



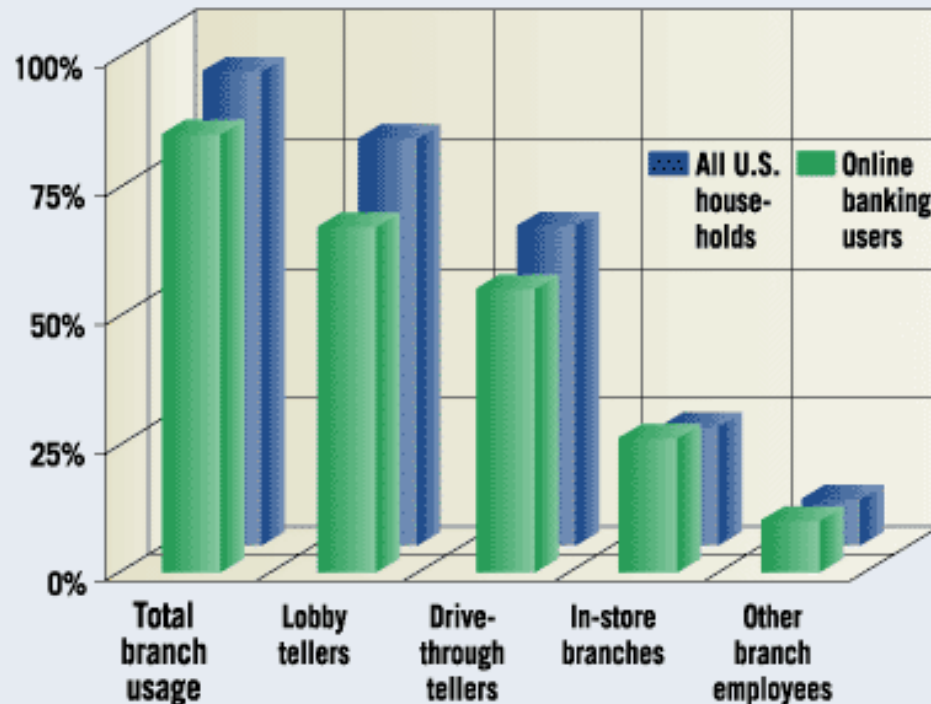
Enhanced Applications Delivery with Branch of the Future (BOF) Technology

Teerapol Tuanpusa
Senior Network Consultant / Enterprise - FSI
Email : teerapol@cisco.com

THE BRANCH REMAINS IMPORTANT

BRANCHES REMAIN A DELIVERY LINCHPIN...

*Percent of Customers Using Various Branch Resources**

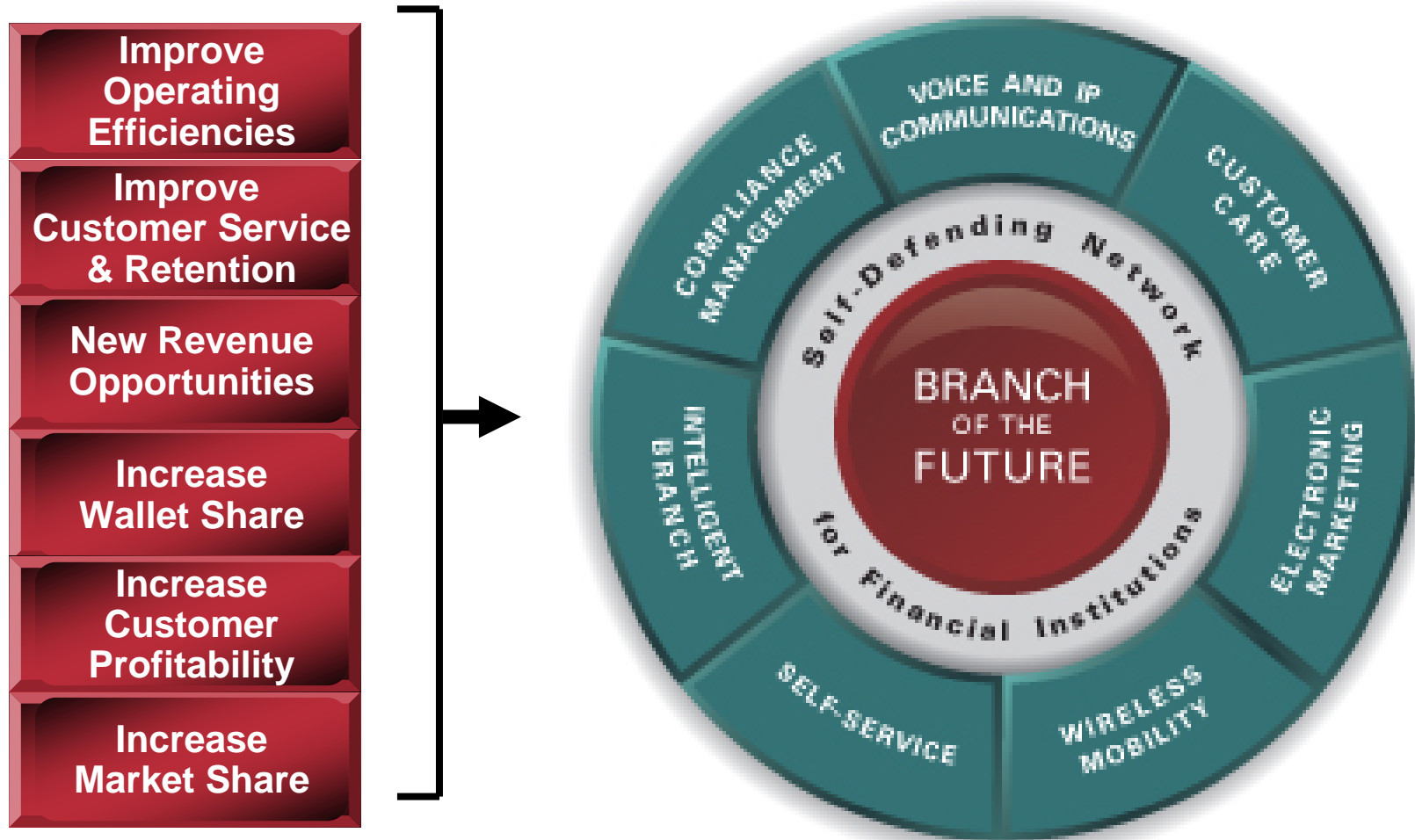


Source: TowerGroup, Needham, Mass.

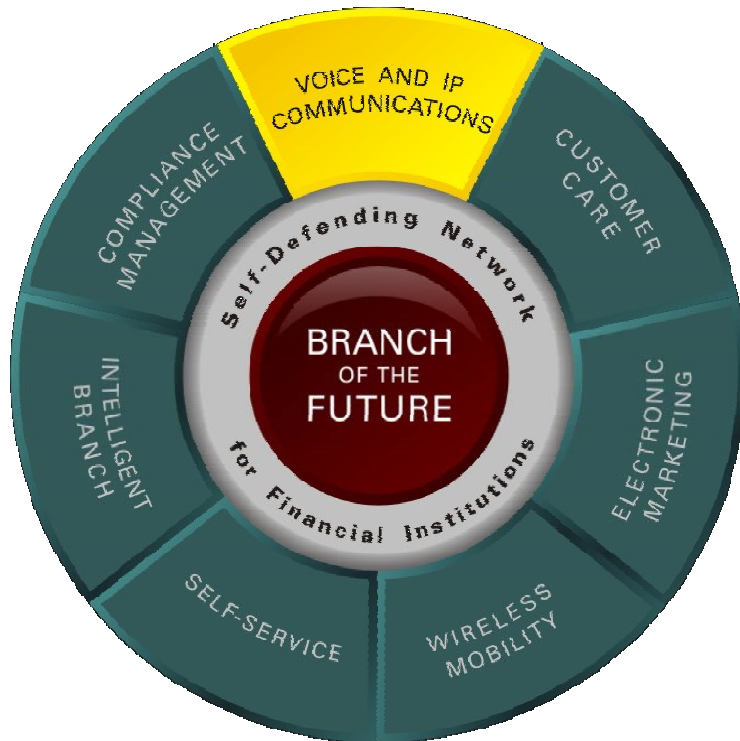
Customers who claim “Internet Banking” as their primary channel are heavy users of branch resources

