



# **COOP: An Overview of Cisco Federal Continuity of Operations Solutions with a Focus on Crisis Management**

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# Agenda

- **U.S. Market Drivers**
- **Cisco's Solution and Sales Strategy**
- **Network Resilience**
- **Application Resilience**
- **Communication Resilience**
- **Workforce Resilience**
- **Best Practices**

# U.S. Market Drivers



# Primary Continuity Initiatives in Federal Government

- **Civilian**

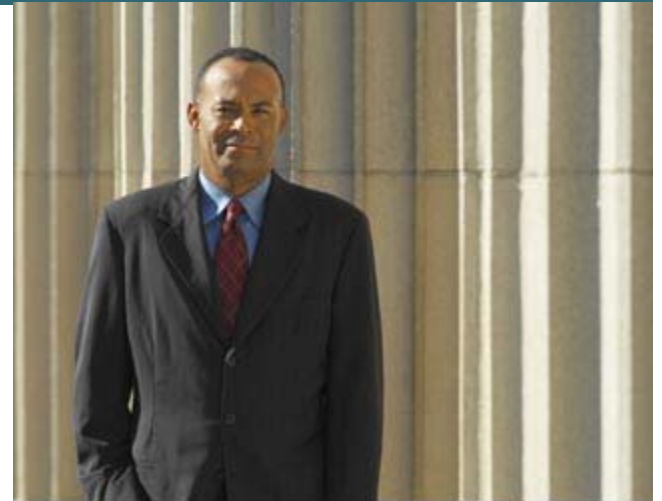
  - **Continuity of Operations Plan (COOP)**

  - **Enduring Constitutional Government (ECG)**

  - **Continuity of Government Operations (CGO)**

- **Defense**

  - **Defense Continuity Program (DCP)**



**FEDERAL GOVERNMENT  
CONTINUITY OF OPERATIONS**

**“The purpose of...ECG...COG...and...COOP is to ensure survival of a constitutional form of government and the continuity of essential federal functions.”**

**U.S. PDD-NSC-67 “Enduring Constitutional Government and Continuity of Operations,” October 21, 1998**

# Civilian Continuity Objective

- **“COOP planning is an effort to assure that the capability exists to continue essential agency functions across a wide range of potential emergencies. The objectives of a COOP plan include:**

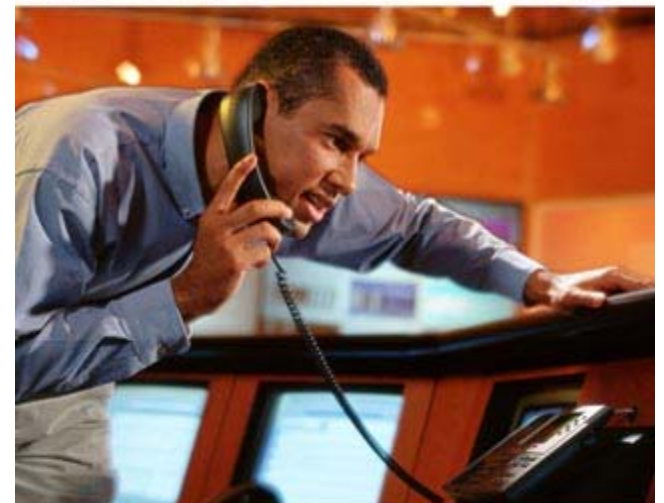
**Ensuring the continuous performance of an agency’s essential functions/operations during an emergency;**

**Protecting essential facilities, equipment, records, and other assets;**

**Reducing or mitigating disruptions to operations;**

**Reducing loss of life, minimizing damage and losses; and,**

**Achieving a timely and orderly recovery from an emergency and resumption of full service to customers.”**



**FEDERAL GOVERNMENT  
CONTINUITY OF OPERATIONS**

**U.S. Federal Preparedness Circular FPC 65, July 26, 1999**

# Key Continuity Drivers

## Operation Forward Challenge

- Resilience/continuity capability verification
- All agencies in 2004/2005

## Section 359—Public Law 106-346

- 25 percent/year teleworker increase mandated (+20,000 employees FY05)
- All executive agencies
- \$5 million penalty to noncompliant agencies

