

IOS Software Feature Sets

- Three IOS feature sets
 - IP Base
 - Layer 2 Forwarding
 - Base IPv6 Services
 - Basic Routing
 - Security
 - IP Services
 - Full EIGRP and OSPF Routing
 - Multicast Routing
 - Policy Based Routing
 - Advanced IP Services
 - IPv6 Routing



Advanced Diagnostics



Generic On-Line Diagnostics (GOLD)

- Performs a series of internal self tests to verify the state of hardware components
- Saves time by finding the cause of hardware errors quickly
- Diagnostics can be run manually or on an automatic schedule

On Board Failure Log (OBFL)

- Collects operational data (voltages, temp, etc.) and stores data in switch
- Data can be provided to TAC or repair personnel for faster troubleshooting

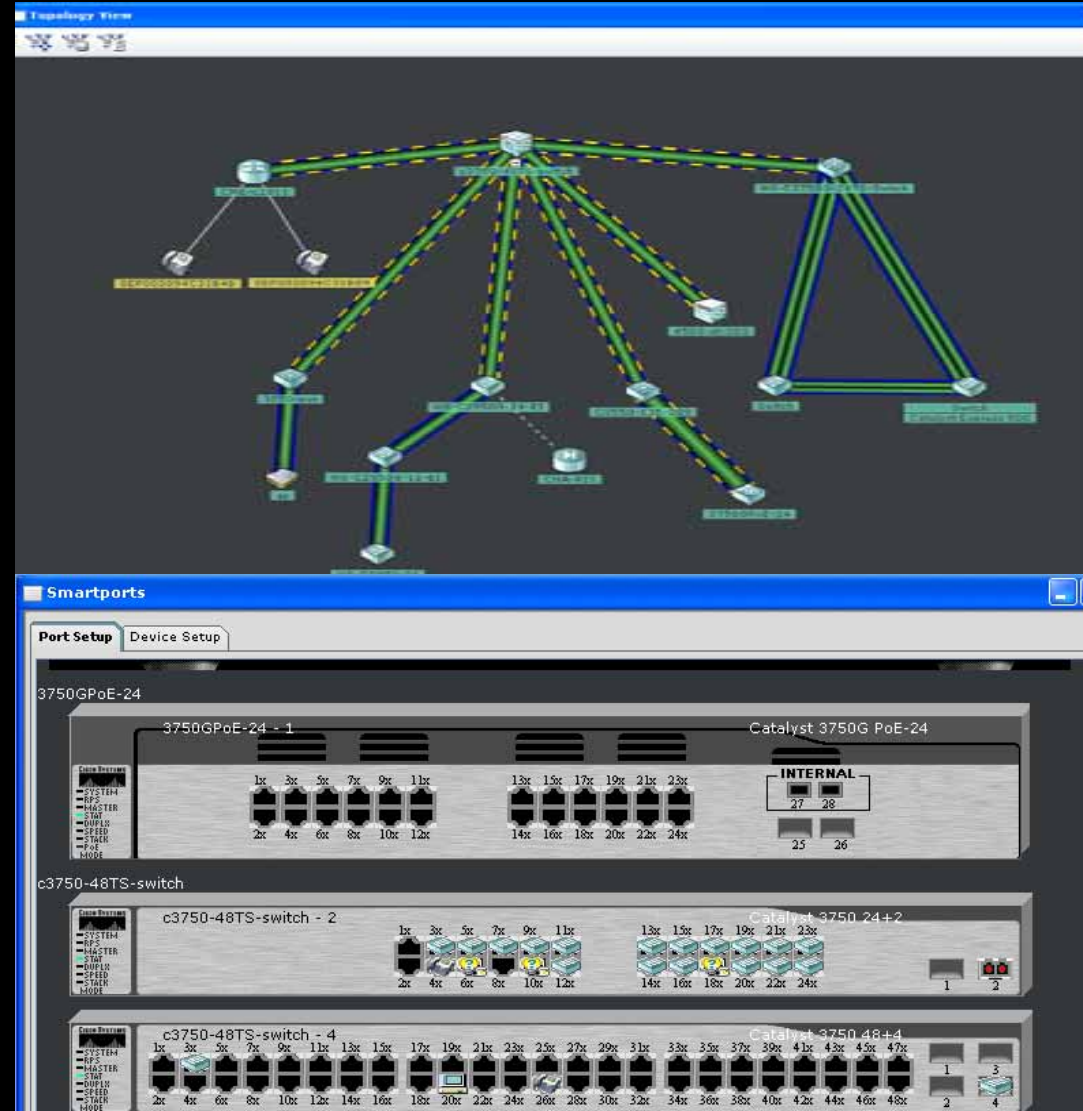
Network Management

- Cisco Network Assistant
Intuitive GUI easily applies common services across Cisco switches, routers, and access points
- CiscoWorks LAN Management
Network discovery, mapping, monitoring, diagnosis, and Cisco IOS Software deployment
- CiscoWorks Network Compliance Manager
Change, compliance, and configuration manager enabling scheduled and automated network changes
- Cisco Secure Access Server
Protects the network from unauthenticated access



Cisco Network Assistant Release 5.0

- Supports Switches, Routers, Access Points, IP phones & PIX
- Configuration, Monitoring and Troubleshooting
- Supports up to 40 devices
- Highlight your VLANs, Telnet to devices, Drag-n-Drop IOS upgrades
- Localized in French, Italian, German, Spanish, Chinese and Japanese
- **Free download**
www.cisco.com/go/cna



Summary

- The Catalyst 3750-E and 3560-E complement the existing Catalyst 3750 and 3560 Series switches
- The Cisco TwinGig converter module makes it simple to upgrade to 10GE uplinks without having to upgrade the switch
- StackWise Plus provides higher throughput and backwards compatibility
- PoE support is improved through innovative power supply options and redundancy
- Out of Band management and improved diagnostics simplify administrative tasks
- These features combine to improve performance, availability, manageability, and provide investment protection

Comprehensive IPv6 Support

- IPv6 provides several benefits
 - Larger address space
 - Dynamic Addressing
 - Mobility
- Full IPv6 Support
 - Unicast Routing
 - Multicast Routing
 - ACLs
 - QoS, including match on label
 - MLD Snooping