Business-Driven BRANCH OF THE FUTURE

BUSINESS ISSUES



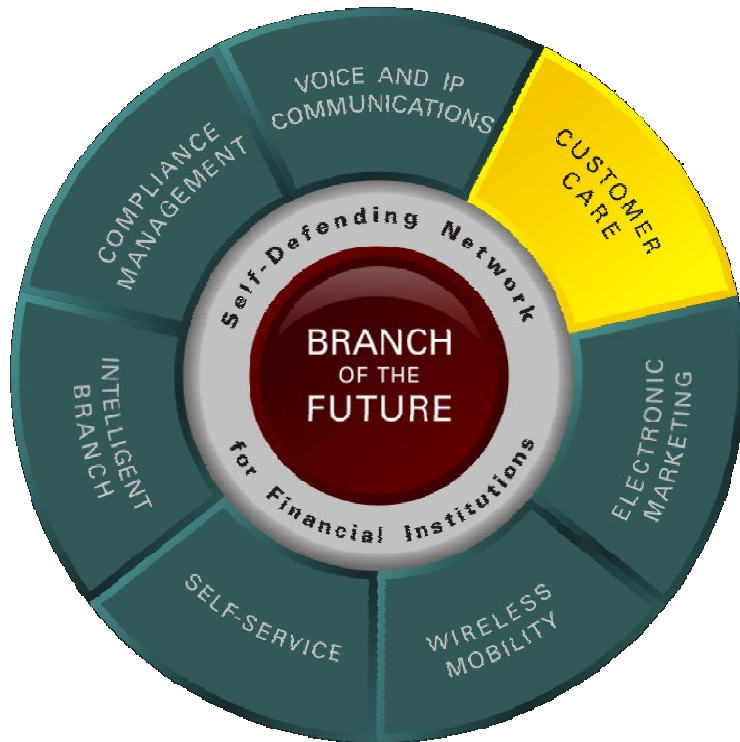
VOICE & IP COMMUNICATIONS



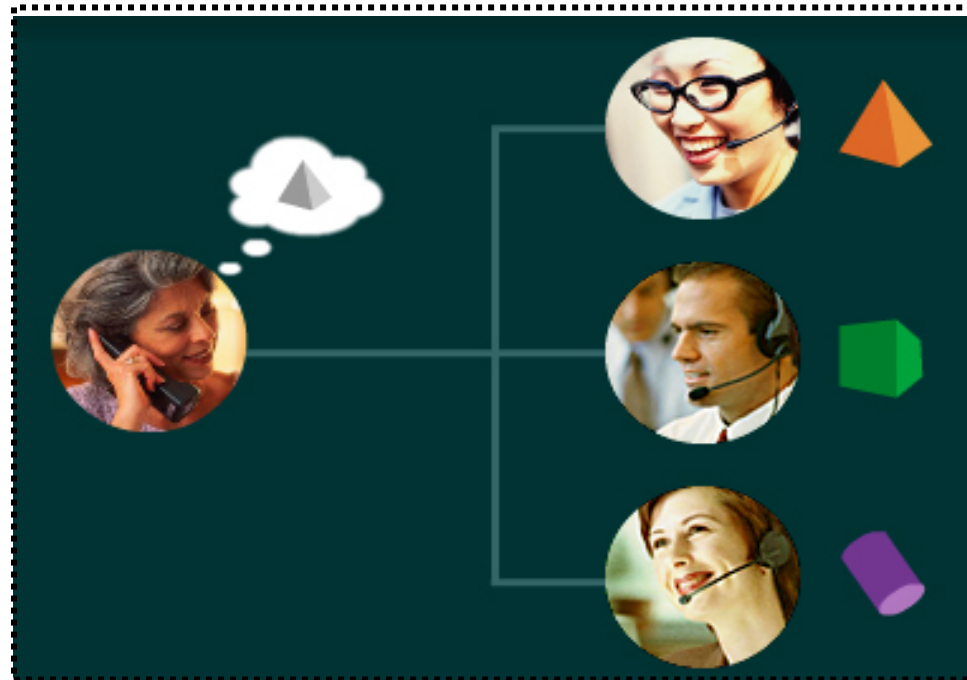
A converged, voice-over-IP (VoIP) system



CUSTOMER CARE



Advance contact center capability

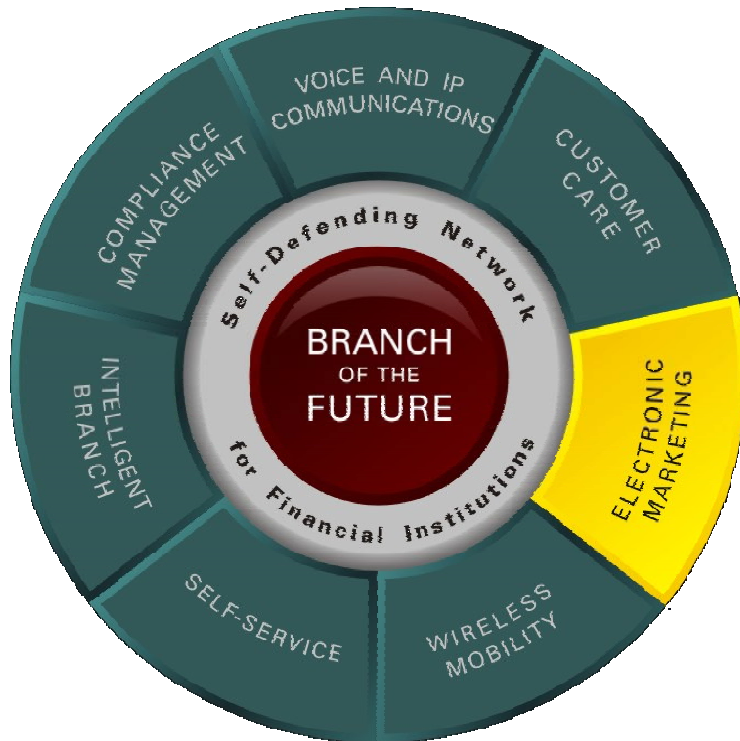


CUSTOMER CARE

– *Interaction & Collaboration*



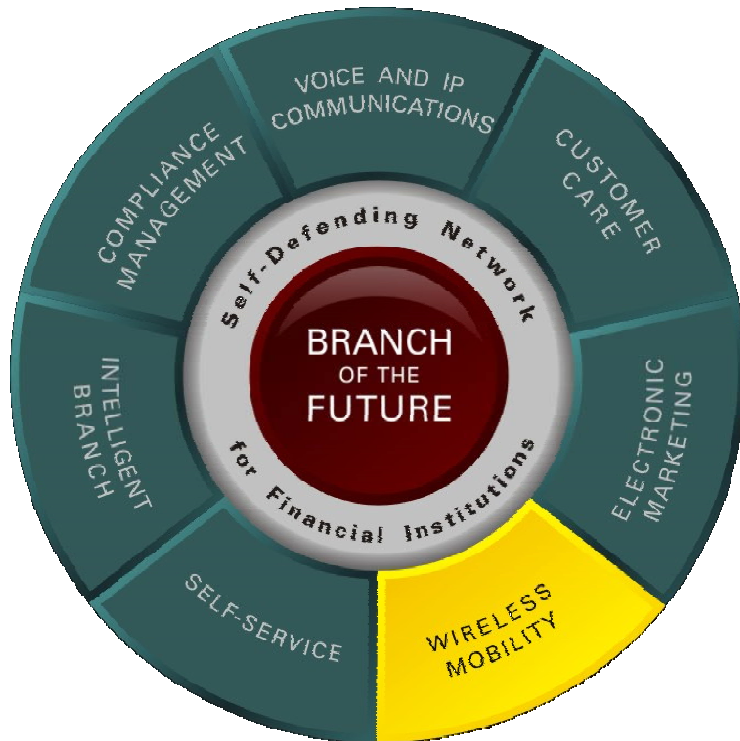
ELECTRONIC MARKETING



Real-time, proactive marketing



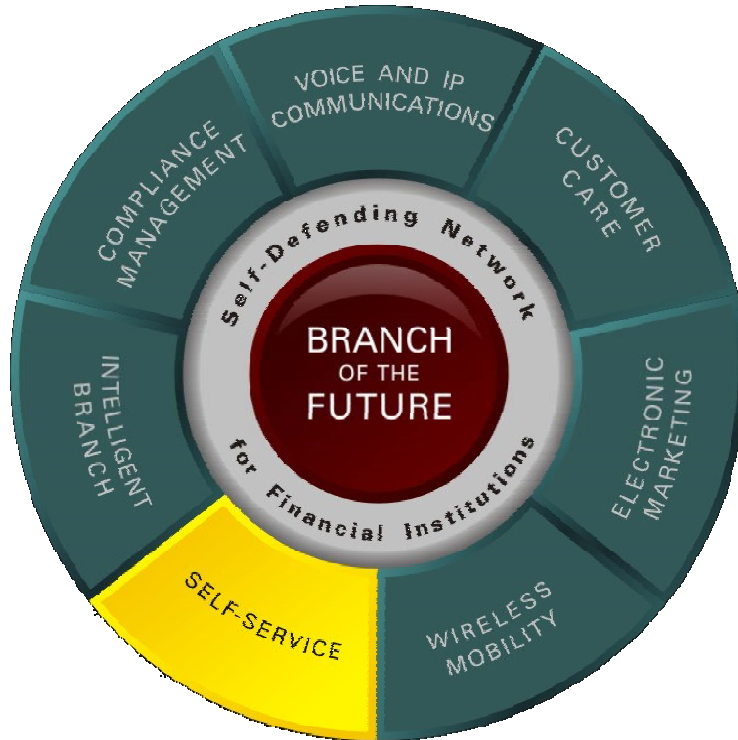
WIRELESS MOBILITY



Enhanced customer interactivity & service



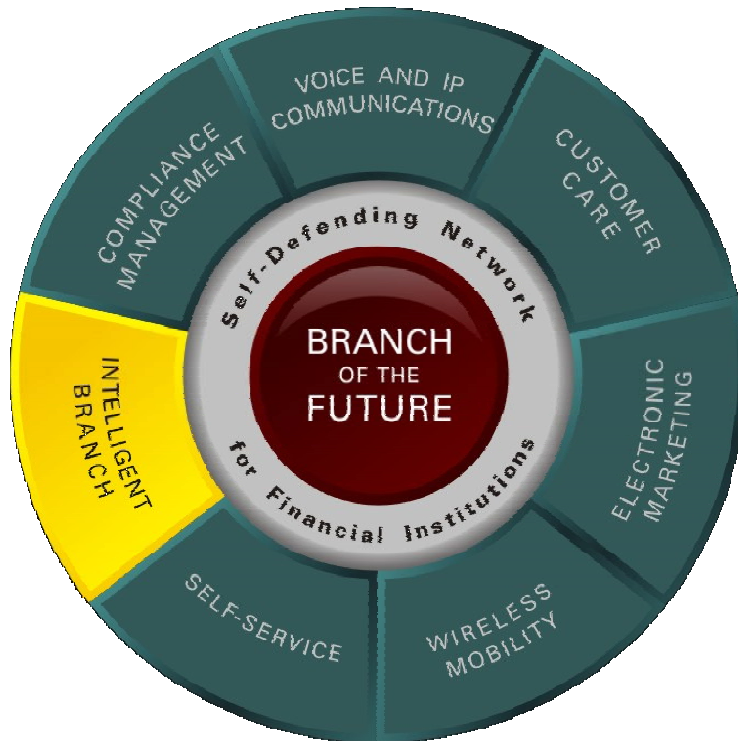
SELF-SERVICE



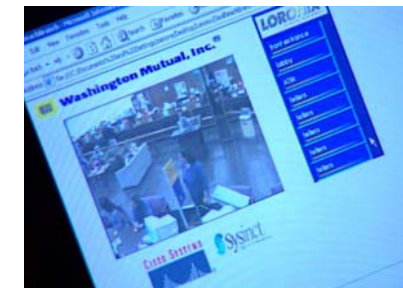
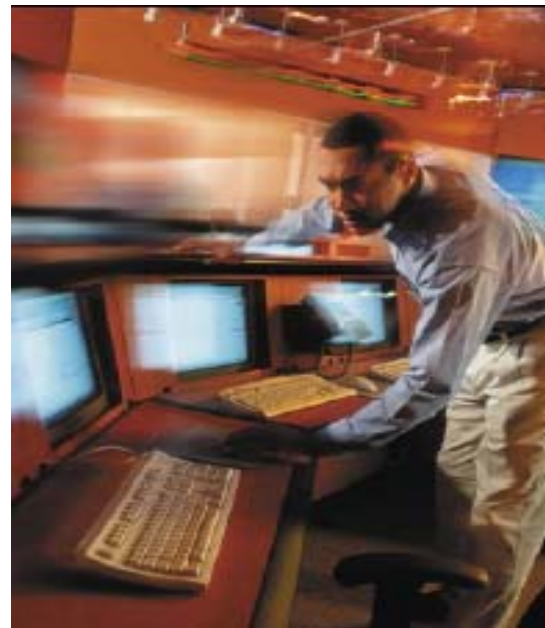
Full integration of branch ATMs & kiosks



