ALLN

Greater Business Agility  | Lower Capital Expenses  | Reduced Costs/Complexity  | Lower Operating Cost  | Increase Data Center Space  | Resource Optimization

- 67%*  | 67%  | 21%  | 91%  | 66%  | 20%

- Reduce Network Provisioning  | Reduce Network CAPEX  | Reduce Network Management Cost  | Reduce Network Power and Cooling Costs  | Reduce Network Footprint  | Optimize Infrastructure

*excluding ACC self-service
**on target for projected
IaaS/PaaS
Cisco IT Elastic Infrastructure Services
Solution Components

Cisco One
- Prime Service Catalog
- Cisco Process Orchestrator
- Automation Packs
- Provisioning Automation
- Self-Service—Service Catalog

Resource Managers
- Enterprise Management
  - Address Mgmt, Host Mgmt, Puppet, Incident Mgmt, Change Mgmt
- Integrated PaaS
  - Lightweight App
- Cloud Management
  - vCenter, OpenStack
- Storage Management
  - EMC, Ceph
- Network Management

Cisco UCS
- DC Resources
Cloud Applications

Cisco Renewals
Use Case
Application Evolution

Cloud-Tolerant
(Functional in a Cloud Environment)

Actions done TO the application

Cloud-Ready
(Flexible Application Leveraging Cloud Capabilities)

Actions done FOR the application

Cloud-Native
(Intelligent Application That Maximizes Use of Cloud Capabilities)

Actions done BY the application

Infrastructure-Centric

Application-Centric
Existing Application Converted to Cloud Native
Cisco Renewals

Oracle ERP

Cloud Native/Open Source

Oracle ERP
Cloud Native Outcomes

User Experience
1. 5X to 20X increase in Response Time
2. 20X less Downtime

Velocity
1. 4X – Major Releases
2. 25X – Minor Releases
3. 10X – Problem Resolution

Cost Reduction
1. 25X Fast Infra Scalability
2. Open Source/Automation
3. 10X Software Upgrades
4. 50X New Services
One Platform, multiple use cases

Network Flows + Server-level Information + Analytics

Use Cases

Applications Insight
- Dependency Mapping
- ACI Migration (whitelist)

Application Monitoring, Performance
- Benchmarking on the Network
- Deviation Detection

Security & Auditing
- Auditing
- Security Enforcement
- Policy Verification ~ ‘what if’
- Threat Detection

CMDB accuracy
- Inventory (Service Now)
- Increase Operational Insights
- Unused infrastructure (?)

Tetration Analytics Engine
The **TRANSACTION** is one of the best measures of user experience and business impact.

Source: AppDynamics

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The Flow map | Scorecard View
Drilling down into code level
Business Value Realized

10X faster Detection & Root Cause ID
- MTTD
- MTTR

15% fewer cases

4X easier
- Narrow Fault Area
- Self-Service
- Ease of Use
- Speed

Simplification

Cost

30% Cost savings

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Lessons

- Transform the organization to be hands-on. Need a mindset to code.
- Need to use the right tool for the right problem and that tool is not one tool.
- Automation of infrastructure is key.
Cisco IT Multi-Cloud Strategy