

CISCO SYSTEMS



이것이 바로 네트워크의 파워, **now.**

Video & Voice IP PBX Cisco CallManager 4.0

(Voice & Video Business Development)

Cisco Systems Korea

Agenda

- **Rapid Transition to Convergence**
- **CallManager 4.0 Enhancements**
- **Security**
- **Video Telephony**
- **Summary**

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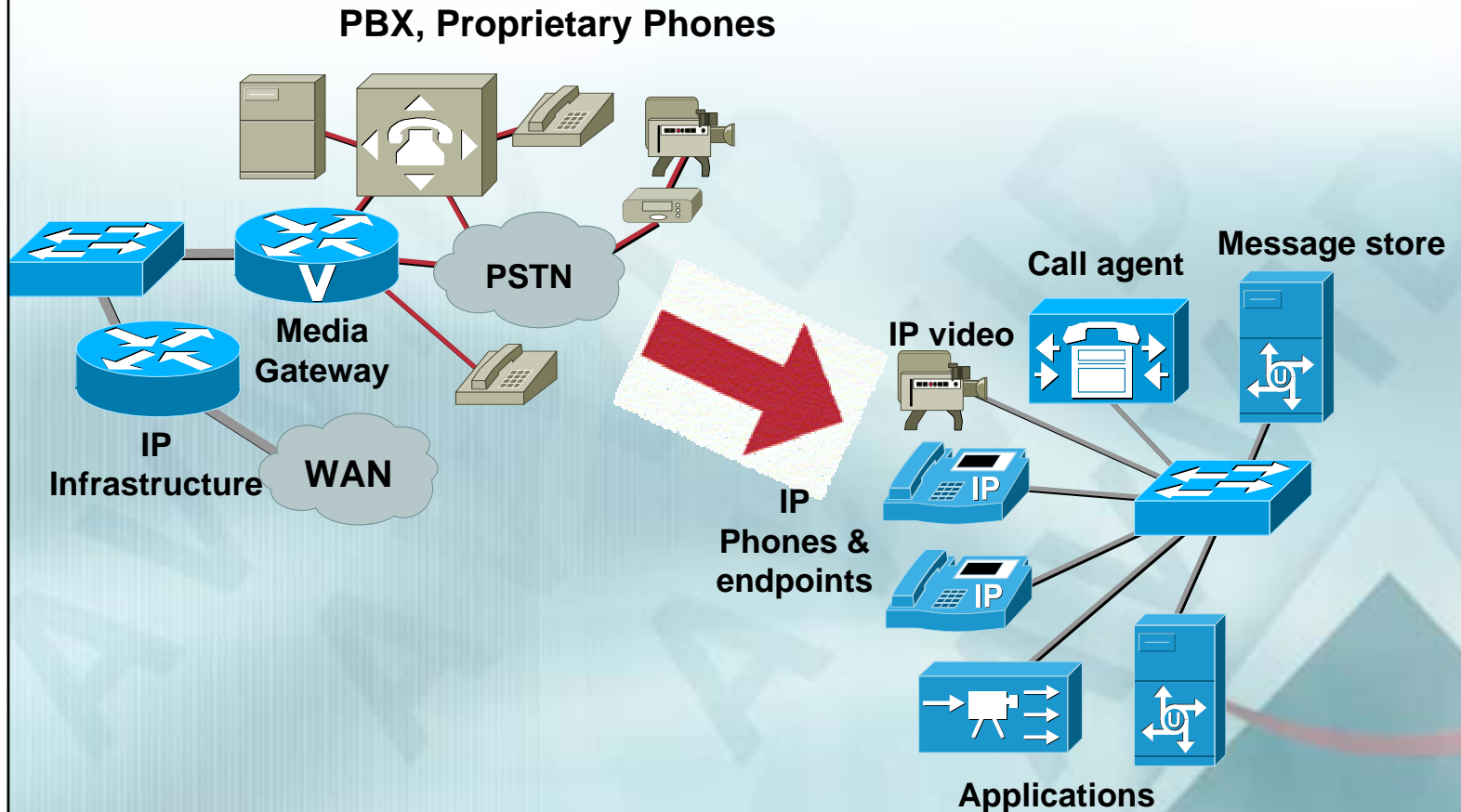
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New forces are redefining business