## COOP Directives

- U.S. Presidential Decision Directive (PDD67)
- U.S. Federal Preparedness Circular (FPC65)

## Formal Defense Programs and Purchase Vehicles

- DCP

# Cisco's Solution and Sales Strategy

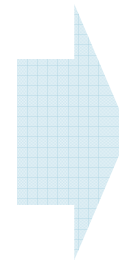




# Cisco Continuity Solution

## Integrated Technologies across Organization

Requirements
<b>Alternate Facilities</b> Allow key staff to perform functions under various threat conditions
<b>Interoperable Communications</b> Maintain critical communications within and between agencies and to customers and public
<b>Protect Vital Information</b> Protect and enable critical information systems, applications, and records and to support agency functions



# Cisco Continuity Solution

## Integrated Technologies across Organization

### Continuity of Operations

### Integrated Security

Workforce  
Resilience

Communication  
Resilience

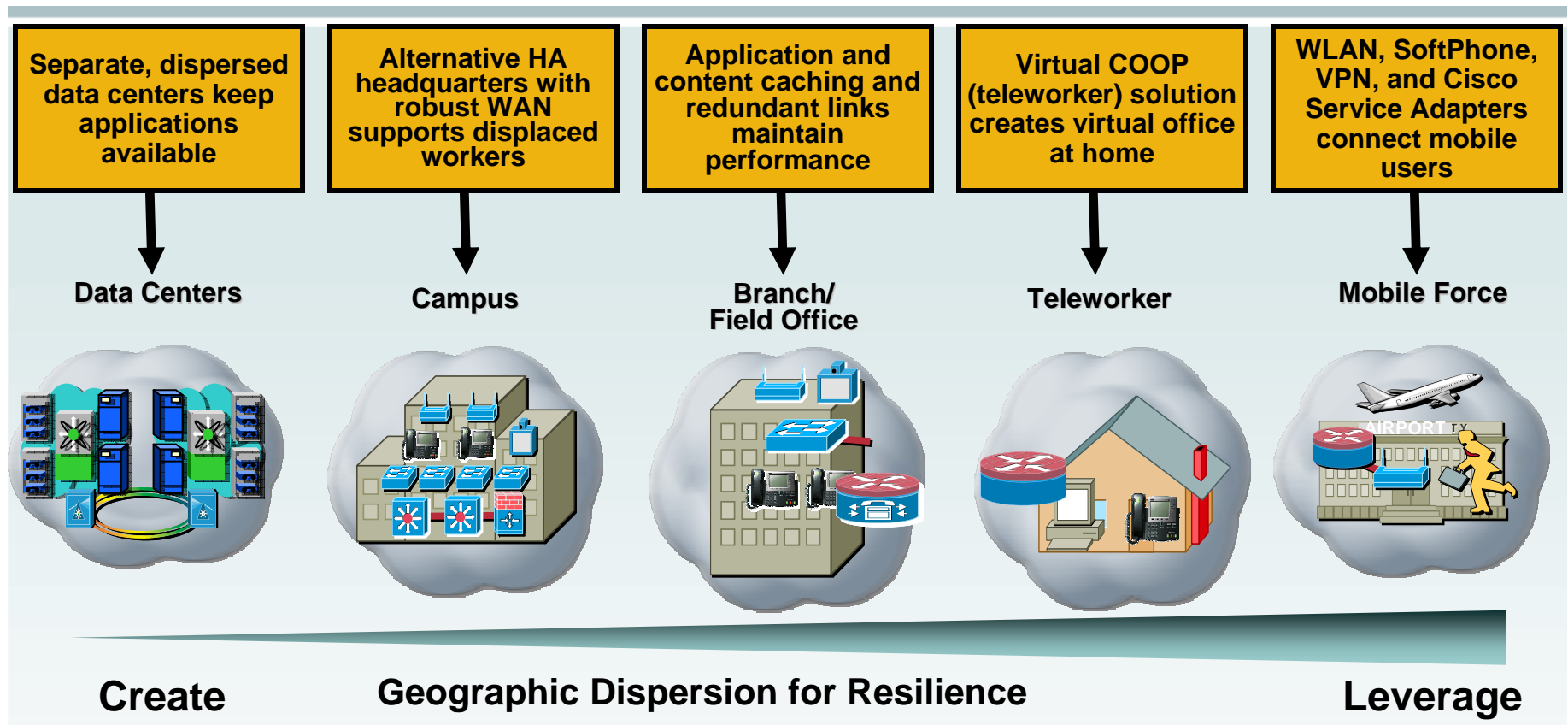
Application  
Resilience

Network  
Resilience

### Technology Enablers

- Wired and wireless integration (campus and branch)
  - Teleworker solutions