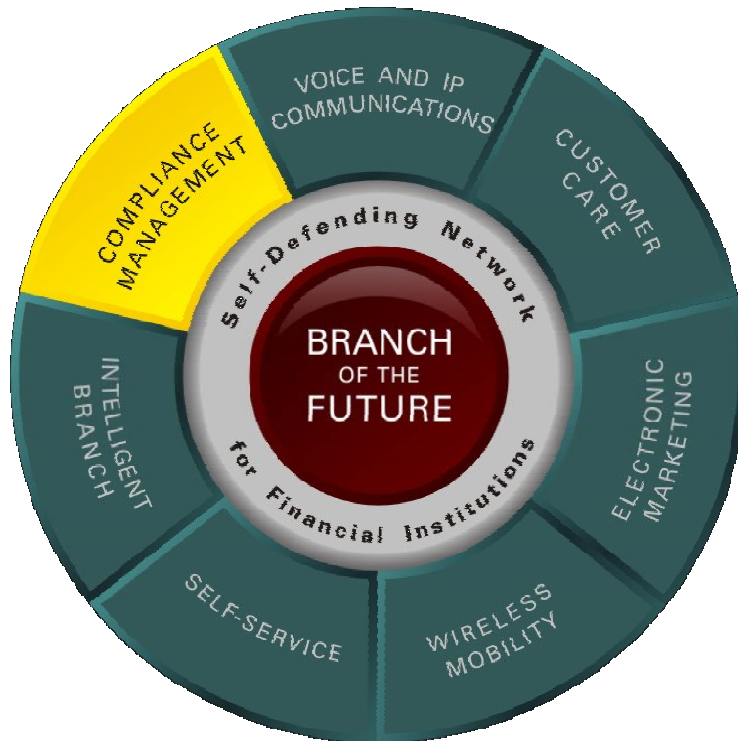
INTELLIGENT BRANCH



Integration of network enabled facility services



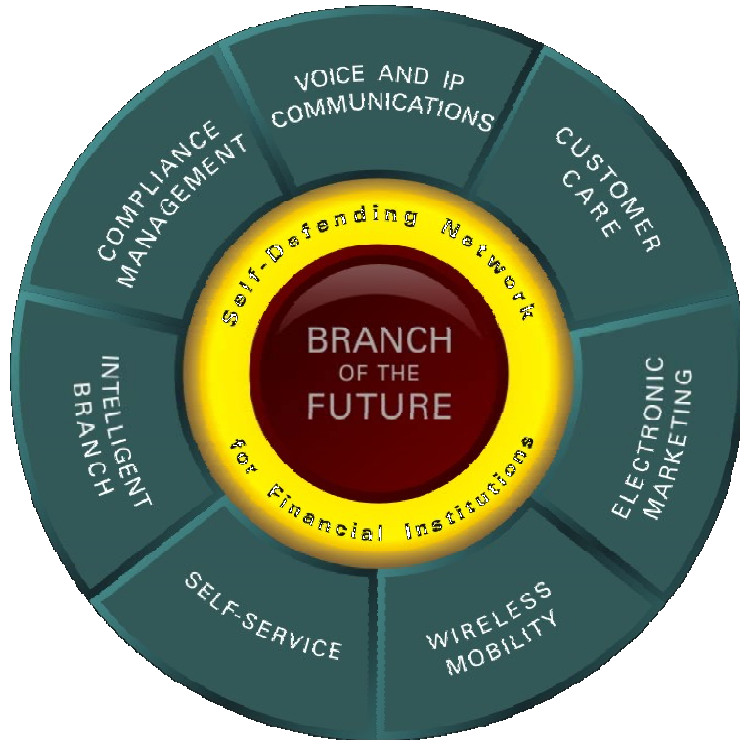
COMPLIANCE MANAGEMENT



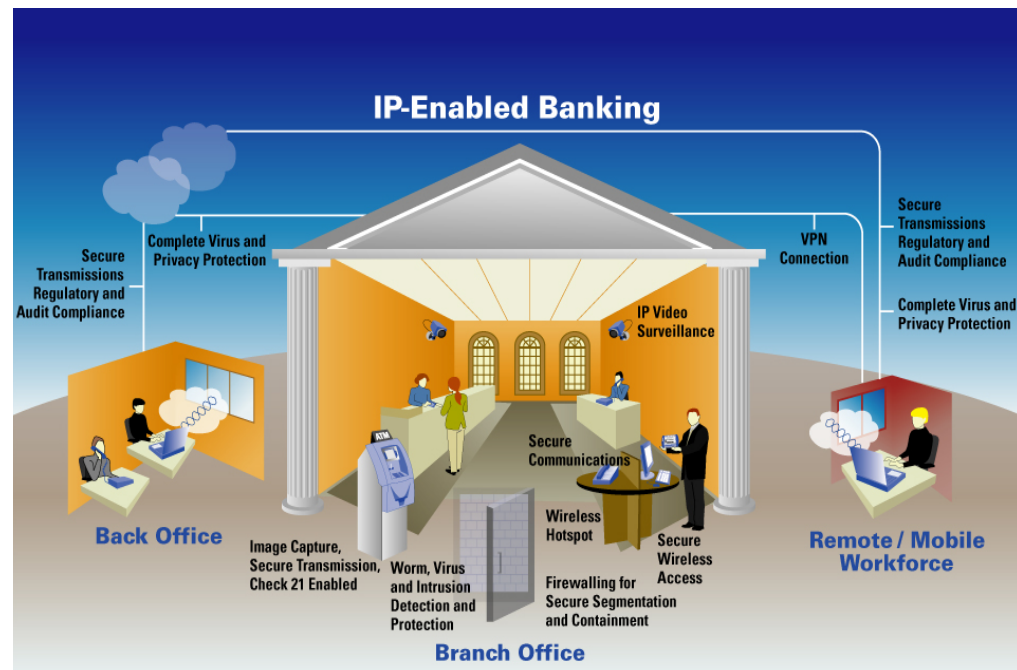
Enhanced operational risk management with built-in resiliency



SELF-DEFENDING NETWORK



The foundation to building customer trust



BOF SOLUTIONS RUN-DOWN

Voice and IP Communications:

- IPT
- Video Conferencing
- IP Telephony productivity tools - XML 'apps'
- eLearning – Video Conferencing, Content Data Networking

Customer Care:

- Virtual Contact Centers
- Video Conferencing
- IP ATM and Kiosk
- Wireless Phone/Customer Concierge
- IP Telephony productivity tools
- RFID

Electronic Marketing:

- Content Delivery Networking
- Video Conferencing

BOF SOLUTIONS RUN-DOWN

Wireless Mobility:

- **Customer flexibility: Wireless Concierge, Wireless IP Telephony Phone, Video Conferencing**
- **Worker flexibility: Wireless tablet(s), Wireless IP Telephony Phone, Video Conferencing**
- **Wireless cameras**

Self Service:

- **IP enabled ATM's**
- **IP enabled Kiosks**

Intelligent Branch:

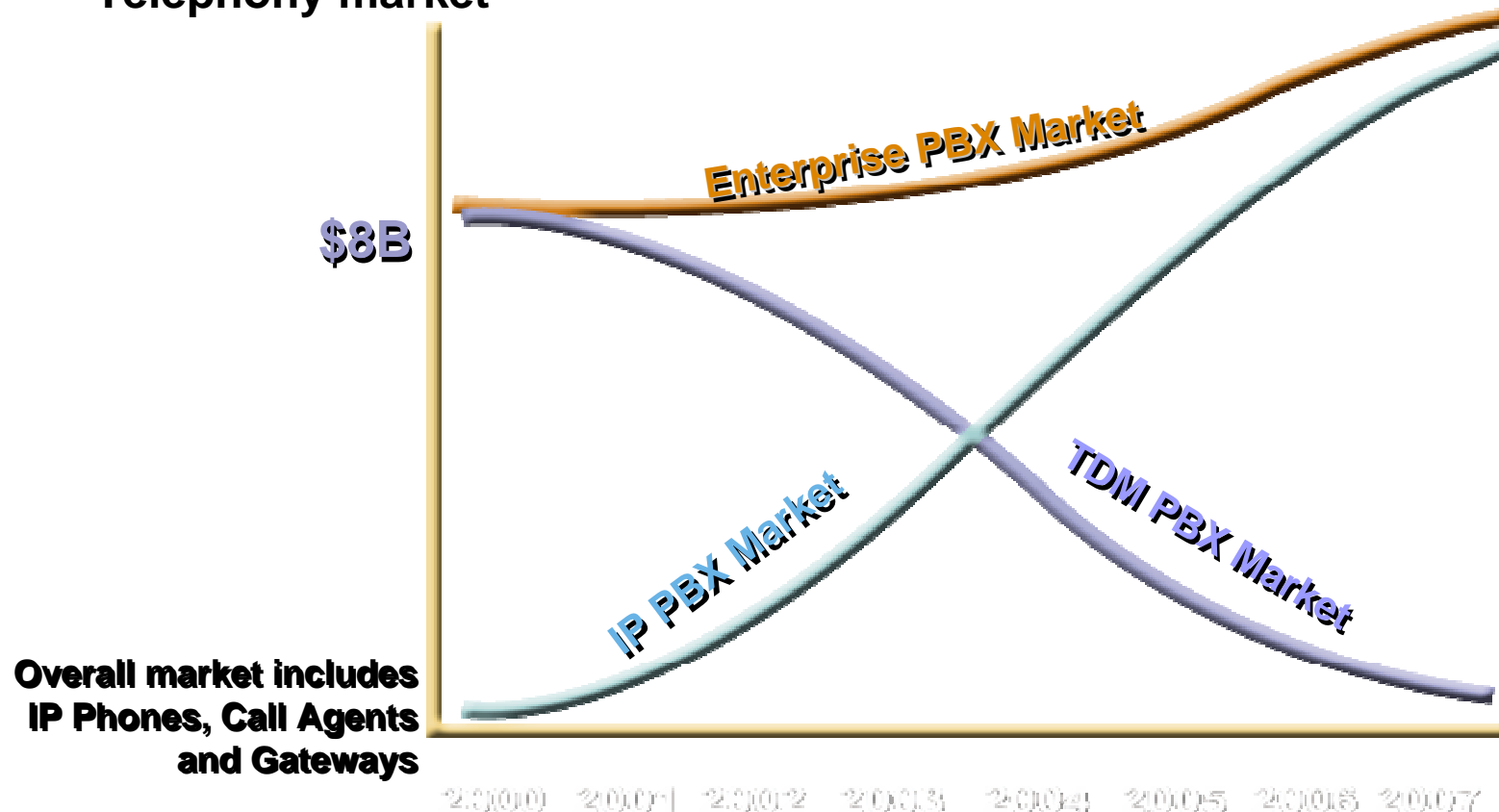
- **Video Surveillance**
- **Building Management: Perimeter Alarms, HVAC controls**



IP Communication

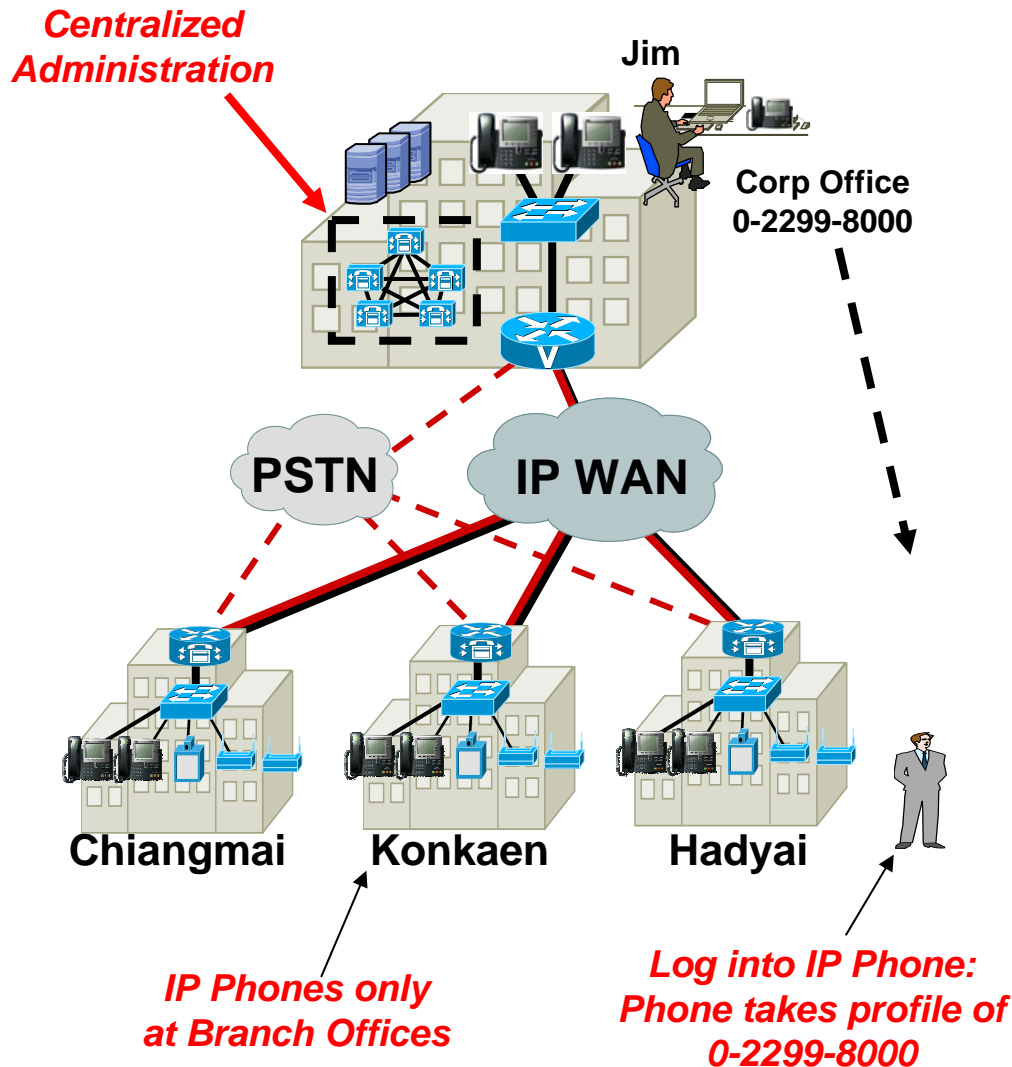
Market Adoption: IP vs TDM PBX Market

- Its now a matter of *how fast*... not if IP Communications will happen
- Opportunity = Accelerated transitions + growth in overall IP Telephony market



Source: Gartner
Dataquest and
Synergy Q1 '02

Branch IP Communication



IP Telephony

Branch offices only need IP phones
Reduces toll charges and staffing requirements