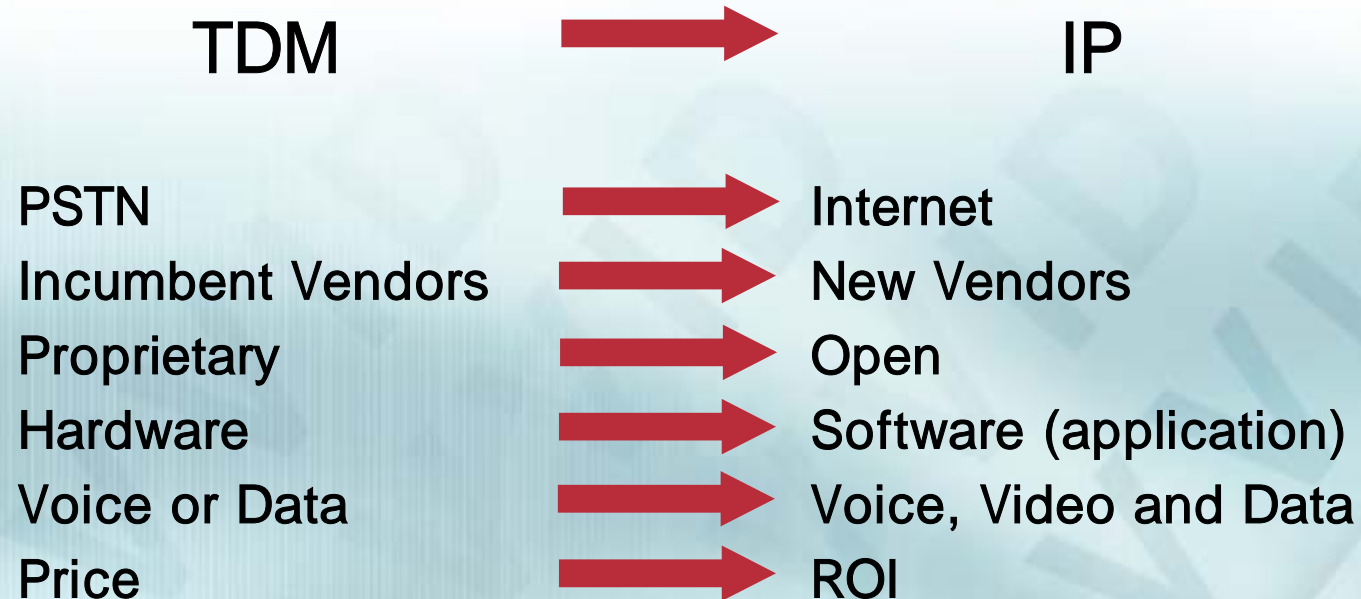
- Global markets
- Networked Virtual Organization
- Internet
- Presence
- Security
- Enhanced Communication for Productivity



A Revolution is Happening....