  - Mobile worker capabilities
- 
- IP Communications
  - Integrated messaging
  - Intermediate Session Routing services
  - Crisis management
- 
- Business-ready data-center solutions
  - Application caching (data center and branch)
  - Around-the-clock services
- 
- High-availability networking
  - Hardware and software availability
  - Support and services

# Cisco Solution for Continuity End-to-End Integrated Architecture



- Physical concentration increases risk
- Integrated security throughout protects vital information and increases resilience
- Only an integrated, government-wide architecture provides a stable foundation for enabling COOP

# Network Resilience

Continuity of Operations

Integrated Security

Workforce Resilience

Communication Resilience

Application Resilience

Network Resilience

# Network Resilience Key Concern: Five-Nines Availability

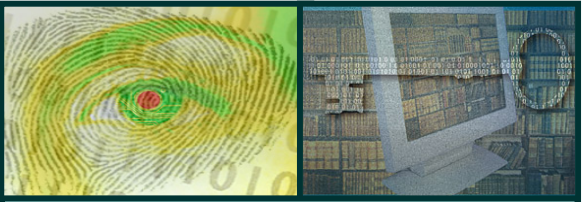
## Scenario



Loss of Headquarters or Campus

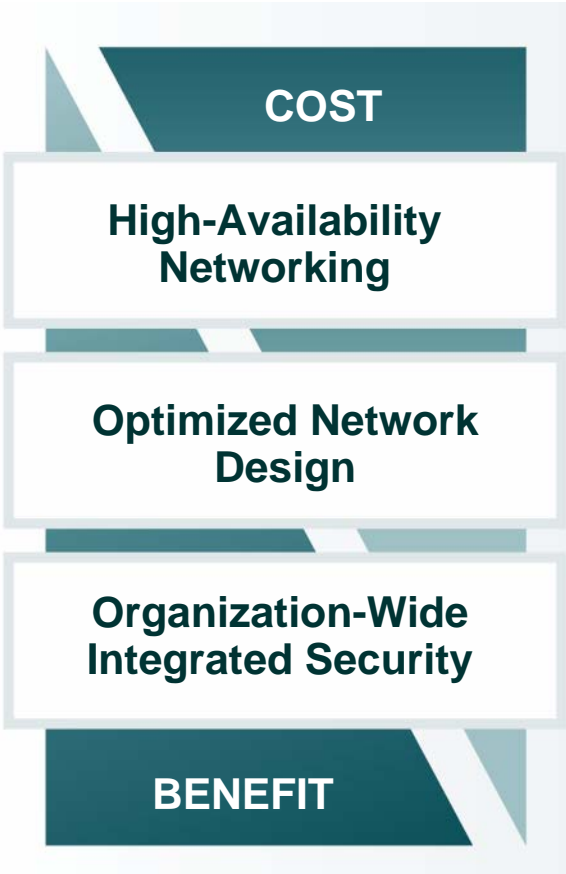


Loss of Data Center



Security Alert (Worm /Denial of Service [DoS])

