



Middle East WAN Rearchitecture

How Cisco IT Rearchitected the WAN for Middle East



A Cisco on Cisco Case Study: Inside Cisco IT

Overview

- Challenge

Provide equal services for employees in the Middle East

- Solution

Rearchitected the Middle East WAN

- Results

Increased productivity, reduced costs

Enhanced global backbone resiliency

- Next Steps

Apply the same model in other locations

Cisco Offices in the Middle East

Bahrain, Egypt, Jordan, Kuwait, Lebanon,
Pakistan, Saudi Arabia,
United Arab Emirates, Qatar

Challenge

Provide Equal Services for Employees in the Middle East

Low bandwidth and high latency resulted in:

- Decreased productivity

Even email and calendaring applications were slow

- High voice toll charges

Offices lacked sufficient bandwidth for VoIP calls to other Cisco offices

- Inability to use Cisco TelePresence, Cisco WebEx, and Cisco MeetingPlace

These require round-trip latency of less than 300 milliseconds

Solution

Rearchitected the Middle East WAN

Requirements from local service providers:

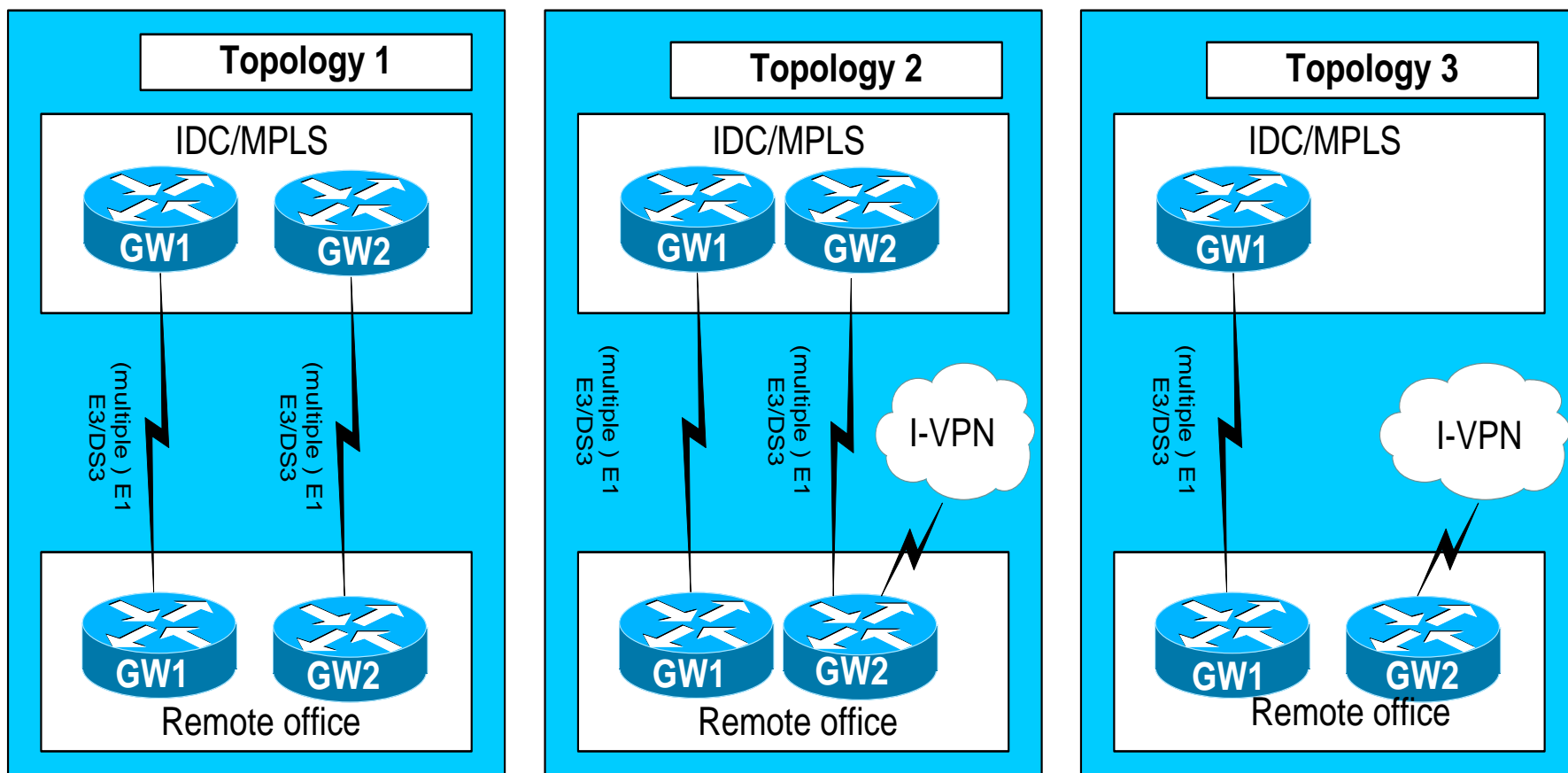
- QoS and multicast support
- Two access paths to each office, wherever possible
- Pair of E1 circuits, wherever possible