...and it's Changing the Industry



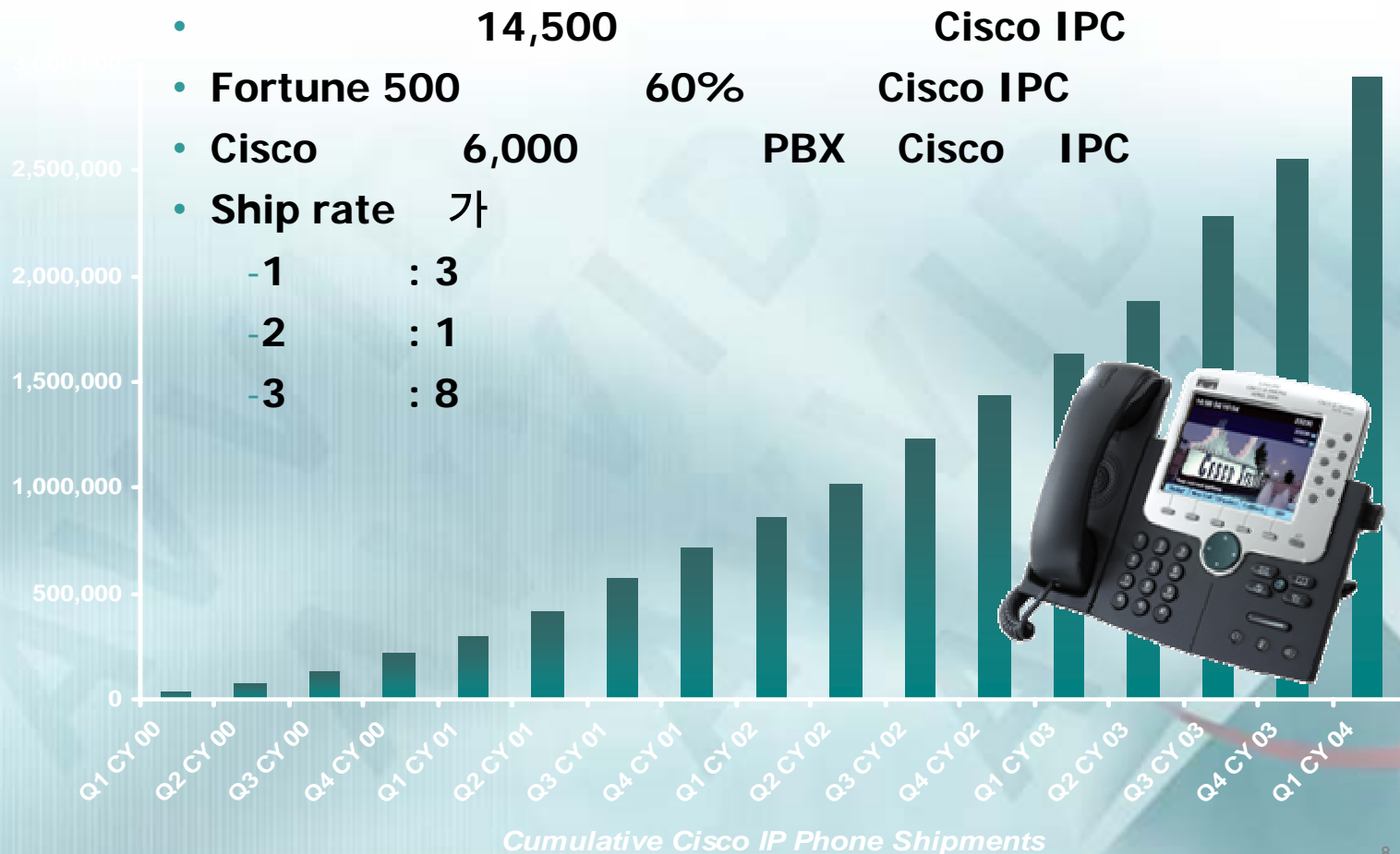
Benefits of Convergence

- Design efficiency
 - ✓ **One infrastructure** to know, buy and maintain
 - ✓ Cost savings - Capital, personnel, training
 - ✓ **Leveraged investment for expansions and upgrades**
- **Greater business agility for new technologies and applications**
- Extension of data security technology to voice and video (encryption, authentication)
- **Scalability**, beyond the PBX cabinet

Cisco CallManager delivers greater economic and operational advantages

Cisco: IP Phone 3

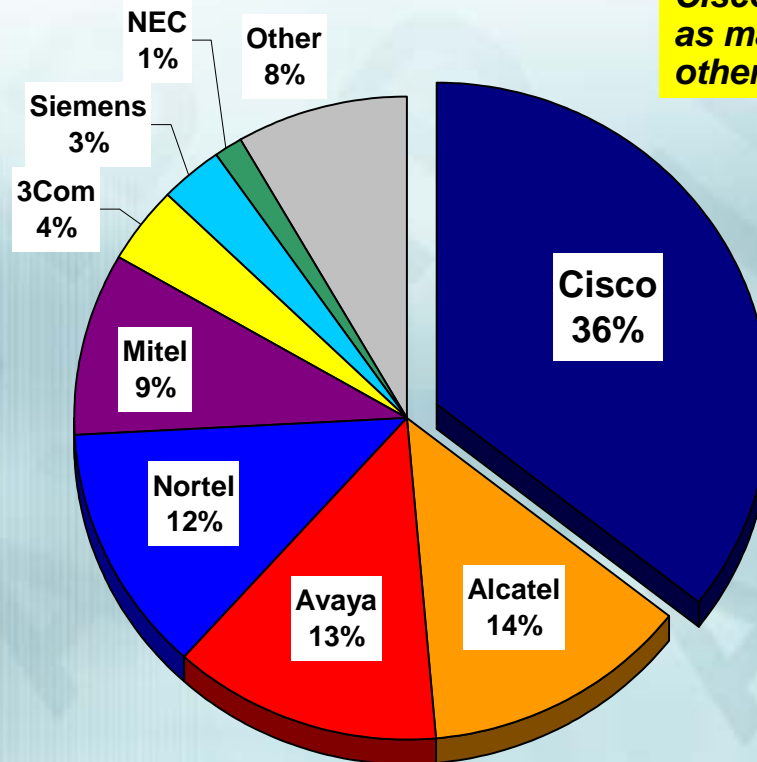
(2004 4)