## Solution



## Technologies

- Reliable, fault-tolerant hardware
- Optimized software and high-speed, integrated load balancing
- Advanced integrated security
- Better network operations; optimized design; fault and anomaly detection mitigation; training; best practices

# Comprehensive Security Cisco's Self-Defending Network

## SELF-DEFENDING NETWORK

Cisco Strategy Improves Network's Capability to Identify, Prevent, and Adapt to Threats

### INTEGRATED SECURITY

- Secure connectivity
- Threat defense
- Trust and identity

### SECURITY TECHNOLOGY INNOVATION

- Endpoint security
- Application firewall
- Secure Sockets Layer VPN
- Network anomaly detection

### SYSTEM-LEVEL SOLUTIONS

- Endpoints, networks, and policies
- Services
- Partnerships

# Application Resilience

Continuity of Operations

Integrated Security

Workforce Resilience

Communication Resilience

Application Resilience

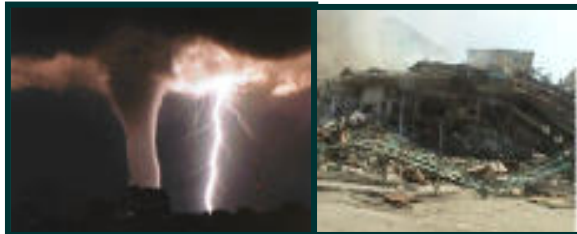
Network Resilience

# Application Resilience Key Concerns

## Scenario

## Solution

## Technologies



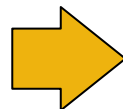
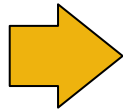
Loss of Data Center



Loss of Application Server



Point Failure



COST

Data-Center Mirroring

Application Balancing;  
Application Failover

High-Availability Hardware;  
High-Availability Design

BENEFIT

- Storage area network (SAN)
- Dense wavelength division multiplexing/Coarse wavelength division multiplexing
- Small Computer Interface over IP (iSCSI)/Fibre Channel over IP
- Application load balances
- Stateful failover
- Nonstop forwarding
- Smartports



# Data-Center Continuity Solution Components

## Government Need

**Maintain Vital Information**



**Highly Available End-to-End Data-Center Infrastructure**

**Protect Information Assets Locally and Remotely**



**Tape Backup and Remote Asynchronous Data Replication**

**Rapid Recovery of Mission-Critical Information and Systems**



**Synchronous Disk Mirroring and Data-Center Mirroring**

**Continuous End-User Access to Applications**



**Secure VPN with IP Security (IPSec) Hardware and Load Balancing**

# Communication Resilience

Continuity of Operations

Integrated Security

Workforce Resilience

Communication Resilience

Application Resilience

Network Resilience

# Communication Resilience Key Concerns

## Scenario



Loss of Central Office



Loss of Call Center



Loss of PBX/Key System

## Solution

**COST**

Distributed Central Office–Based Voice Gateways

Distributed Call Centers

Distributed Call Processing Survivable Remote Telephony

**BENEFIT**

## Technologies

- IP communications (call-processing resilience)
- IP call centers (call-center redundancy)
- Quality of Service (QoS)
- Remote management



# Featured Solution—Crisis Management: Interoperable Communications

- **Cisco's continuity solution includes applications that help governments quickly respond to disruptions and threats**
- **Cisco MeetingPlace Crisis Management immediately connects response teams to a voice and data collaboration conferences**

**Cisco MeetingPlace Crisis Management  
Partner services**

# Workforce Resilience

Continuity of Operations

Workforce Resilience

Integrated Security

Communication Resilience

Application Resilience

Network Resilience

# Workforce Resilience Solutions

- **Distribution of workers among multiple sites**
- **Cisco workforce resilience solutions enable**
  - Telecommuting**
  - Desk sharing (hot-desking)**
  - Dedicated alternate sites**
  - Employee mobility**