Jumbo Frames

- Optimize forwarding performance with larger frame sizes
- Larger segment size is a key factor in improving TCP throughput performance
- Larger frames reduce the computation overhead on host systems

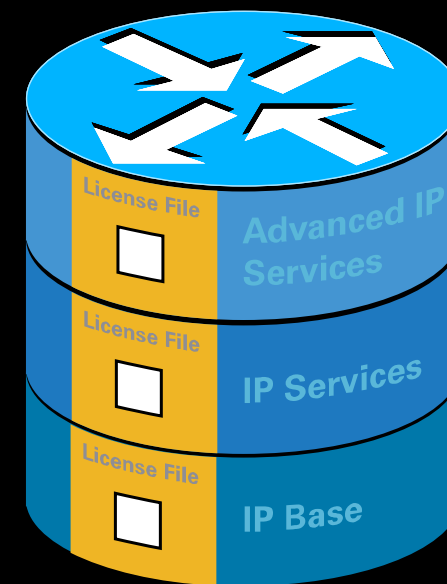


Backwards Compatibility

- **The Catalyst 3750-E can be stacked with the Catalyst 3750**
- **The mixed stack runs at the original StackWise speed – 32Gbps**
- **Certain 3750-E features cannot be enabled in a mixed stack**
- **A 3750 can not join a 3750-E stack if it does not support 3750-E features already in use**
 - Port level features do not affect processing on a 3750**
 - System level features can affect the processing 3750**
- **A “feature mismatch” state occurs when a system level feature is being used in a stack which is not supported by a newly added Catalyst 3750**
 - In this case, a 3750 cannot be added until the feature is disabled**

Licensing: Universal Image Overview

- A “Universal” IOS image is loaded by manufacturing
 - Image contains all IOS features
 - K9 crypto version available from software center
- License enables a specific feature set
- Customers only change their license to enable a different feature set