IP Telephony Extension Mobility

Users can move between sites and maintain same phone number

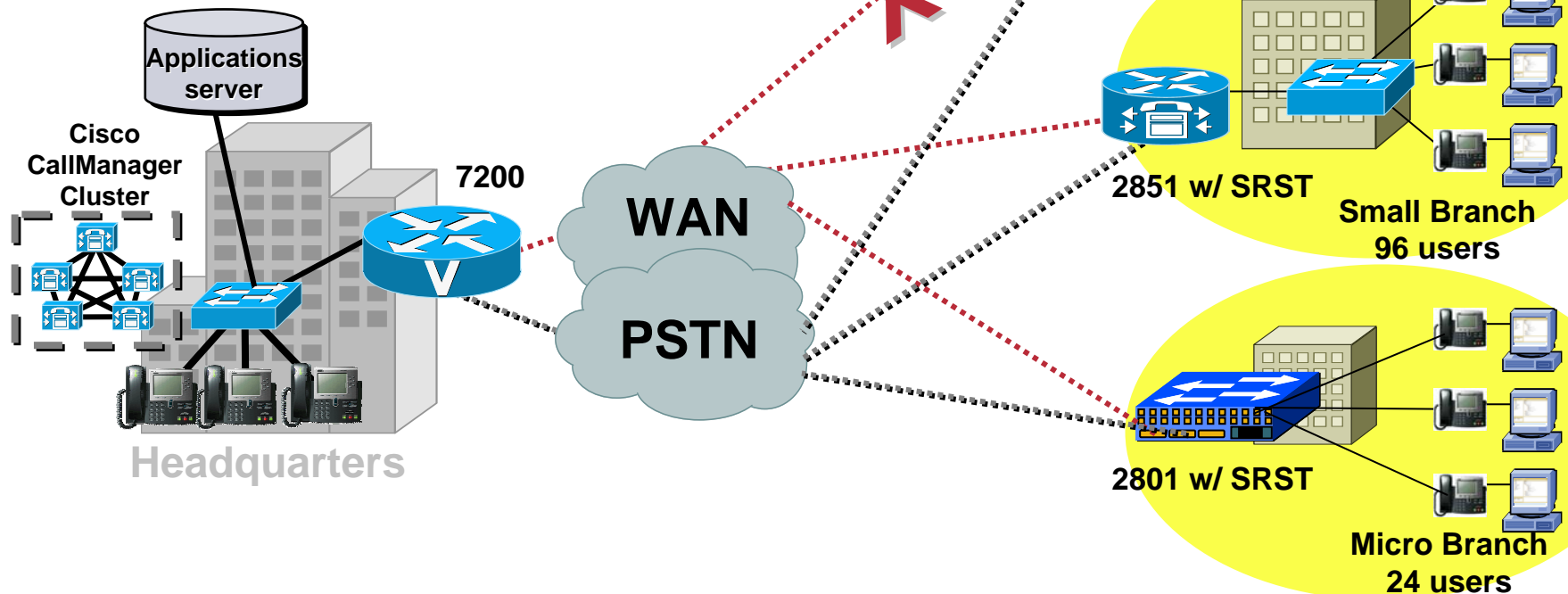
Survivable Remote Telephony

Sustained voice communications in the event of WAN outage

Remote Branch IP Communication Deployment

**AFTER
SRST**

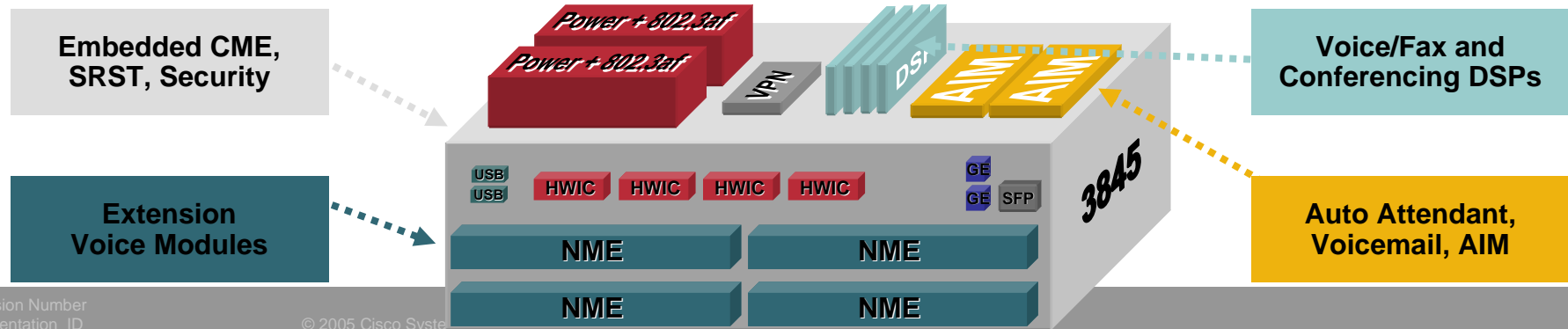
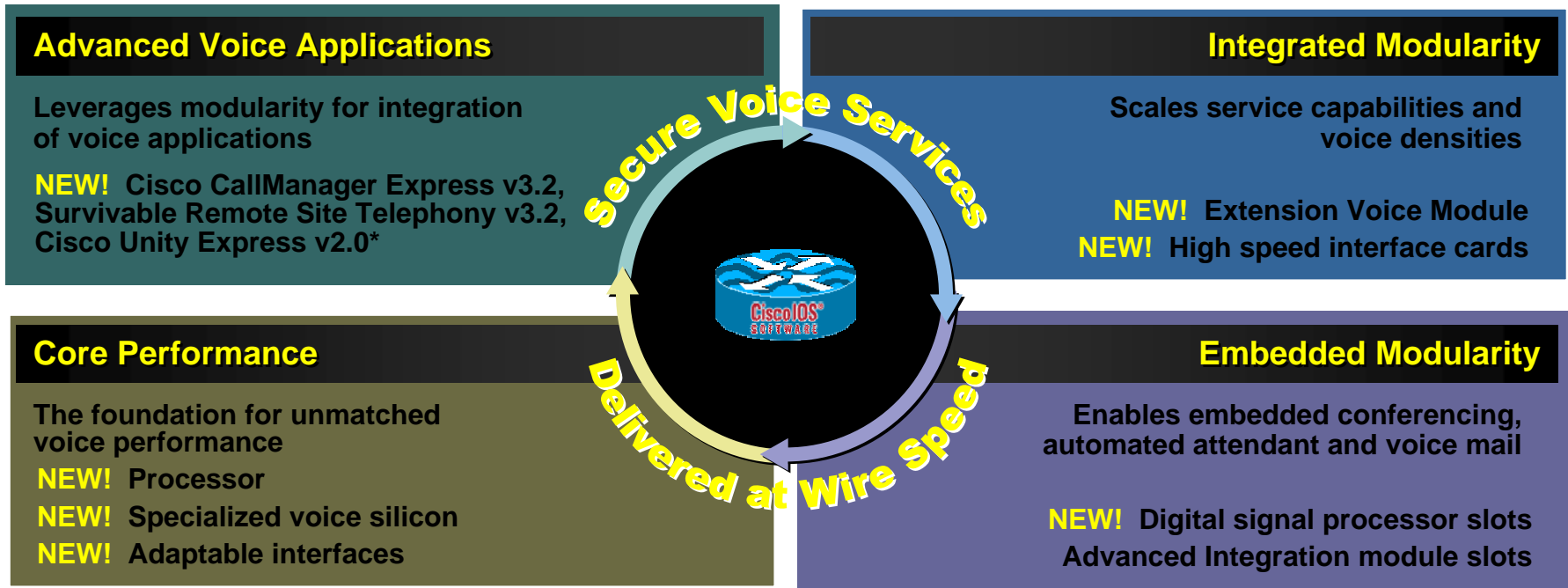
- Access to same IP apps and Cisco CallManager features as HQ
- Same look and feel as HQ
- Centralized management and IT support
- Backup IP telephony features if WAN link fails



Hardware Innovation Raises Voice Leadership

Cisco Voice Services Delivered At Wire-speed!

Affordable, Secure, Scalable Voice Solutions





Content Networking

Latency Gets Worse as Applications get Richer

Performance Required

Most Branches can not take full advantage of these Solutions

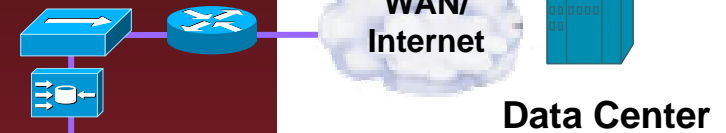


Application : Web Application Acceleration

Web-based enterprise applications have poor performance across high latency WAN links

Solution: Edge HTTP caching, streaming media proxies

- Complete static and streaming support
- Internet/Intranet and streaming media proxy
- Most advanced implementation of WCCP v2 redirection
- Rules template for flexible caching policies/rules

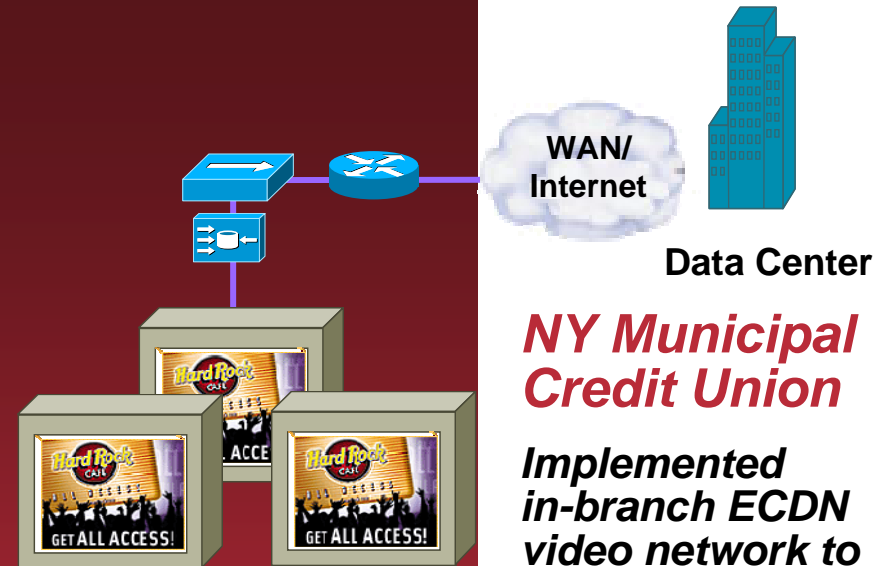


Nestle –

Caching eliminate SAP latencies. Nestle projects savings up to 40% on WAN bandwidth, increase end user productivity and improved Nestle customer satisfaction

Application : Point-of-Sale and Kiosk

- Need better way to deliver video advertising and promotional content to stores, branches
- Looking for high-impact methods to drive in-store sales
- Want to improve customer satisfaction
- Seeking new revenue streams



Solution: WAE-507AV, WAE-560AV or Set Top Box

- Pre-load video playlists to WAEs with CDM
- MPEG-1, MPEG-2, MPEG-4 to video walls, TVs, kiosks
- Central and/or local playback control
- Generate in store demand, plus advertising revenues

NY Municipal Credit Union

Implemented in-branch ECDN video network to deliver promotional messages and advertising to customers. Expects to see higher customer satisfaction ratings.

Financial Services – Case Example



Content Delivery

e-Communications and e-Learning

Branch Services, Application and Content Delivery

- CEO wants to deliver his/her message to every desktop, every location
- Organization wants to deploy e-learning for operating efficiencies/excellence
- Increasing retention of viewer requires impact of rich media



Solution: IP/TV

- Live MPEG encoding and streaming
- Turnkey
- Standards-based
- Scheduled broadcasts

Solution: ECDN

- Pre-load rich learning, communications
- Any file format
- Bandwidth controls
- High-availability configurations

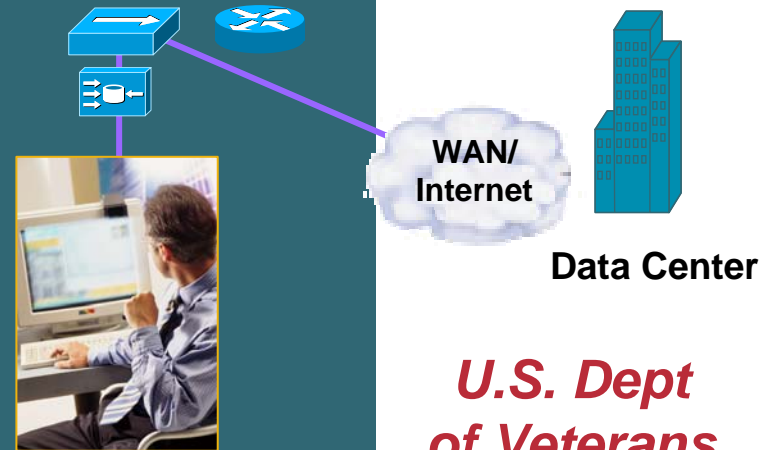


Reuters:

- Implemented scalable ECDN-based video network to support 17,000 desktops in 160 countries

Application: Business Video Services

- **High Impact, Video Initiatives:**
 - CEO wants to deliver his/her message to every desktop, every location
 - Organization wants to deploy video training for operating efficiencies
 - Increasing retention of viewer requires impact of rich media



Solution: “Video On-demand”

- Pre-load rich communications, training
- Any file format
- Bandwidth controls
- High-scalability

***U.S. Dept
of Veterans
Affairs
Live and on-
demand
network to
support
220,000+
desktops and
115 locations.
Saved \$800K
on one event,
alone!***

