Technology Keynote
Software Defined Networking

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The new application economy: video intro

https://www.youtube.com/watch?v=9Ai5TTTVTyWc
The Only Constant Is Change

Technology Transitions

- Mobility/Video
- Cloud
- New Breeds of Apps
- Internet of Things
- Big Data and Analytics

New Model of IT / Simple. Smart. Secure.

Business Implications

- Growth and Productivity Opportunities
- New Business Models
- User Experience and Expectations
- Globalization
- Security and Regulatory Compliance
Challenges: Scale, Complexity and Security

IT today

• IT is reactive and slow (~80% of IT time spent on operations)
• IT lacks business relevancy
• IT plays a security catch up game

New model: Fast IT

• Simplicity & Agility - IT automation reduces operational cost and improves IT response time
• Smart Innovation - IT intelligence and analytics enable business innovation
• Security - automated policy and integrated security, handle threats before, during and after attacks
Do networks really keep up with applications?

A New Programming Paradigm is Needed
Can network operations be enhanced?

Box by Box
Manual Configuration

Security  QoS  Path Optimization
Towards a closer integration
Infrastructure – Applications

Fully Distributed Control Plane: Optimized for reliability

Hybrid Control plane: Distributed control combined with logically centralized control for optimized behavior (e.g. reliability and performance)
How are we going to do this?

- Physical & Virtual Infrastructure
- Applications/Services
- Automated Infrastructure
- Provisioning
- Integrated Element Management
- Policy-based Infrastructure Security
- Open Development
- Environment Platform
- Service Management and Orchestration
- Application Security, Policy & Compliance

Application Enablement Platform

Application Centric Infrastructure

Glue: Unified Platform
How are we going to do this?

Applications/Services

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<th>IaaS/PaaS</th>
<th>Mobility</th>
<th>Collaboration</th>
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Application Enablement Platform

Application Centric Infrastructure

Focus on ACI
Cisco ACI intro

CISCO ONE PLATFORM
Consistent Policy-Based Management and Security

Northbound APIs (RESTful) NEW

Cisco Application Policy Infrastructure Controller (APIC)

Enterprise Module NEW

Southbound APIs (OpFlex, CLI)

DC

WAN

ACCESS

Cloud

InterCloud

Physical and Virtual
Common Policy Engine
Network Wide Security and Services
Investment Protection
Flexible Licensing

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Application Centric Infrastructure: Use cases

Security Automation
- Network-Wide Rapid Threat Detection and Mitigation (Sourcefire)
- ACL Management Automation

QoS Provisioning
- Easy QoS
- Follow Me QoS
- Compliance Assurance

IWAN: Path Optimization
- Automated Performance Routing (PfR) Configuration
- Automated WAN Policy Compliance Assurance

Solving the Most Pressing, Complex and Tedious IT Problems
Buying ACI: Cisco ONE Software Suites

- **Security suite:** Comprehensive Security and Threat Defense
  - Advanced Data Center Security
  - Multi Data Center & Cloud Services
  - Network Security & Threat Defense
  - Voice Gateways & Voice Services
  - Advanced Routing & L3 Services
  - Mobile Location & Analytics Services

- **Data Center suite:**
  - Physical & Virtual Fabric
  - Network & Compute Management
  - Converged Infrastructure

- **WAN suite:**
  - Secure Connectivity and Firewall
  - App Visibility, Control & Optimization
  - Network-wide management

- **Access suite:**
  - Converged Wired & Wireless
  - Access Policy-Based Access Control
  - Network-wide Management

**ACI Controller (APIC) + Open APIs**

Compute, Network, Storage (Physical and Virtual)
Conclusions

IT is changing (whether we want it or not)

• Less complex (abstractions)
• Programmable (APIs)
• Automated
• Faster
• More Secure
• More innovative – meaningful for the business

Cisco ACI integrates the applications and the infrastructure
Fast IT: video close

https://www.youtube.com/watch?v=qMOpoENRKbQ