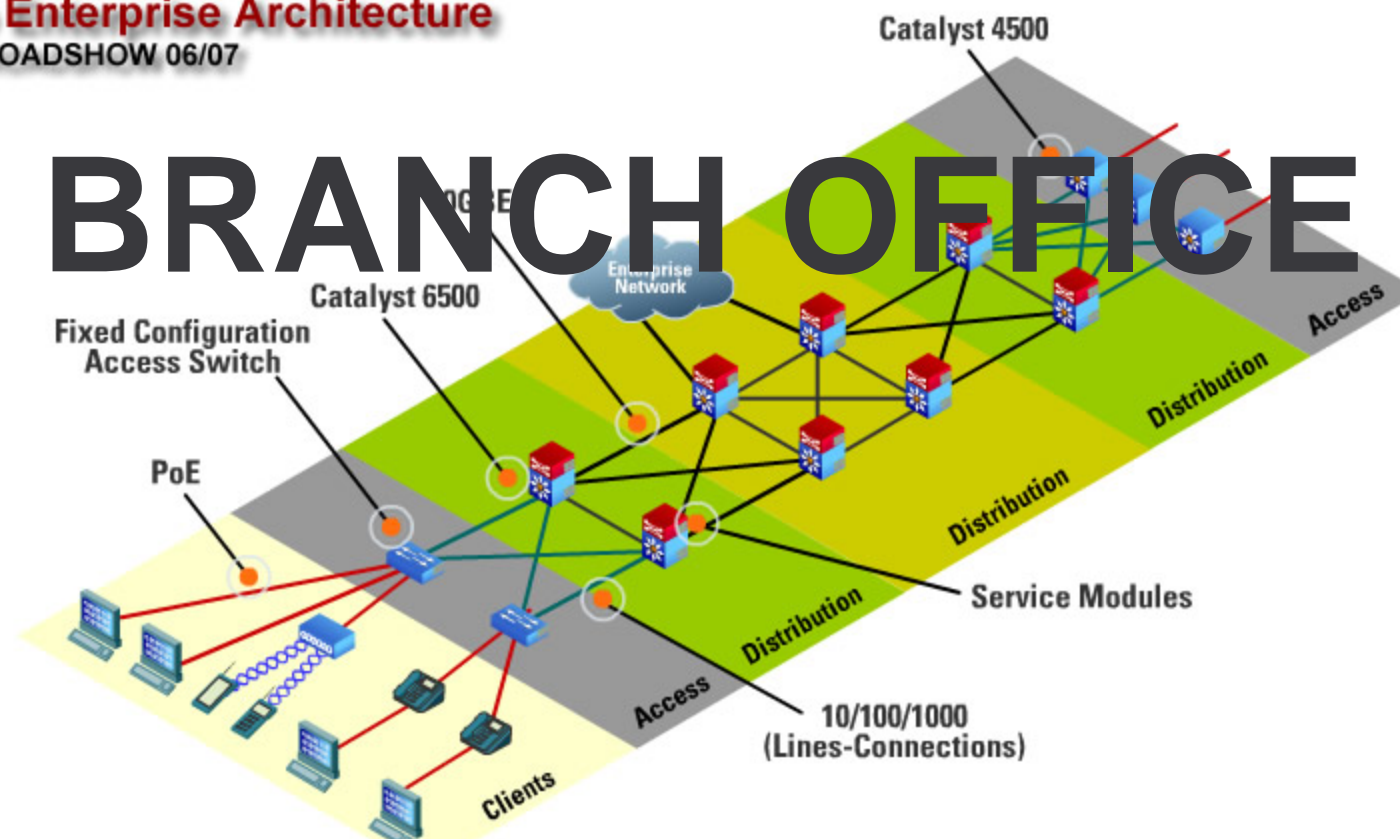
Universal IOS
Image

Cisco IOS Software Licensing

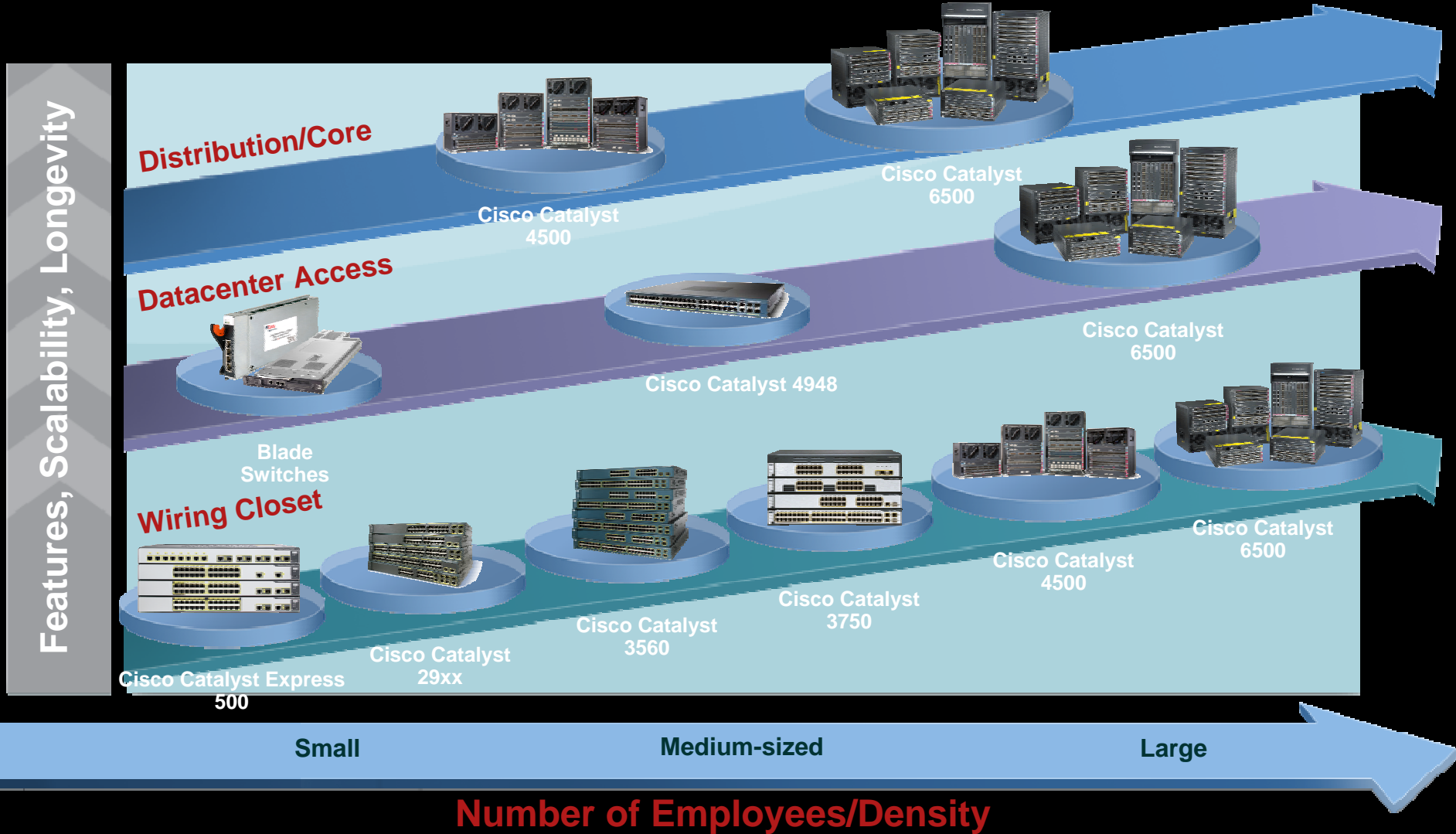
- Enables usage of IOS feature sets
 - Three feature sets - IP Base, IP Services and Advanced IP Services
 - License for each switch, including those in a stack
 - Licenses are locked to the switch's unique device identifier (UDI)
 - Licenses do not expire
- Licenses are installed during manufacturing
- Customers can upgrade IOS feature sets with a new license through CCO
 - Web-based portal
 - License management application
- Trouble-shooting and RMA support
 - Customers can order and spare "like for like" replacement devices
 - Replacement licenses can be generated if needed

CATALYST 2960

BRANCH OFFICE



Cisco Catalyst Switching Portfolio



Cisco Catalyst 2960 Series Switches

Positioning

- Offers entry-level, enterprise-class, fixed-configuration switching line optimized for access layer deployments requiring intelligent services
 - Fast Ethernet and Gigabit Ethernet to the desktop configurations
 - Ideal for entry-level enterprise, midmarket, and branch-office environments
- Enables the deployment of networkwide intelligent services
 - Availability
 - Enhanced security
 - Advanced quality of service (QoS)
- Express Setup and Cisco® Network Assistant software supports easy deployment and configuration
- Supports familiar Cisco IOS® Software
- Uses Cisco ASICs for superior hardware and software integration and innovative features
- Limited Lifetime Hardware Warranty



Cisco Catalyst 2960 Series Model Overview

Cisco® Catalyst® 2960G-24TC



- 20 10/100/1000 ports
- 4 dual-purpose uplink ports

Cisco Catalyst 2960G-48TC



- 44 10/100/1000 ports
- 4 dual-purpose uplink ports

Cisco Catalyst 2960-24TC



- 24 10/100 ports
- 2 dual-purpose uplink ports

Cisco Catalyst 2960-48TC



- 48 10/100 ports
- 2 dual-purpose uplink ports

Cisco Catalyst 2960-24TT



- 24 10/100 ports
- 2 10/100/1000 uplink ports

Cisco Catalyst 2960-48TT



- 48 10/100 ports
- 2 10/100/1000 uplink ports

Software

• LAN Base Image

Enterprise-class intelligent services:
Advanced QoS, enhanced security, high availability