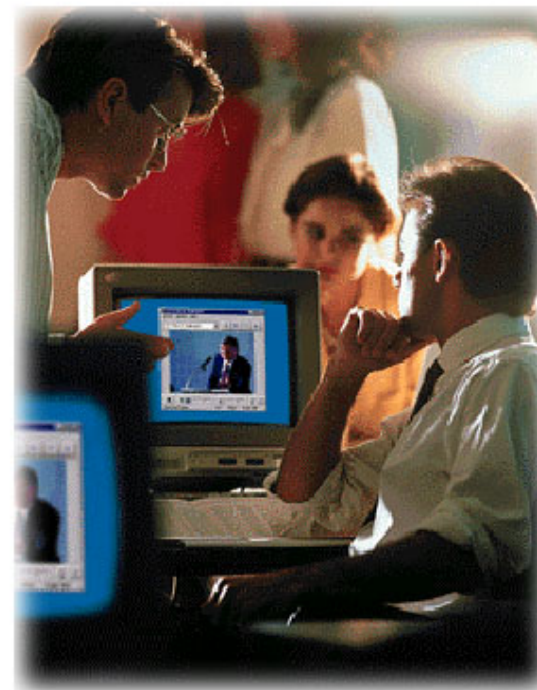
Cisco Video Solutions

Cisco IP/VC Videoconferencing Family



Interactive Video Communications

Cisco IP/TV Streaming Video Family



Video Broadcasting and Video on Demand

Content Engine Network Modules for Cisco Access Routers with ACNS Software

- **Integrated Solution, Compact Footprint, Cisco IOS Managed**

- *Content Acceleration*
- *E-communications*
- *E-learning*
- *Content Filtering*
- *File Distribution*
- *Virus Protection*



**NM-CE-BP-20G (20G internal IDE)
NM-CE-BP-40G (40G internal IDE)
NM-CE-BP-SCSI (no disk, external
SCSI expansion)**

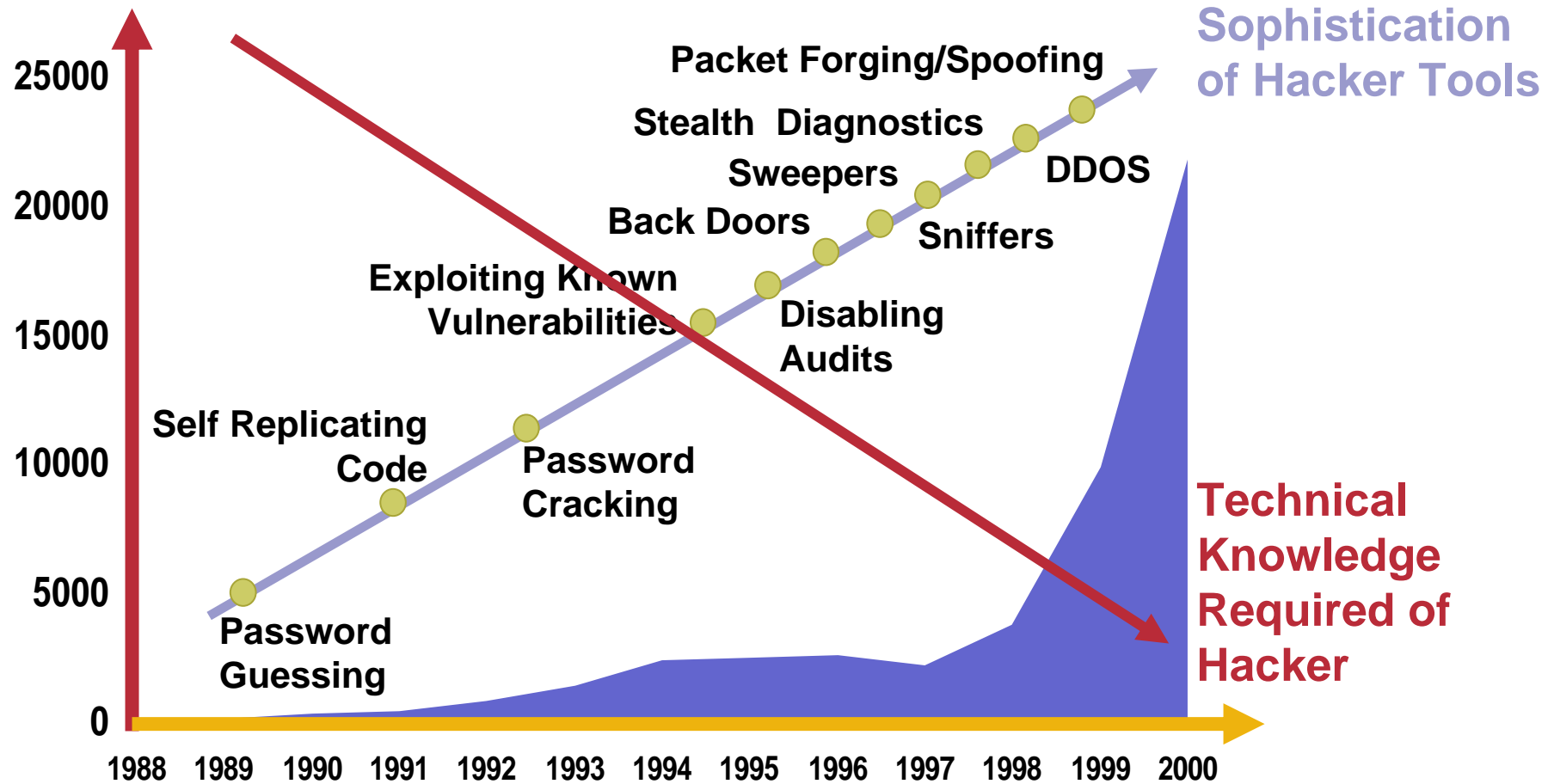
- **Advanced Transparent Caching / Filtering**
 - Authentication, Dynamic Client Bypass, Overload Bypass, Slow Start, Flow Protection, Clean Shutdown, WCCP V2
 - SmartFilter, N2H2, Websense
 - Radius, LDAP, TACACS+ and Native NTLM Authentication
- **Full support for key Streaming Technologies – MPEG, Windows Media, RealNetworks, QuickTime**
- **Fully compatible with WAE devices, CDM**
- **Supported on IOS Release 12.2(11)YT and 12.2(13)T**
 - Cisco 2600, 3600, 3700 Series Routers
 - 256MB, upgradeable to 512MB
 - External compact flash
 - Internal and External 10/100 ports
 - External Storage: SA-6 and 1RU Reference Sell (HP)



Security – Self Defending Network

Advanced Security Threats and Trends

Number of Intrusions

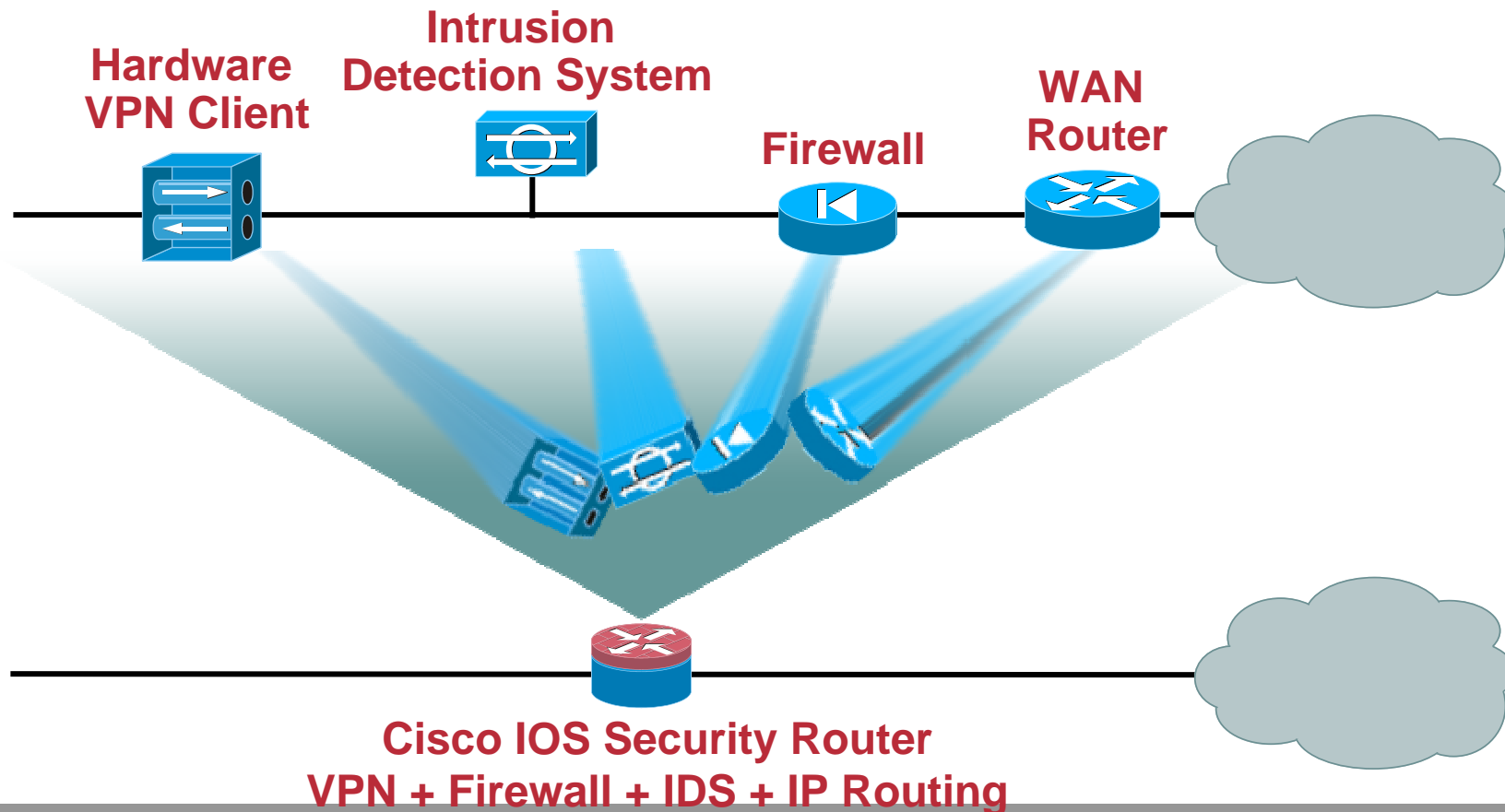


Source: CERT, Carnegie Mellon University

Advanced Security

All-in-One Branch Security

- IPSec VPN, Inline Stateful Firewall, IDS, and IP Routing
- Eases management burden, reduces cost of ownership