# Workforce Resilience Key Concerns

## Scenario



**Flood/Fire/Terrorism  
Loss of Physical Structure**



**Inclement Weather  
Workforce Cannot Go to Office**



**Sick Child/Car Will Not Start  
Individual Cannot Go to Office**

## Solution

**COST**

**Workforce Relocation  
To Another Facility**

**Dispersed Workforce**

**Workforce  
Telecommuting**

**BENEFIT**

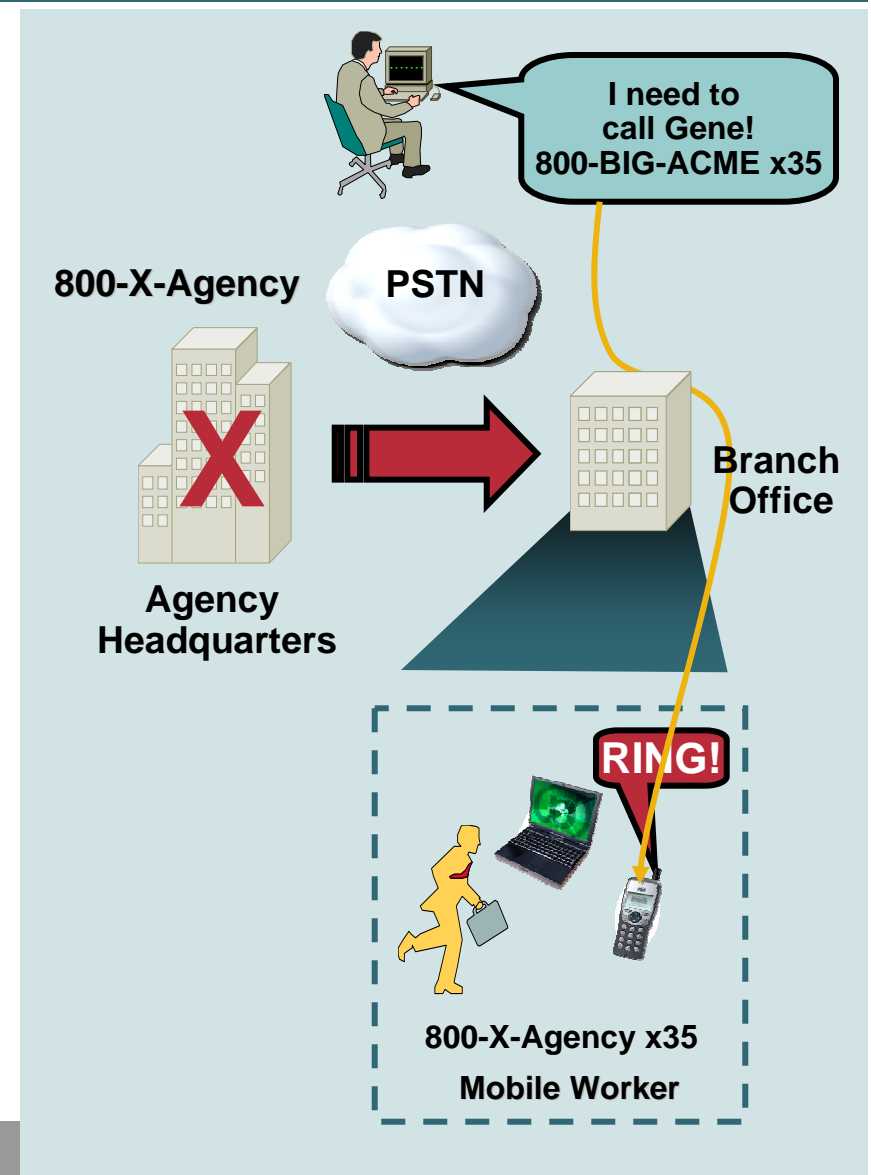