Uplinks

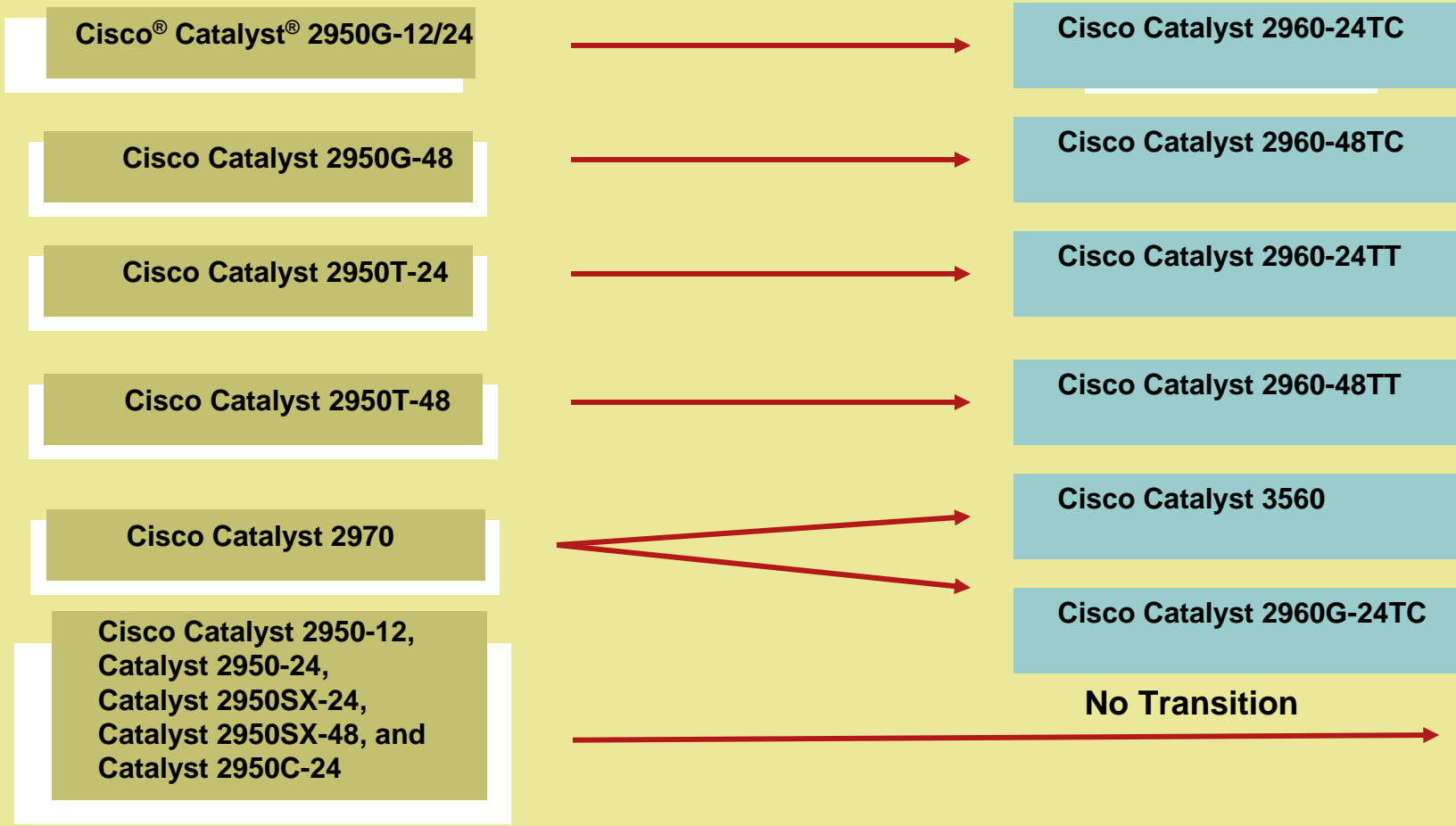
• Dual-Purpose Uplinks

One 10/100/1000BASE-TX port and one SFP port

One port active at a time

Cisco Catalyst 2950 and Catalyst 2970 Transitions

Model Transition/Positioning



Cisco Catalyst 2960 Supported Small Form-Factor Pluggable Modules

1000BASE-SX

1000BASE-LX

1000BASE-ZX

1000BASE-BX

CWDM SFP

100BASE-FX-GE

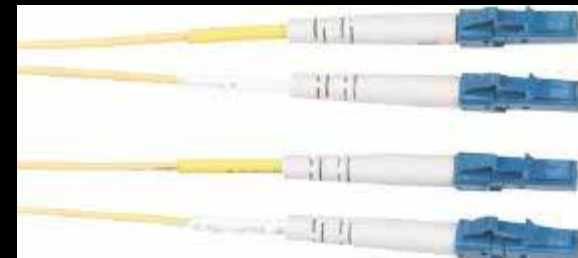
100BASE-FX-FE

100BASE-BX-10U

100BASE-BX-10D

100BASE-LX

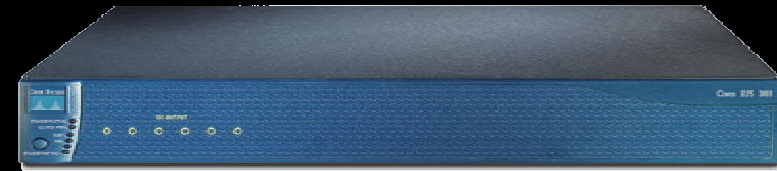
SFP



LC Connectors

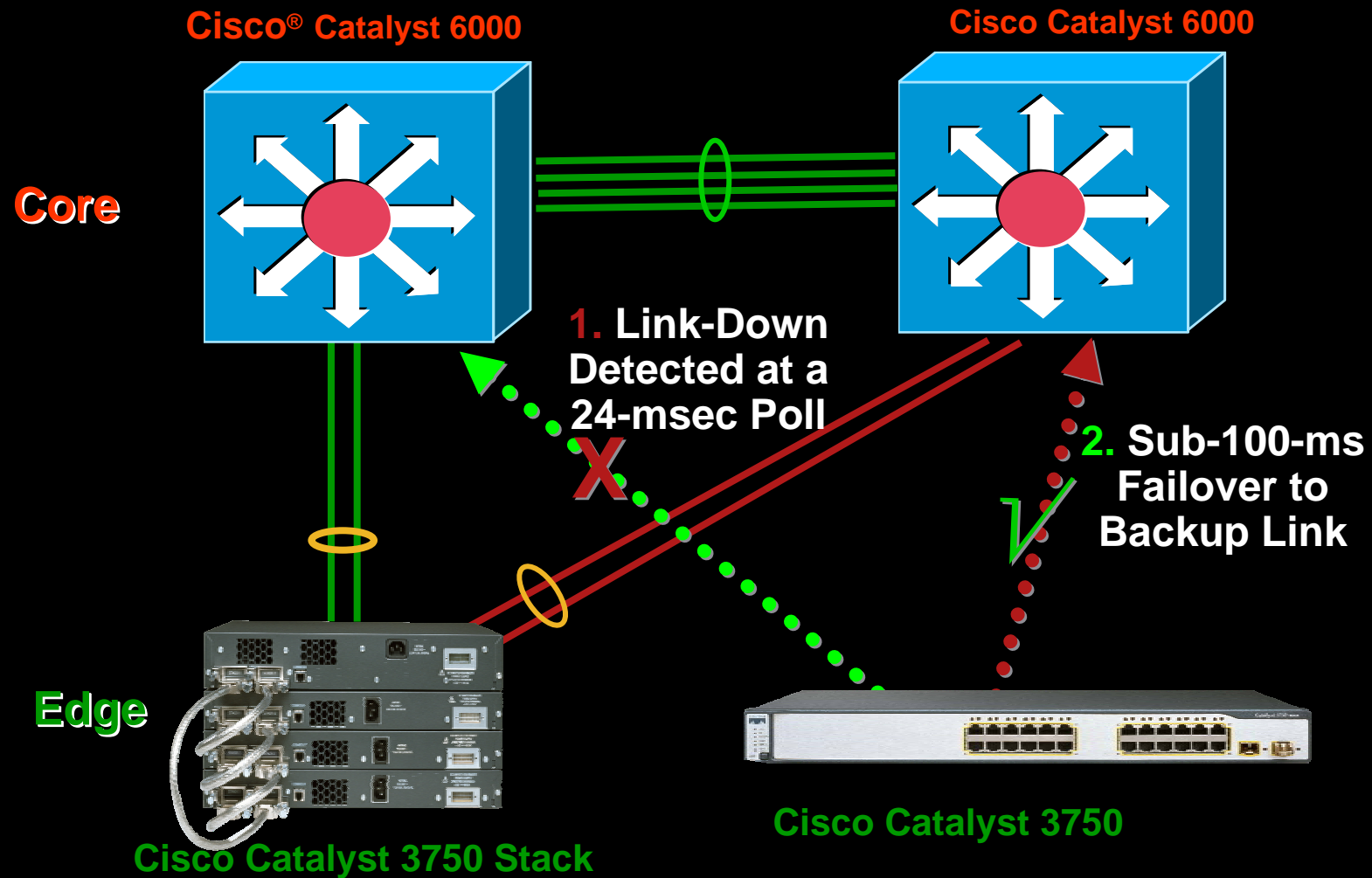
Higher Availability with the Cisco Redundant Power System 675

- Offers internal power supply redundancy
- Senses failure and delivers uninterrupted power to device
- Supports up to six Cisco® networking devices, including all Cisco Catalyst® 3750, Catalyst 3560, and Catalyst 2960 Switches
- Offers small form factor—1RU
- Provides 675W (300W 12V system power, 375W 48V inline power)
- Automatically resets into standby mode when the failed unit is replaced with a new unit