Cisco is the Leader in IP Phone Shipments Q4 CY2003

WW IP Phone Shipments: Units (Market Share) Q4 CY2003

Total: 759 K - Source: Synergy Research



**Cisco is shipping 2-3 times
as many IP phones as any
other vendor**

CallManager 4.0

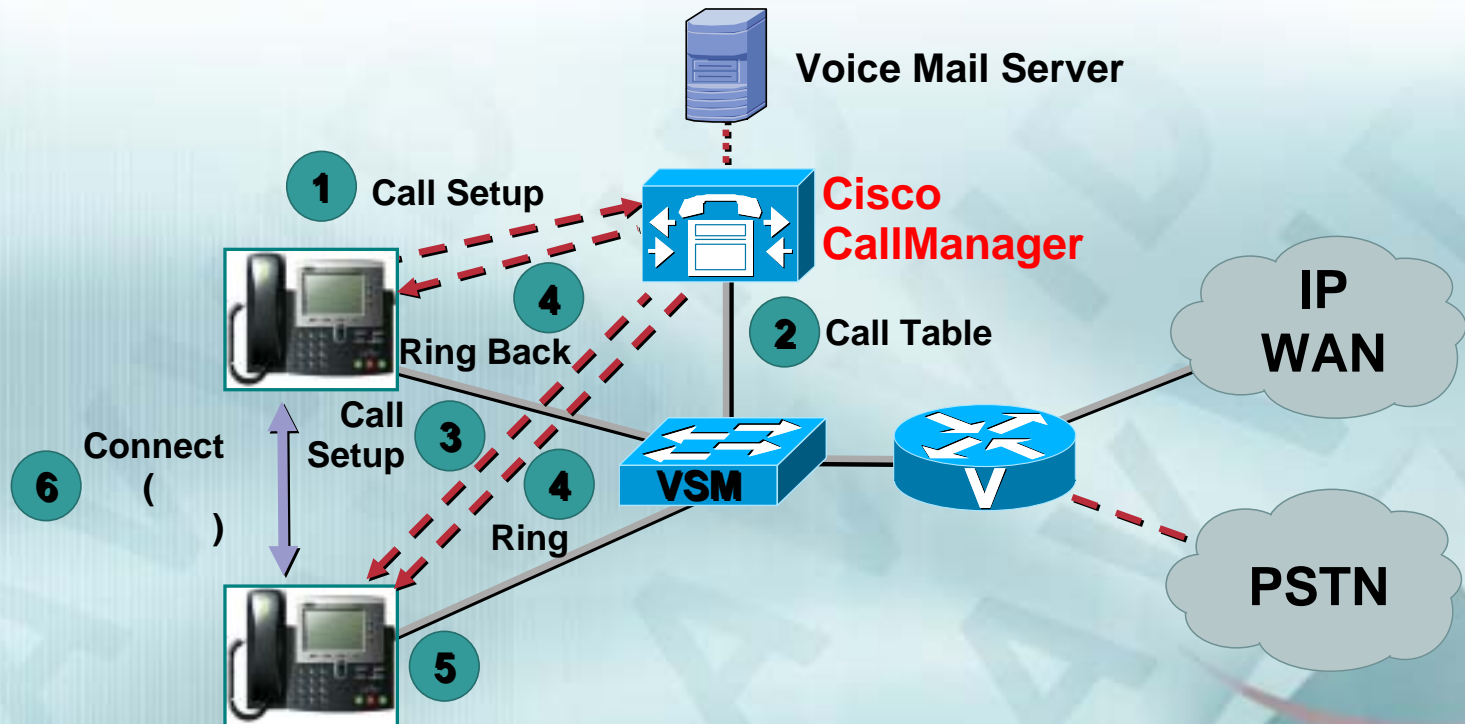


Cisco IP Communication Platforms



All IP Cisco IP PBX

Single Site



Cisco CallManager 4.0

MLPP with Annunciator

Q.SIG (CT, CF(ALL,B,NA), MWI) – ISO

CallManager Video (SCCP, H.323)

User features

- Multiple calls per line appearance**

- Enhanced call barge**

- Enhanced privacy**

- Call join multiple selected calls**

- Direct transfer two selected calls**

- Immediate Divert-VM**

- Assign URL to any line button**

- Drop any party from conference**

- Configurable call fwd info display**

- IPMA enhancements**

SIP Signaling interface (Network side – no phone support)

Hunt group enhancements

Malicious Call Trace

Security

- Media encryption – new IP phones**

- Device authentication (new phones to/from CallManager)**

- Signaling authentication (TLS new phones to/from CallManager)**

CTI enhancements (Route point media termination, shared lines)

BAT Enhancements

Real Time Monitor Tool Enhancements

Trace Enhancements

Cisco CallManager 4.0

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Trace Enhancements


Security Enhancements





Security: Multi-Layered Approach

- **Host-Based Intrusion Prevention**
- **Windows OS hardening**
- **Phone Hardening**
- **CallManager Hardening**