## Technologies

- Secure wireless LAN
- IPSec VPN
- IP communications
- QoS
- Remote management



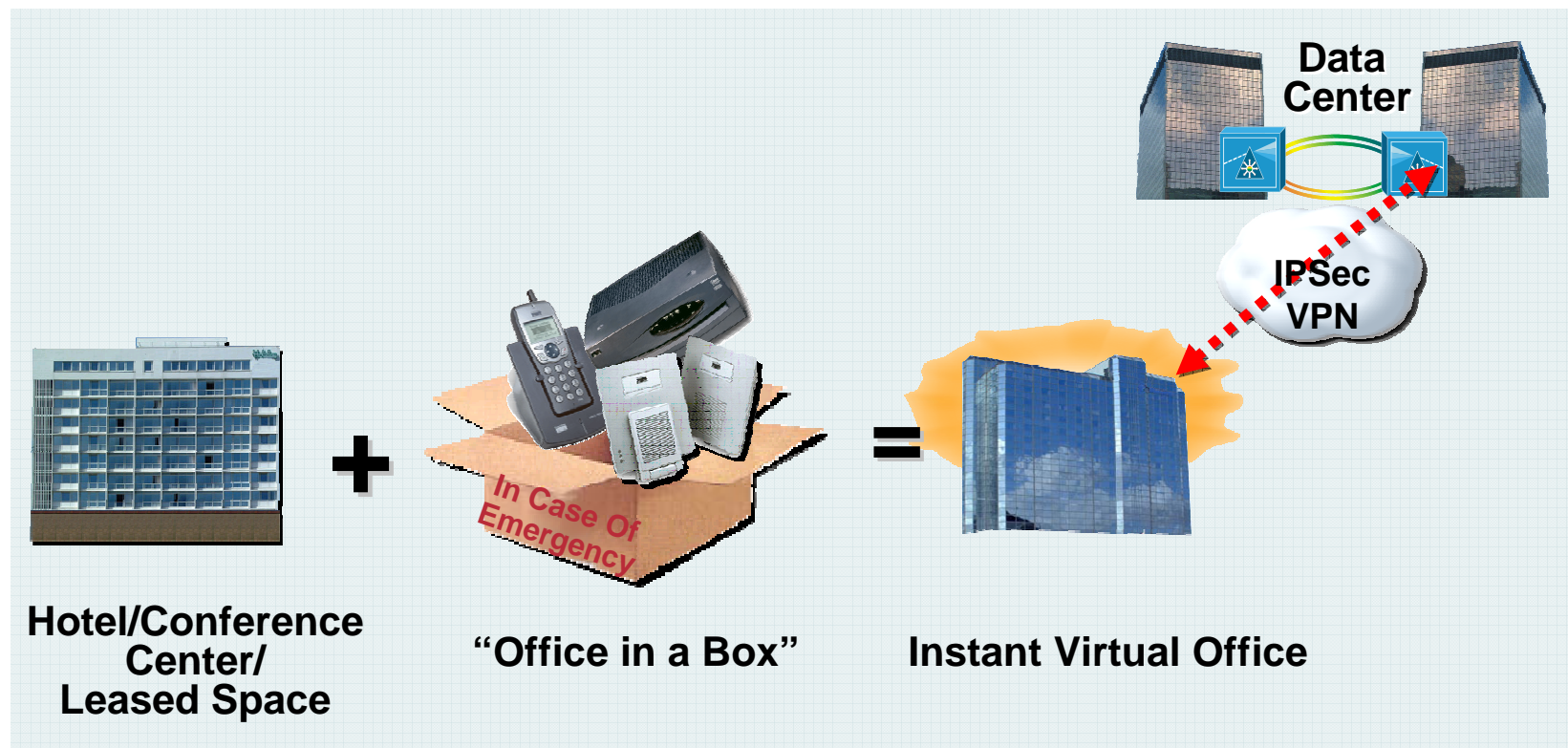
# Workforce Relocation to Another Office: Seamless Communications

- During crises, workers can relocate to another agency facility, without IT's help
- WLAN allows immediate application access
- Wireless IP telephony delivers immediate voice communication
- Profile migrates instantly with user