Cisco RPS 675

How Flexlink Works



Cisco's Layered Management

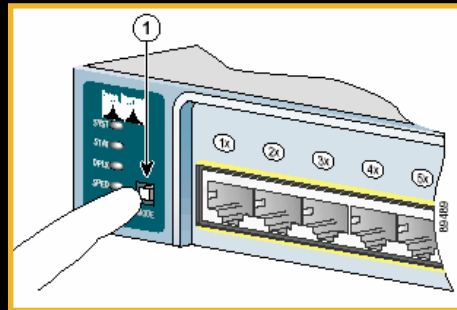
Express Setup



Device Manager



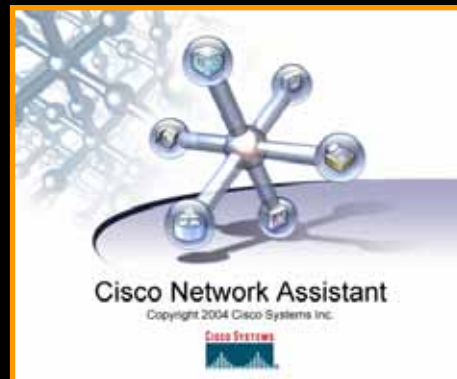
Cisco Network Assistant



Make the switch manageable



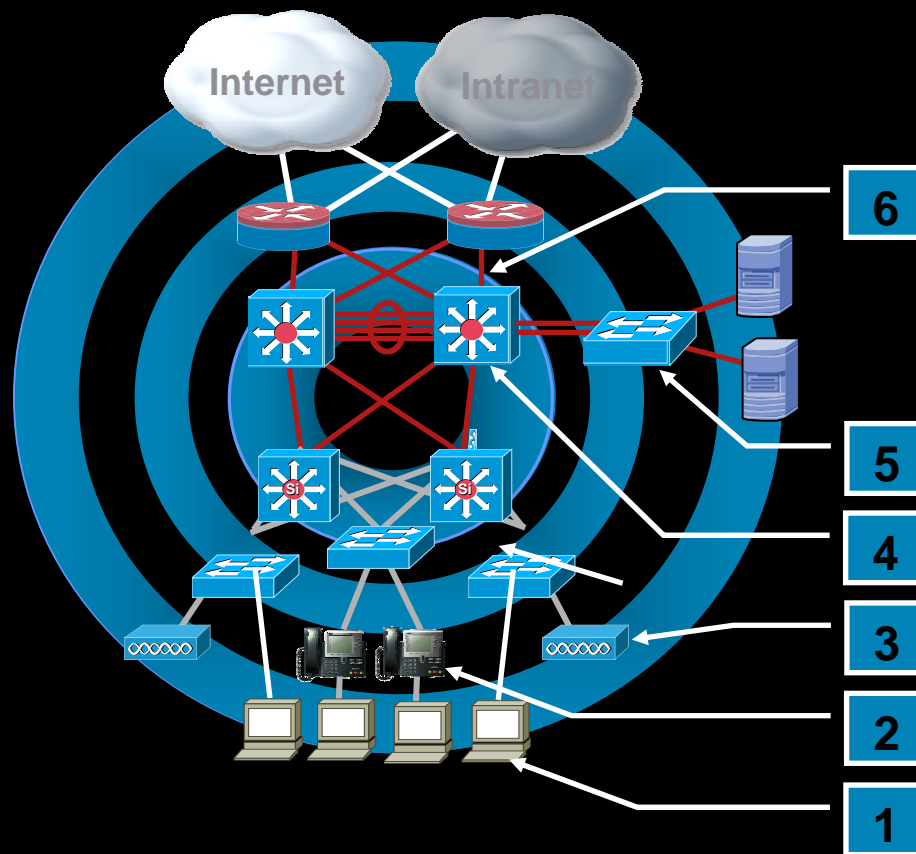
View and configure one switch



View and configure a small network

Smartports Connection Types

Covering Network Needs



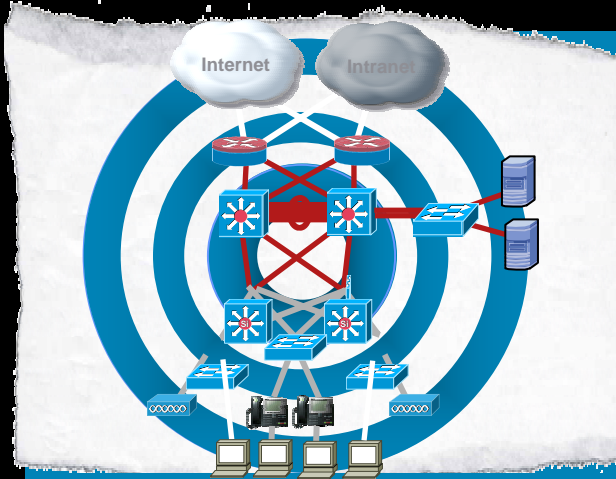
Smartports creates a role for the port depending on the connection.....

Basic Network Connection Types

- 6: Uplink to Router
- 5: Connection to Server
