



# MAN Architecture

## How Cisco IT Architected Headquarters MAN



## A Cisco on Cisco Case Study: Inside Cisco IT

# Overview

- **Challenge:** Rapid growth and IP telephony required a new standard platform for the Cisco® desktop network in San Jose
  - Single platform easier to manage and maintain
- **Solution:** Cisco Catalyst® 6500 Series Switch and Gigabit Ethernet
  - Catalyst 6500 Series supports switching, routing, IP telephony
  - Gigabit Ethernet provides greater bandwidth
- **Results:** Higher availability, lower support costs
  - Standards reduce downtime and management costs
- **Next Steps:** New Cisco Catalyst 6500 Series modules
  - Added bandwidth, firewall, content switching, and Secure Sockets Layer (SSL) performance based on new Catalyst 6500 Series

# Challenge: Growth and Voice Convergence

- Rapid Growth

Cisco® experienced rapid growth; supporting multiple platforms added management costs

Fiber between sites was limited, but bandwidth needs kept growing

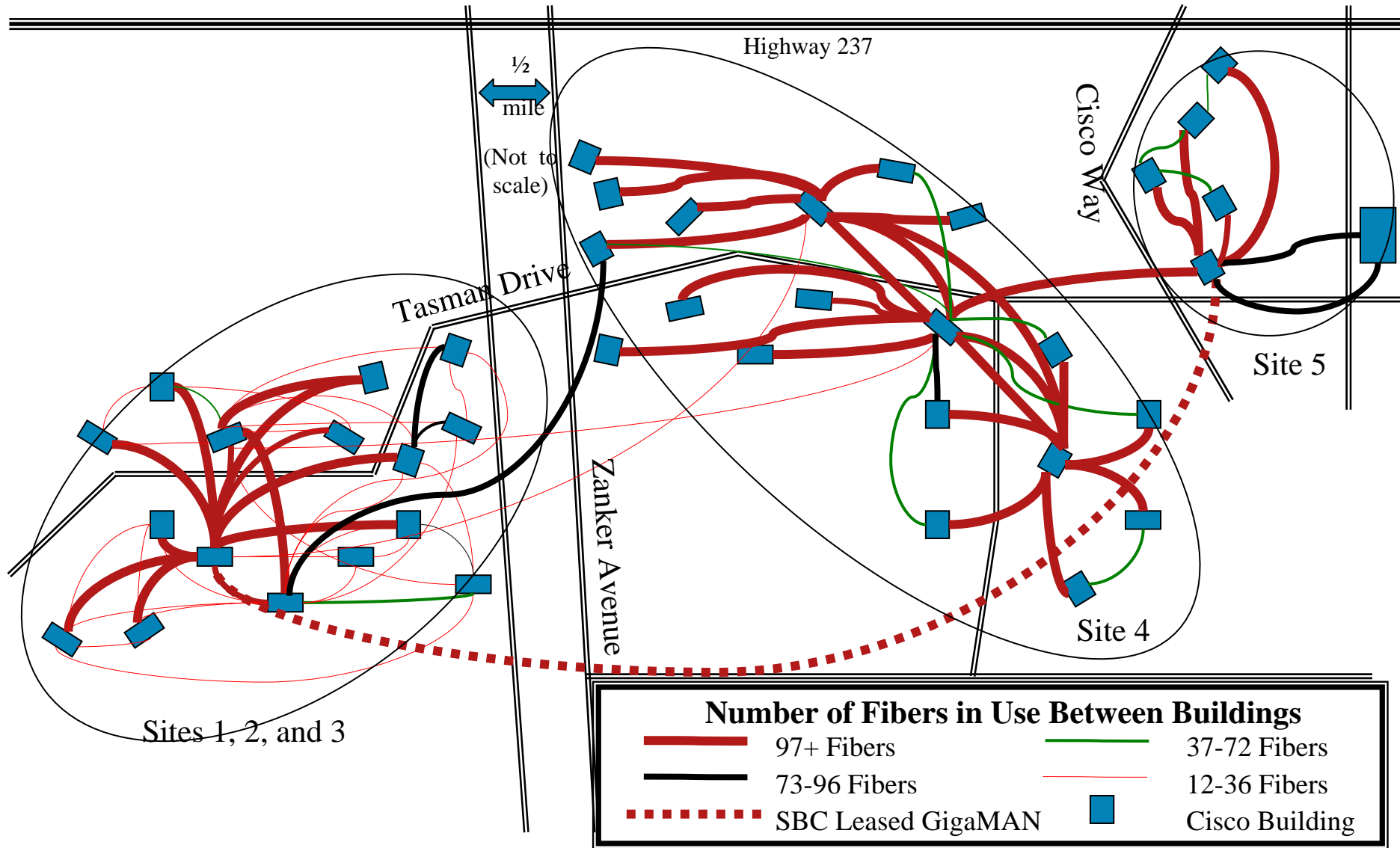
- Convergence

Migrating voice applications to data networks required an IP telephony ready platform

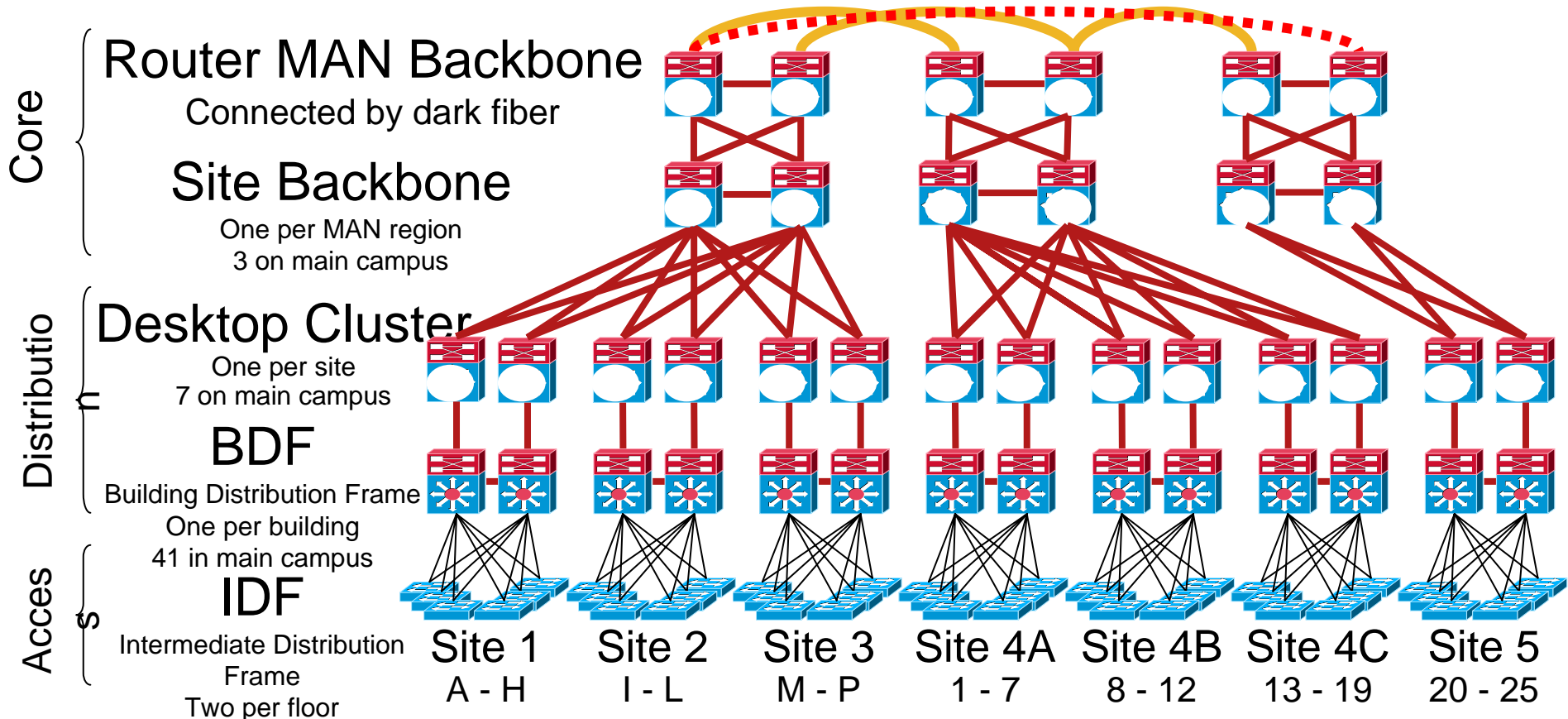
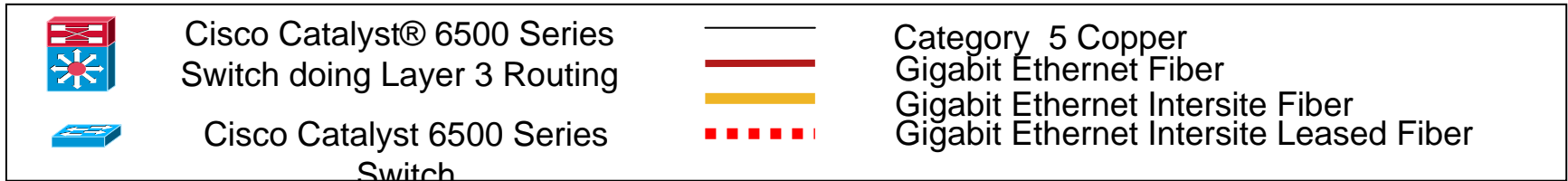
# **Solution: Catalyst 6500 Series Switch and Gigabit Ethernet**