# Workforce Displacement: “Office in a Box” Maintains Business Uptime

- If there are no available agency locations, set up low-cost, easy-to-deploy alternate sites anywhere with broadband Internet access



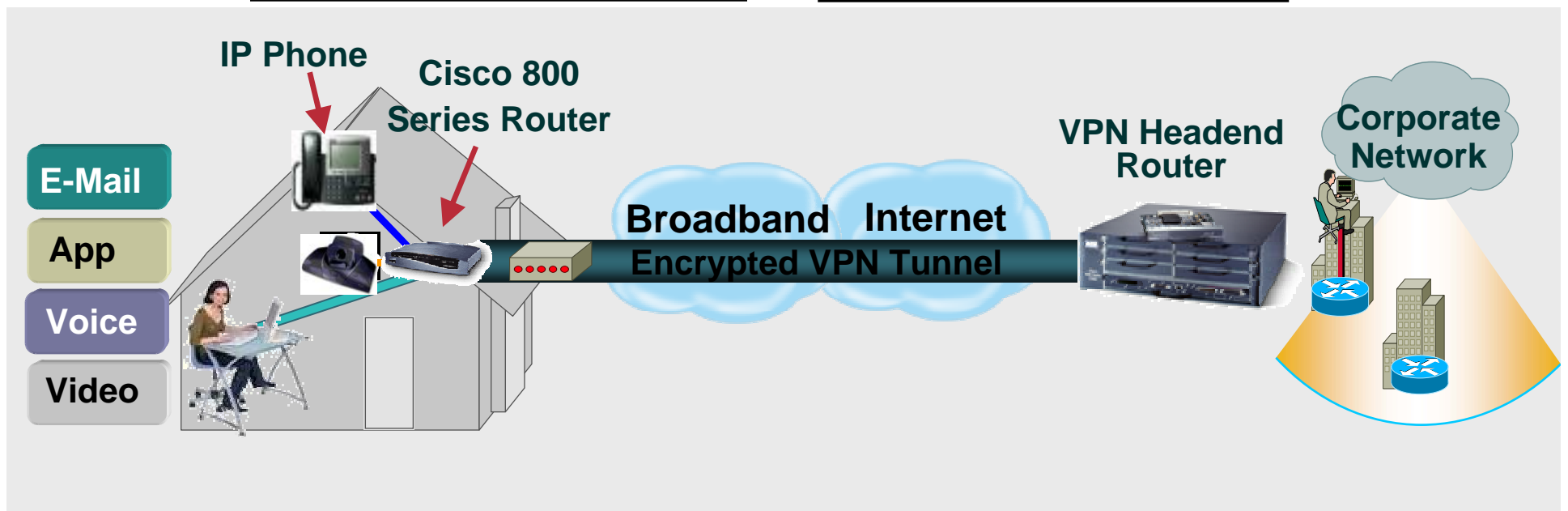
# Featured Solution—Virtual COOP: Alternate Facilities



Single connection for  
IP Communications  
support



Centralized IT  
management



Agency-driven  
security policies  
(not user-managed)