- 4: Inter-Switch Trunk
- 3: Access Point
- 2: Standard Desktop
- 1: IP Phone + Standard Desktop

Standard templates can be applied for on a per-role basis, by applying sophisticated Layer 2 and Layer 3 features and Cisco best practices

The Business Relevance of Cisco Smartports



Benefits

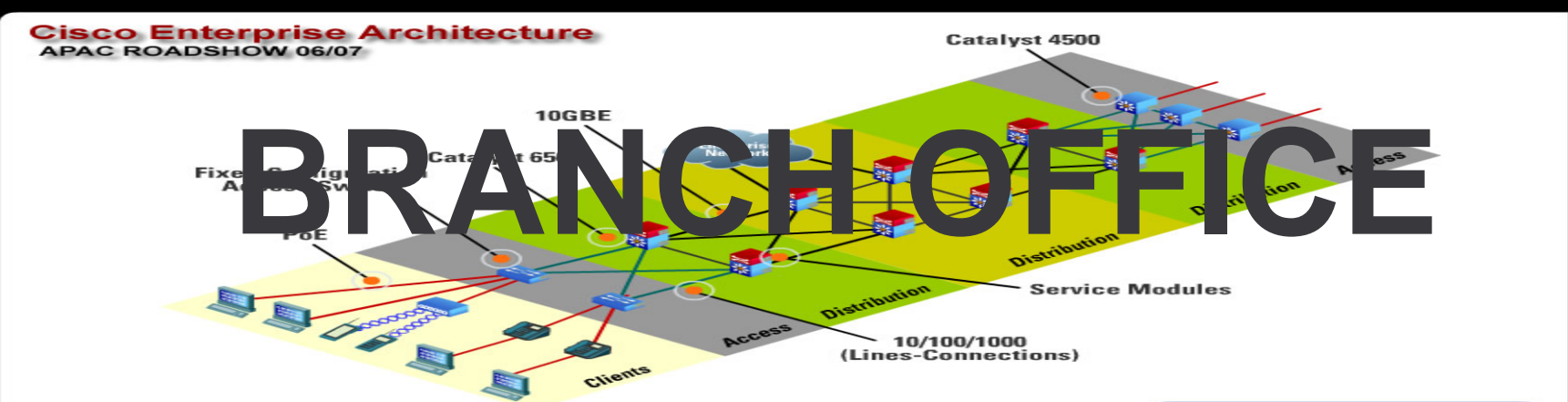
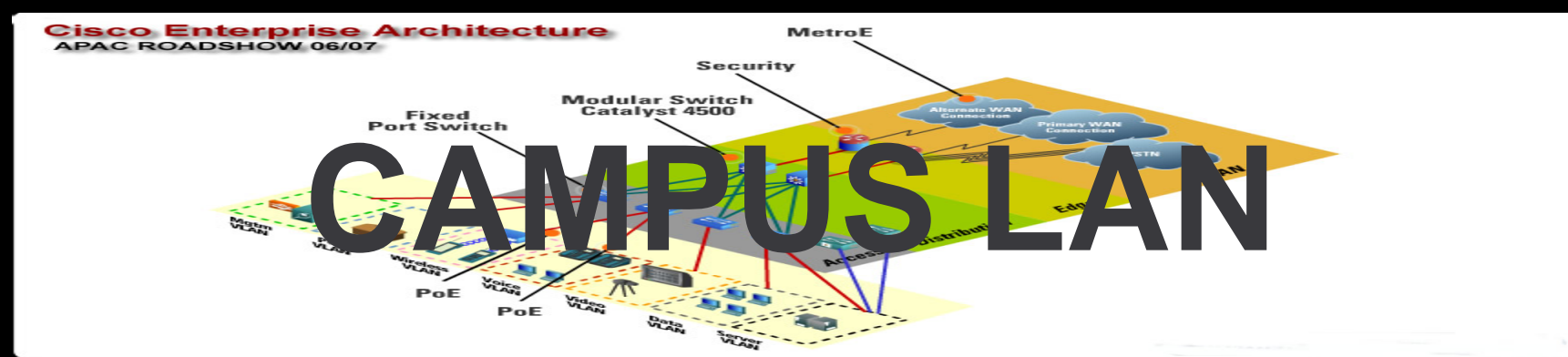
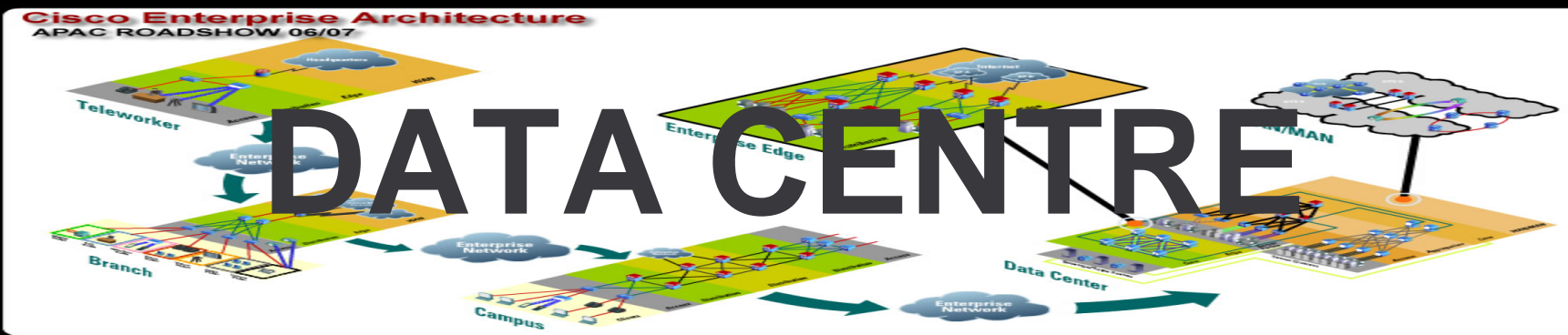
- Simplified feature deployment
- Less chance of errors
- Deployment consistency across the network
- Greater value from the intelligent network through Increased feature usage