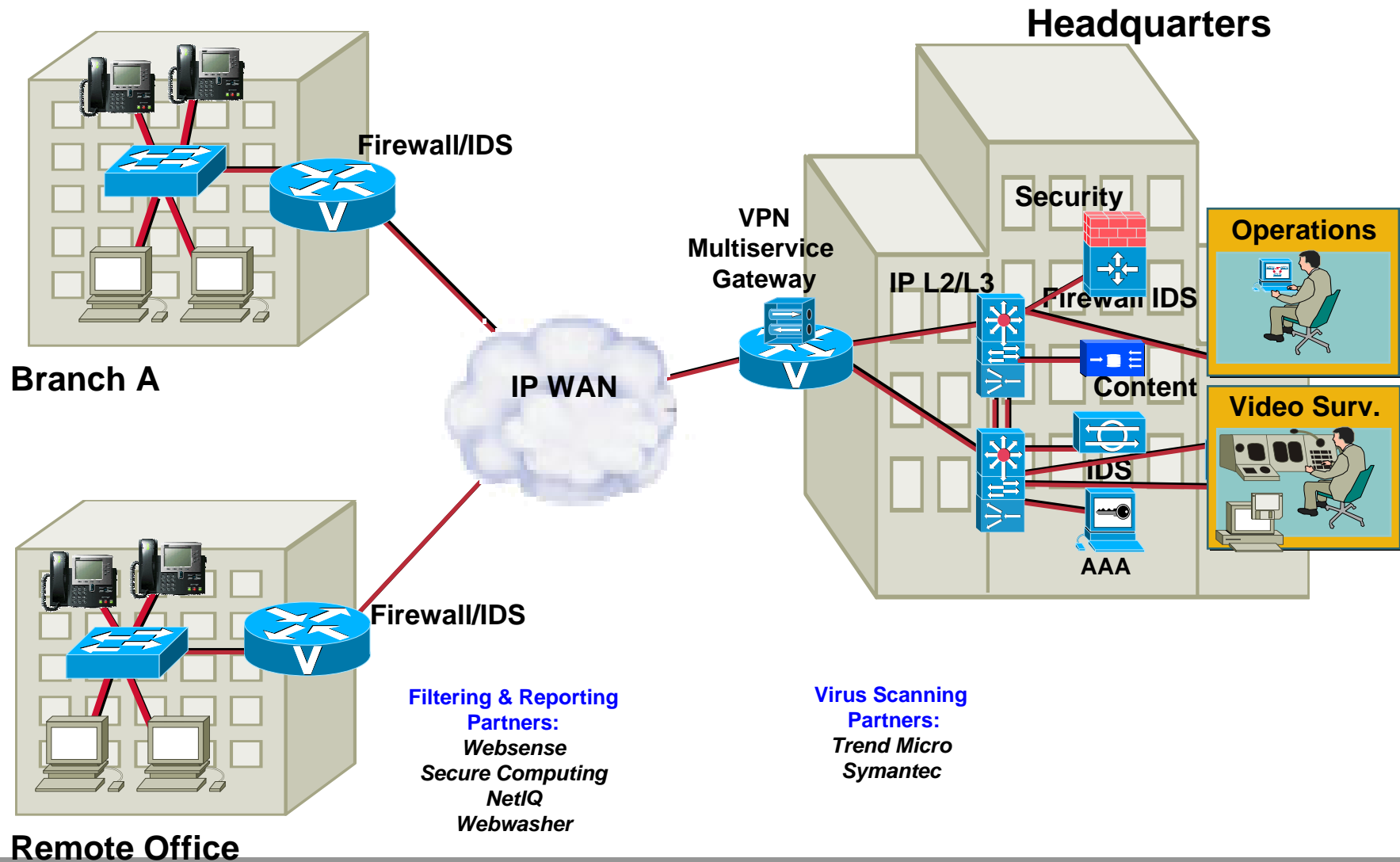




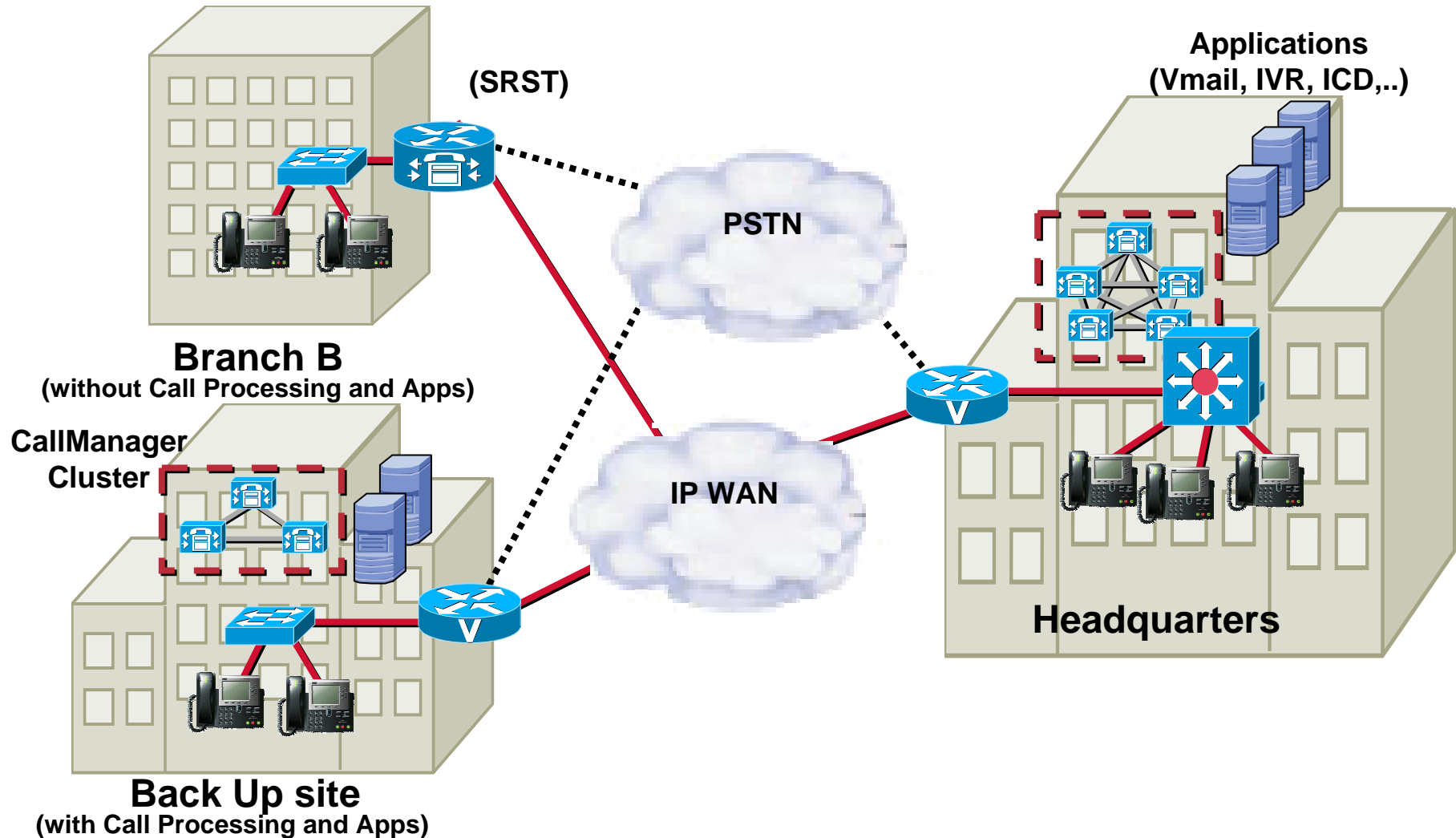
Design Architecture

Secure Branch Infrastructure

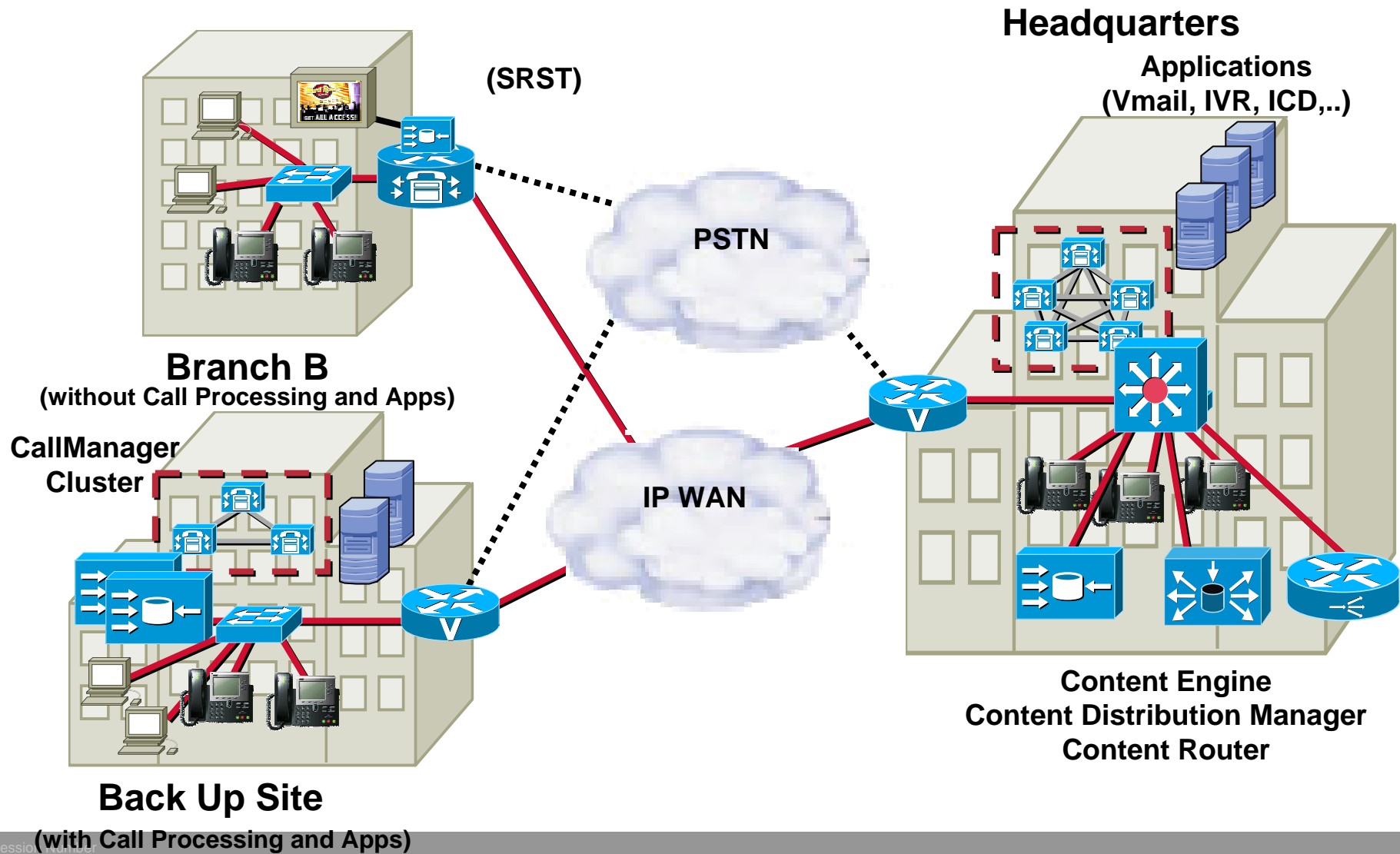
IOS FW/IDS/Filtering/AAA/AV



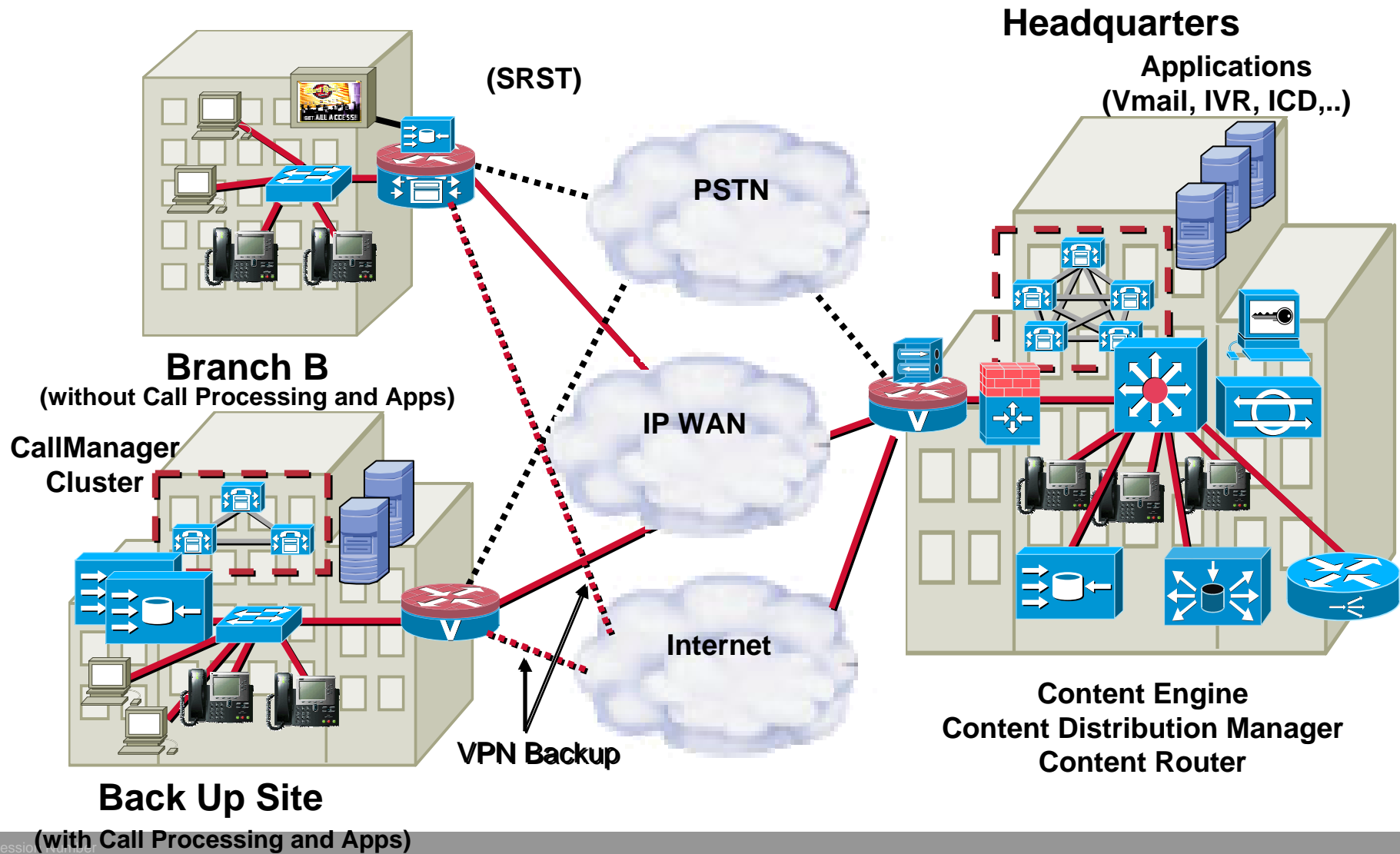
Branch Office: Voice