Agency phone,  
toll bypass,  
centralized voice  
mail



Integrated  
security  
and identity  
services

# Best Practices

Continuity of Operations

Integrated Security

Workforce  
Resilience

Communication  
Resilience

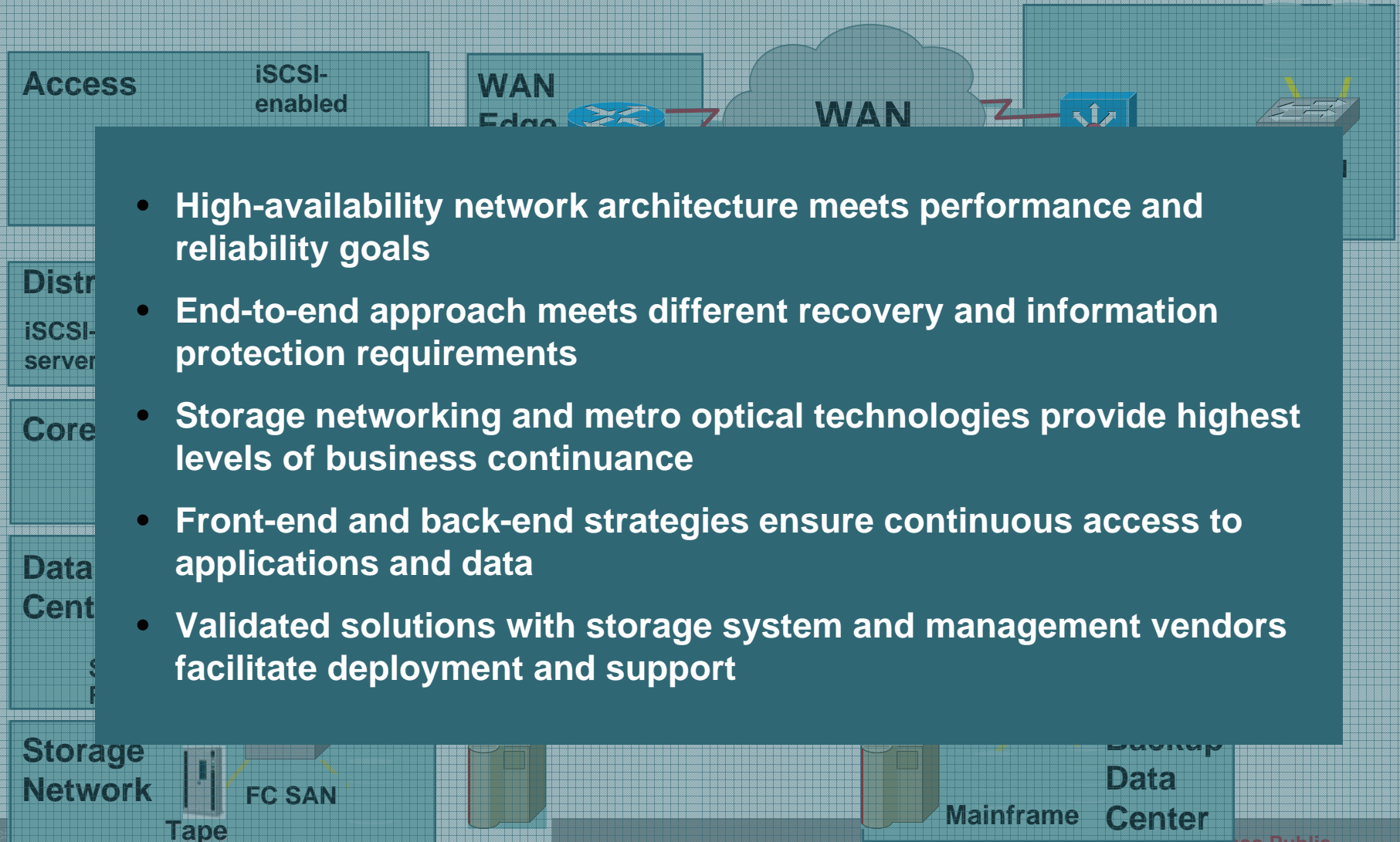
Application  
Resilience

Network  
Resilience

# Network Availability Improvement Support (NAIS): The Road to High Availability

- **“Cisco’s advanced-services NAIS team provides you a roadmap to high availability, helping you achieve cost savings through operational excellence along the way.”**
- **Cisco offers high-availability services globally**
- **Cisco leading practices are proven methodologies**
  - Proactive network availability and network-performance management through leading practices**
  - Results in measurable cost savings and increased operational efficiency and availability**

# Cisco Continuity Strategy for Government



- High-availability network architecture meets performance and reliability goals
- End-to-end approach meets different recovery and information protection requirements
- Storage networking and metro optical technologies provide highest levels of business continuance
- Front-end and back-end strategies ensure continuous access to applications and data
- Validated solutions with storage system and management vendors facilitate deployment and support

# CISCO SYSTEMS