- **Media Security**



Enhanced
in 4.0

Security: Cisco CallManager 4.0

- Provide baseline in CallManager to support the following for endpoints and gateways:
 - Authentication
 - Integrity
 - Privacy
- Phone Hardening: Cisco-signed Phone Firmware and phone configuration.
- Phone Identity: Cisco CA-signed X.509v3 certs installed in newly manufactured phones and new phone loads.
- SCCPS - "Skinny Signaling Security": **Authenticated and encrypted signaling.**
- **Media Integrity and Privacy: AES-128-CBC Encryptor for RTP payload.**
- Server OS Hardening: Improvements and recommendations to improve OS Security.

Enhanced
in 4.0

Security: Host-Based Intrusion Prevention, Cisco Security Agent (CSA)

- CSA agent bundled with CallManager at no charge
- Host-based Intrusion Protection
- Network Worm Protection
- Operating System Hardening
- Web Server Protection
- From Signature-Based to **Policy-Based**
- Centrally administered, with distributed, autonomous policy enforcement
- Effective against existing & previously unseen attacks



Anticipate problems, and deal with them before they happen

**Enhanced
in 4.0**

Security: Phone Hardening

- **Phone Hardening**
 - Signed config file in all phone models
(Except 7920 and 7935)
 - Disable HTTP & Telnet
- **Phone Identity**
 - X.509v3 digital certs in newly manufactured phones (7970, future models)
 - Local certs installed by customer – 7940 / 7960 / 7970
 - CAPF: Certificate Authority Proxy Function
 - Secure enrollment via Certificate Trust List (CTL)