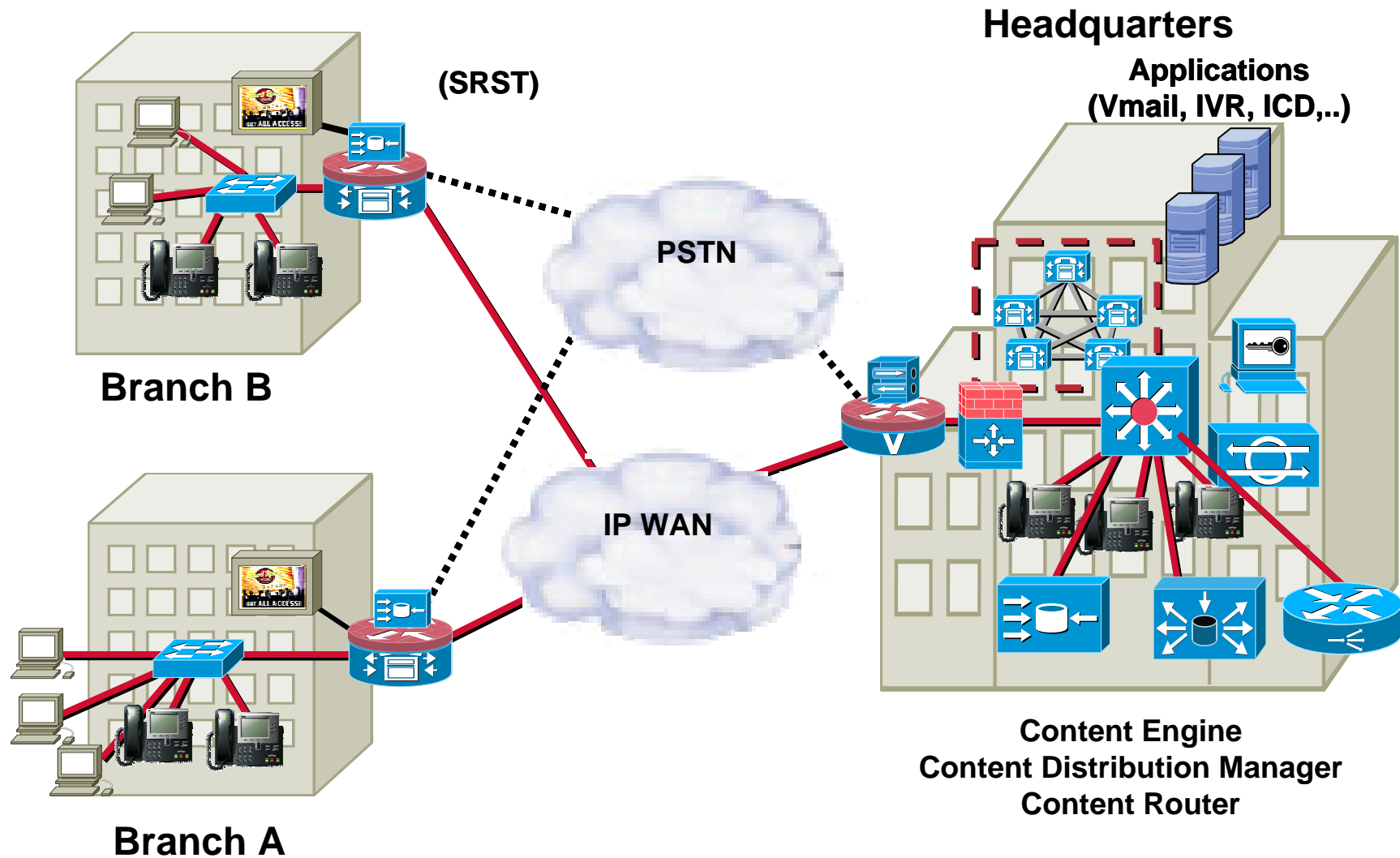
Branch Office: *Voice + Content*



Branch Office: Voice + Content + Security



Branch Office: *Full Service Branch*





Summary

Cisco Access Routers Meet Requirements for “The Full Service Business”





Thank You!