- Cisco® Catalyst® 6500 Series switch selected
  - Provided high-speed switching at desktop
  - Provided in-line power for IP telephony, wireless LAN
  - Provided routing capability in hierarchical desktop network
- Gigabit Ethernet selected
  - Bandwidth to spare for growth and new applications
  - Supported with Catalyst 6500 Series line cards
  - Dual pathing available using dark fiber in most routes on campus
  - Backup path using vendor “GigaMAN” service where dark fiber is not available

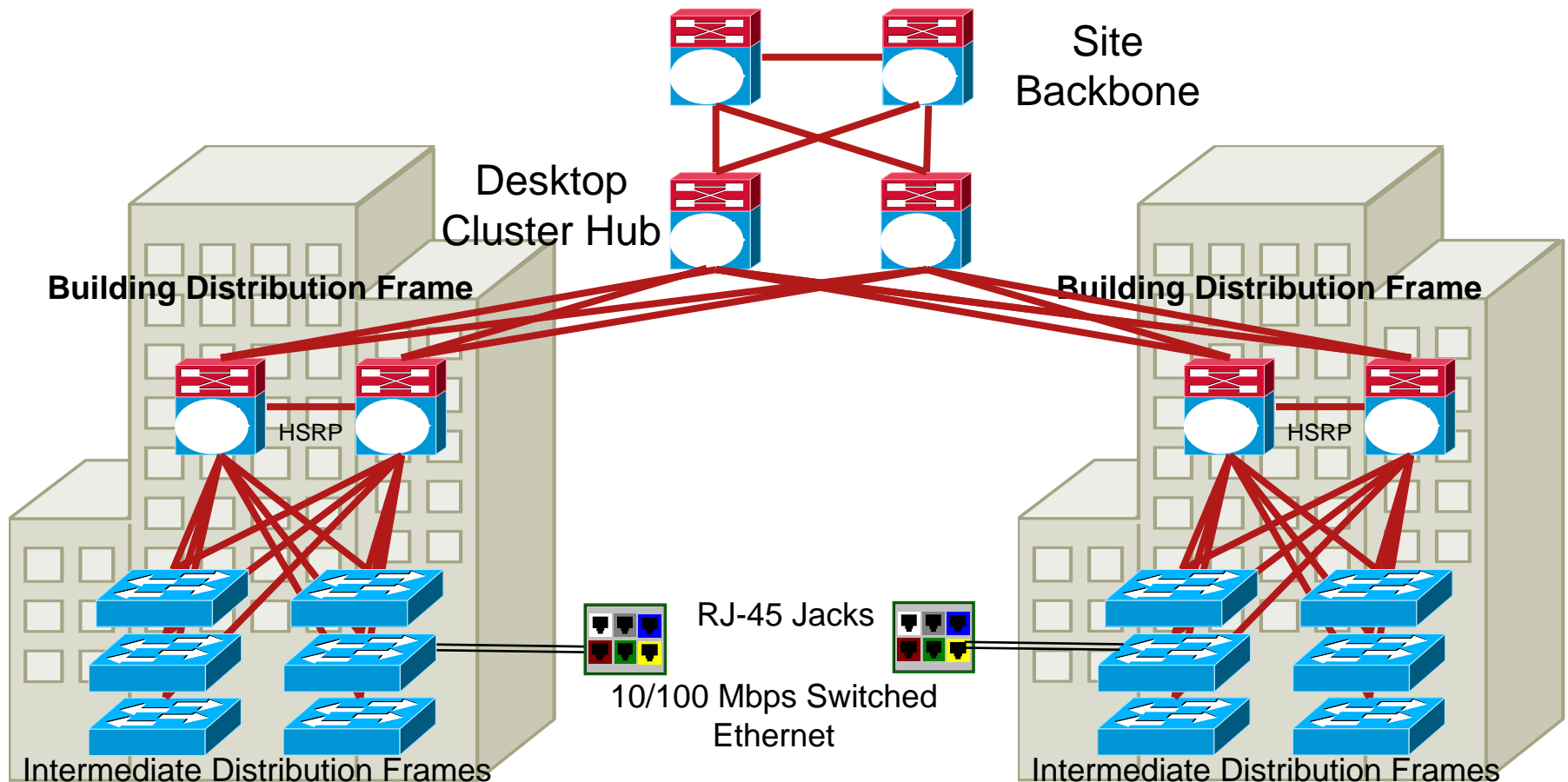
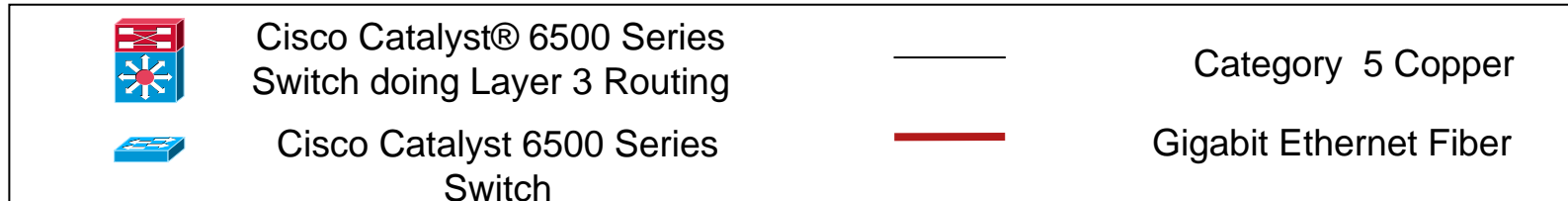
# Solution: Gigabit Ethernet on Dark Fiber



# Solution: Hierarchical Router/Switch Topology



# Solution: Building Topology – Routing and Switching



# Results: Benefits of the Standards

- Greatly improved availability
  - Greater than 99.995
- Easier troubleshooting and support
- Spare bandwidth to support all applications

# Next Steps: Modules on the 6500 Add Functionality

- 10 Gigabit Ethernet in the core between data centers for data backup
- Cisco® firewall services modules for additional firewall security at data centers and Internet gateways
- Cisco content switching modules for content switching services across hosts or data centers
- SSL services module for accelerated secure Web applications

To read the entire case study, or for additional Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT

[www.cisco.com/go/ciscoit](http://www.cisco.com/go/ciscoit)



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