Operating System Hardening

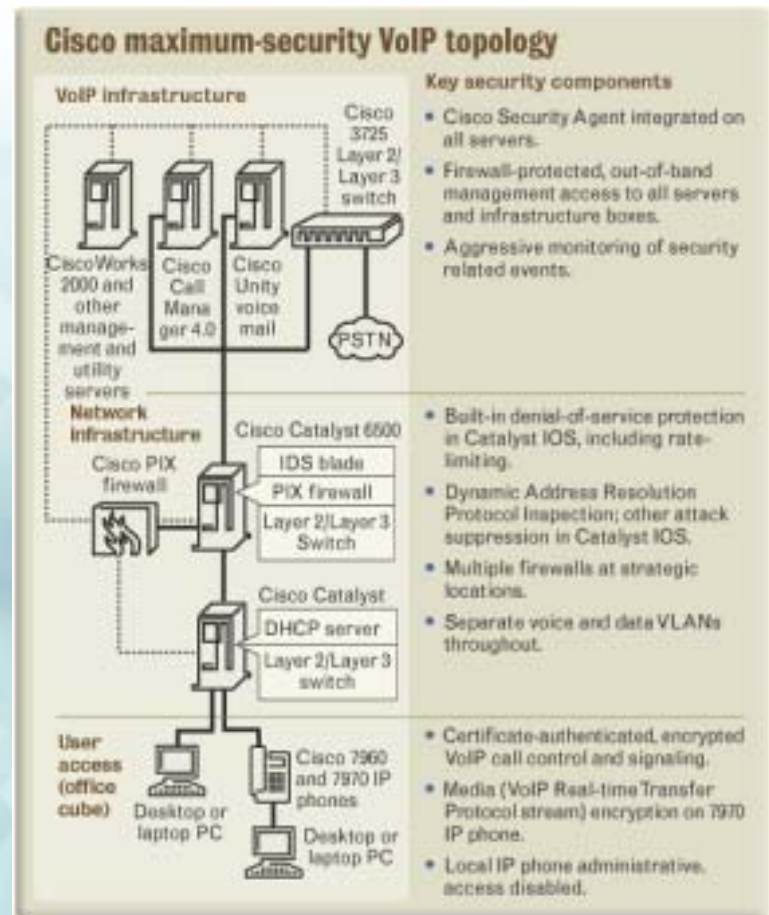
- **Hardened Win2K OS Shipped By Default, and downloadable from Cisco Connection Online**
 - Aggressive Security Patch and Hotfix Policy
 - Critical: Tested and posted to CCO within 24 hours
 - Others: Consolidated and posted once per month
- **New email alias tells you when new patches are available**
- **Antivirus Support**
 - McAfee VirusScan, Enterprise Edition 7.0
 - Symantec AntiVirus 7.61, 8.0
 - Trend Micro ServerProtect5
- **Intrusion Prevention – CSA (Cisco Security Agent)**

Cisco Earns Top Rating in Challenging VoIP Security Test

- IPT Top 5 IPT (Cisco, Avaya, Siemens, Nortel, Mitel) test , Cisco Avaya 가
- Network World Lab Alliance member Miercom and consultant “Rodney Thayer” 가 test
- 3 IP Telephony Layer2/3 Infra Hacking Security
- Result
 - Cisco Top Secure Rate
 - Avaya test , Secure rate

“Cisco hacker
Secure IPT
!”

Ed Mier, president of Miercom, and product test center



The Ground Rules

- **Vendors**

Provided a “maximum security” voice system

1000 users, single site deployment, no remote branch, no telecommuter (VPN) solution, and no softphones – Same rules for all vendors