Cisco® Smartports Allows for Simple and Accurate Deployment of High-Value Network-Optimizing Intelligent Features.

What It Does

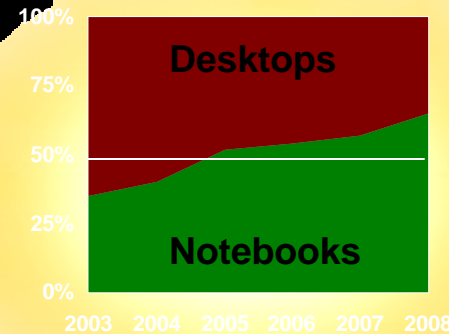
- Preconfigured macros enables fast and easy configuration of advanced Cisco Catalyst® intelligent capabilities
- Quickly enables QoS, security, and availability features with a single command
- Offers granular flexibility on a per-port basis
- Offers ability to create customized macros

Cisco Unified Wireless Network



From Internet to Mobility Age

Reaching the tipping point...

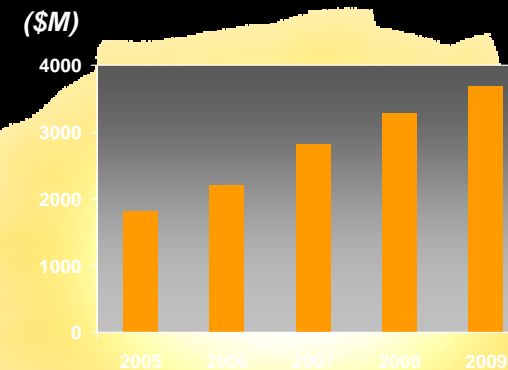


More notebooks sold than desktops

Cisco.
Compatible



*95% of notebooks
Wi-Fi enabled*



*WLAN Market nears
\$4bn by 2009*

Mobility is Changing....

The Way We Do Business



1950s-1990s
Letters and inter-office
memos



1990s-2002
Voice Mail and Email provide
“Same Day” response



Today
Real-time interaction –
Instant Messaging, two-way
text paging, Blackberry, etc

*Today's Business Climate Requires Anywhere, Anytime
Connectivity*

Unification: History Repeated

2005+

- Common platform for intelligent services
- Greatest efficiencies and lowest TCO
- Extensive application support common across entire network



Unified Network Services

Unified Wired & Wireless Network

Enterprise Communications Infrastructure

2000s – 2005s

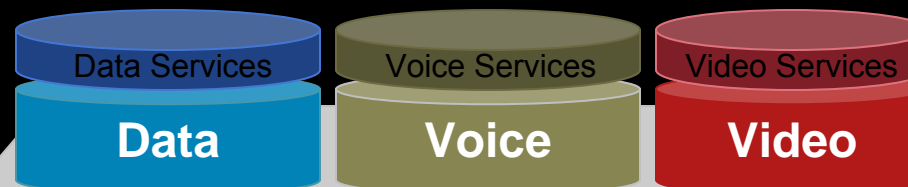
- Converged IP network lowers TCO
- Some application efficiencies, not optimized
- Overlay wireless remains a support and management burden