Service providers had to commit to **usable** bandwidth, and not include bandwidth used for the encapsulation header

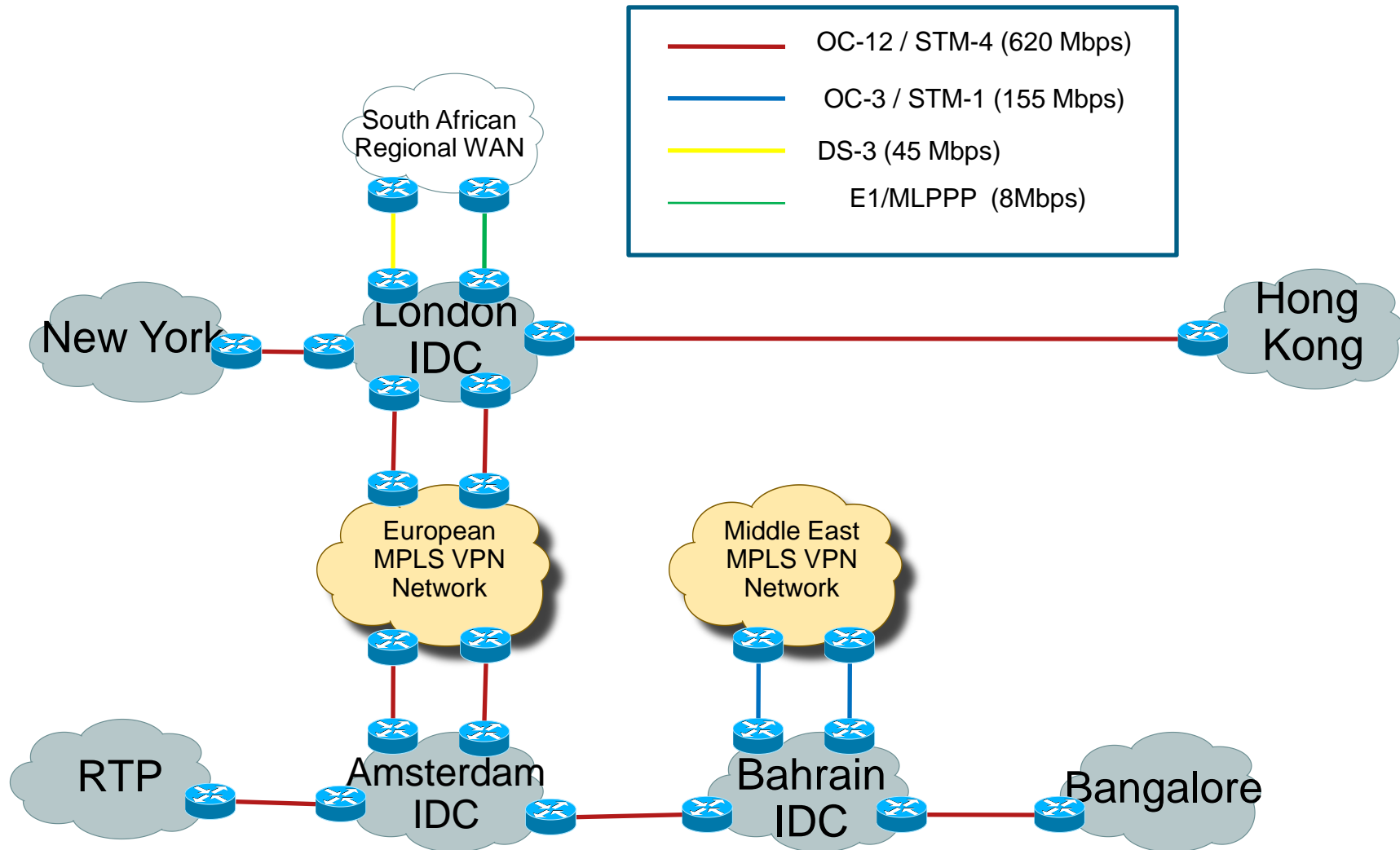
- Service Level Agreements for availability, carrier packet loss, and jitter

Topology

Office Topology Depends on Bandwidth Requirements and Whether Carrier Can Provide Diversity



Layer 3 Diversity Between Europe and the Middle East



Results

Increased Productivity, Reduced Costs

- Higher productivity and employee satisfaction
- 50% reduction in voice costs by eliminating toll charges for intra-company calls

Costs in Dubai decreased by 60 percent

Cisco anticipates reducing annual spend in 80-person Cairo office from US\$360,000 to \$140,000