Must use equipment available today

No changes to configuration during test

- **Hackers**

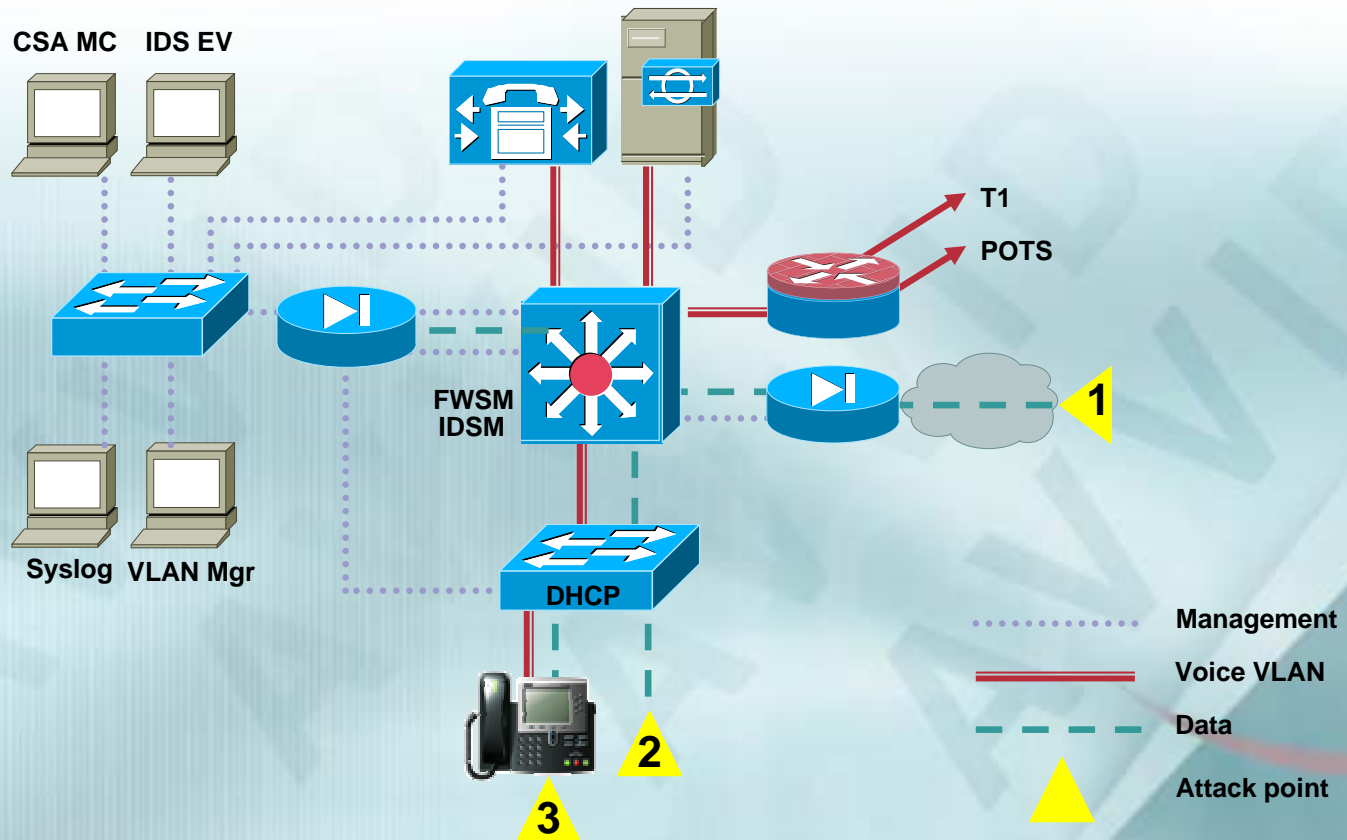
Could use any tools available on Internet

3 attack points simulated real world system

Attempted to break or affect voice system

Test lasted 3 days

Cisco Test Topology at Miercom Labs



Video Telephony



Cisco IP Video Telephony Direction

- IP end-to-end
Cisco Voice Solution
- H.323
-
- Video Telephony

Introducing IP Video Telephony

Enterprise-class IP telephony and video is delivered over a single Cisco IP Communications infrastructure



Cisco's IP Video Endpoints



Peripheral &
Video
Association
March 2004

- Extends the capabilities of Cisco's IP phones
- IP phone call with video on PC (USB Web Cam)
- Unified dial plans
- Converged billing & management
- Interoperates with H.323 video endpoints, MCU's, & GW's



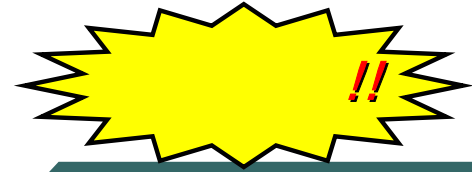
Cisco VT Advantage



- PC associates with IP phone
- Phone registers as a video capable phone
- Initiate Voice/Video Call from IP phone
 - Audio on the Phone
 - Video on the PC (Cisco VT Camera)

Convergence in Action!