Enterprise Communications Infrastructure

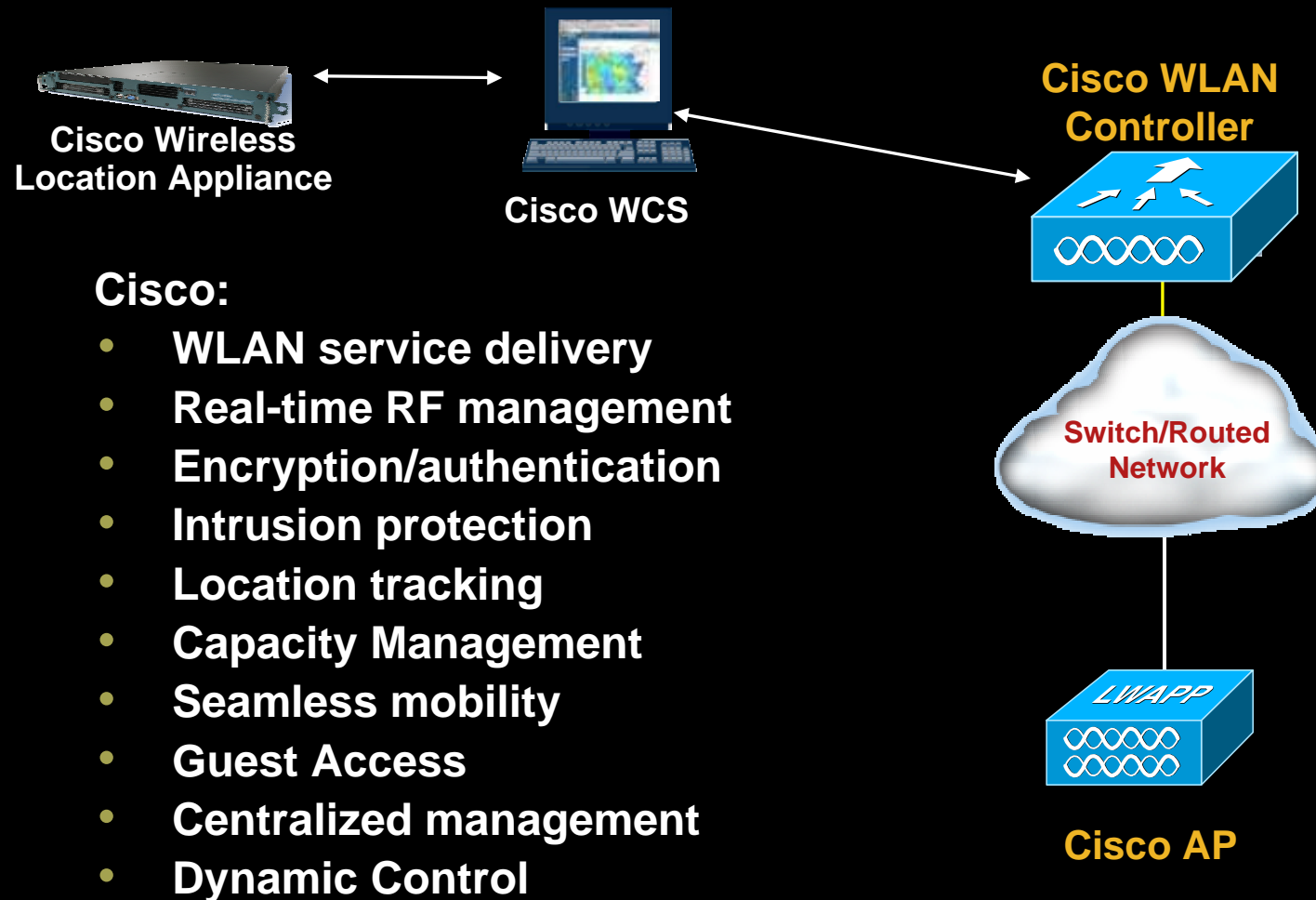
1980s – 2000s

- Separate communications networks
- No common services
- High support costs and limited efficiency
- Siloed applications



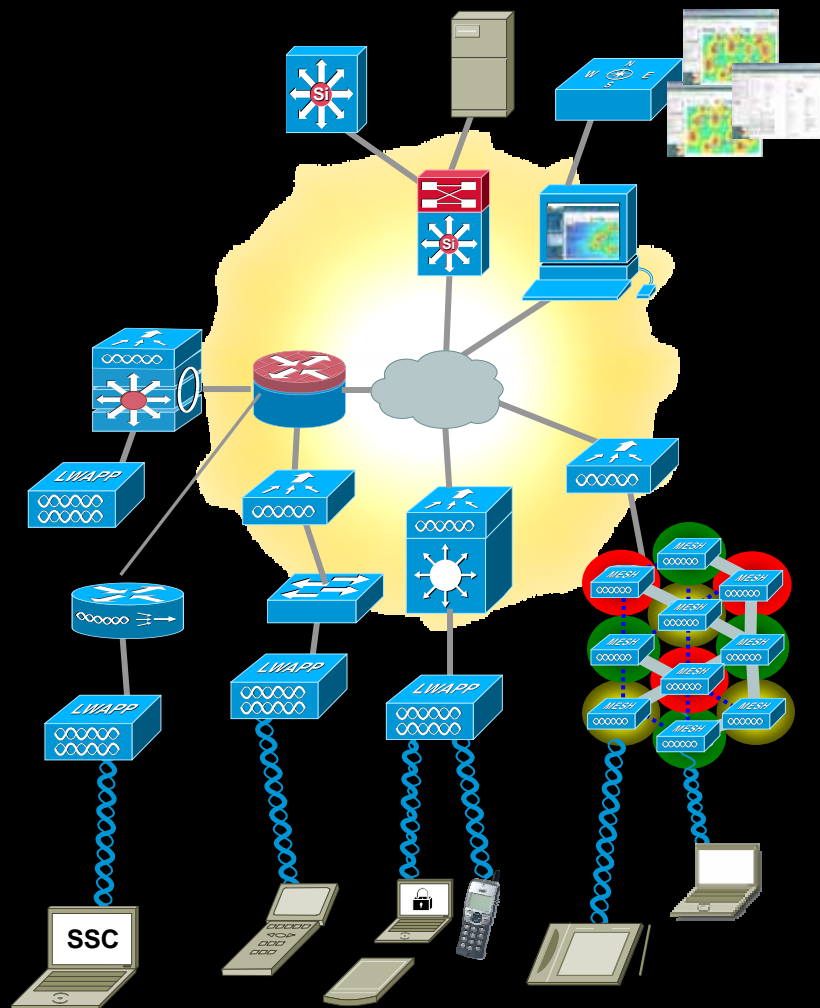
Enterprise Communications Infrastructure

A Unified WLAN System



Cisco Unified Wireless Network

End-to-End, Unified – Only Cisco



Wireless LAN Mobility Services

Unified cellular and Wi-Fi VoIP. Advanced threat detection, identity networking, location-based security, asset tracking and guest access.

World-Class Network Management

Same level of security, scalability, reliability, ease of deployment, and management for wireless LANs as wired LANs.

Network Unification

Integration into all major switching and routing platforms. Secure innovative WLAN controllers.

Access Points

Ubiquitous network access in all environments. Enhanced productivity. Proven platform with large install base and leading market share. Plug and Play.

Client Devices

95% of Wi-Fi silicon is Cisco Compatible Certified. Cisco SSC delivers uniform security and services for wired and wireless connections

Wireless LAN Mobility Services

Security



- Automatic, 24 x 7 security and compliance monitoring for breaches via wireless medium
- Network access control based on user location

Guest



- Guest networks for customers, partners and auditors
- Vendor replenishment networks
- Public access networks

Voice



- Real-time mobile voice communications
- Improved collaboration via mobile unified communications
- Faster customer service response

Location



- Asset management
- Location-based content distribution
- Streamlined workflow using historical location data

Pervasive Wireless Network