- Sales support

Sales engineers can now use and demonstrate Cisco Unified Communications in their offices

- Support for Cisco TelePresence

Results

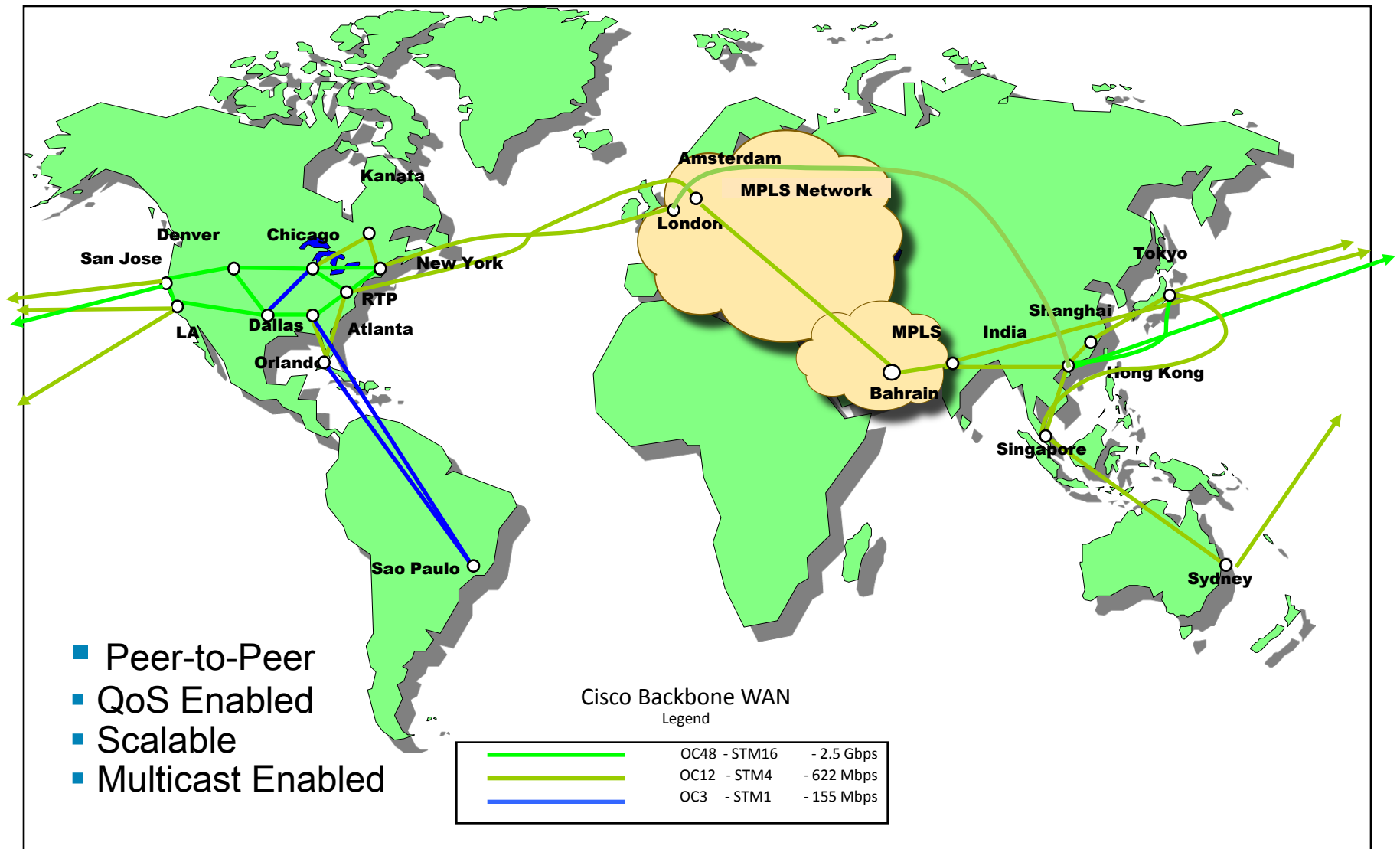
Enhanced Global Backbone Resiliency

- Almost all offices have physically diverse network connections
- Cisco has a true global backbone with connectivity from India to Europe and from Hong Kong to London

In December 2008, an earthquake in the Mediterranean took down both circuits to Europe.

Cisco employees still had global connectivity via the Middle East WAN

Cisco Global WAN Backbone



Next Steps

Apply the Same Model in Other Locations

- Migrate North American WAN to a service provider MPLS VPN

More WAN bandwidth at lower prices than the equivalent leased line

- Connect Nairobi, Kenya office to MPLS network

When Kenya's submarine cable system is operational

- Collaborate with regulatory groups in the Middle East and Africa to provide more voice and video offerings to employees in the region

To read the entire case study, or for additional Cisco IT case studies
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