Cisco Video



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- **Cisco Call Manager**

- **Cisco IP Phone Video**

- **H323 가**



Cisco VT Advantage

User Experience Example - Transfer



Cisco IP Videoconferencing ()

- **Cisco Multimedia Conference Manager**
H.323 Gatekeeper/Proxy
- **Cisco IP/VC 3540**
Multipoint control unit
H.320 to H.323 gateway
T.120 data conferencing server
Rate Matching
- **Cisco IP/VC 3511**
Multipoint control unit
- **Cisco IP/VC 3521, 3526**
H.320 to H.323 gateways

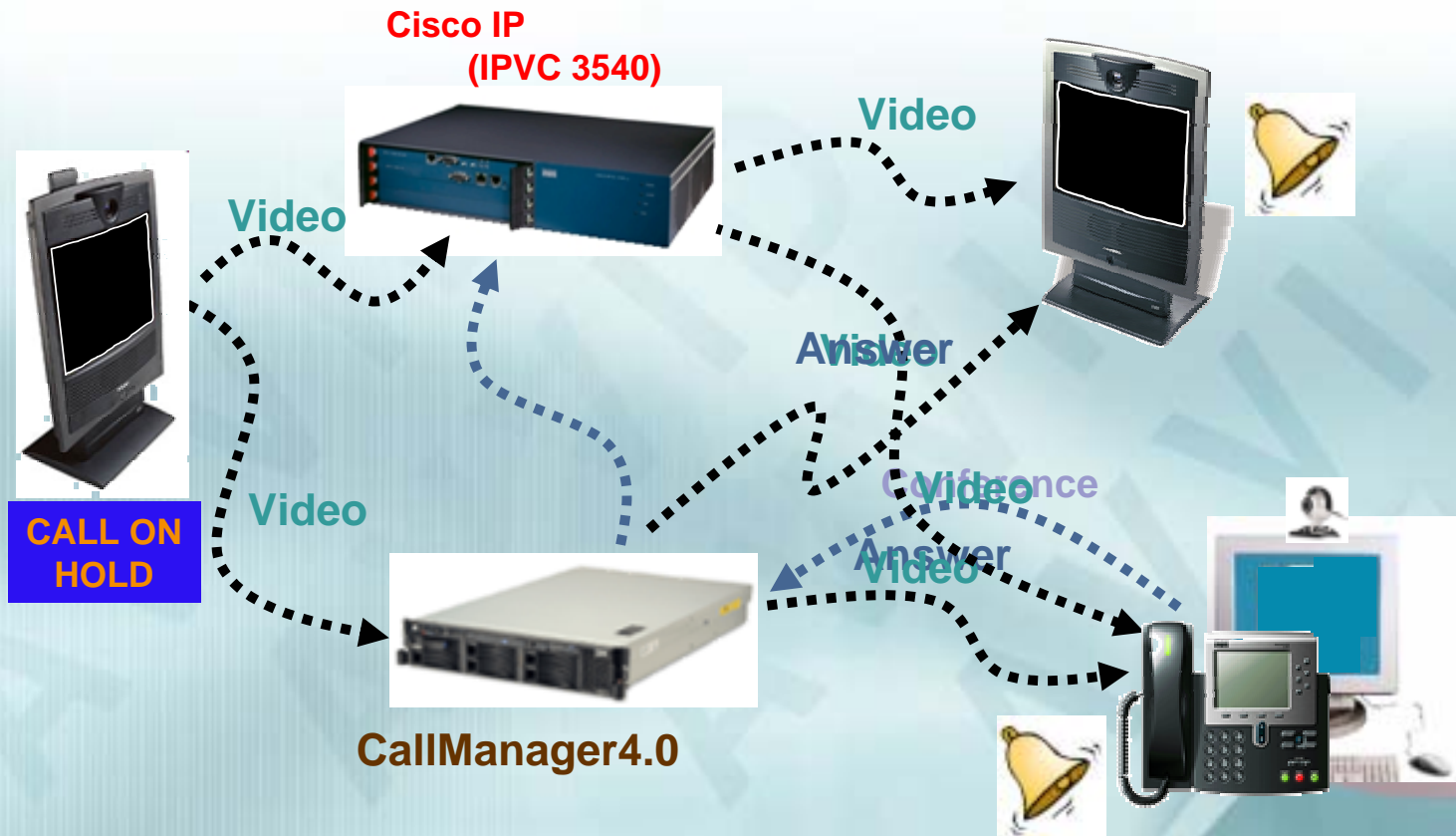


Choice of Packages
Multi-Function Modular
Single-Function Compact

Cisco IP/VC MCU *Plus* 3.2

- New IP/VC software provides MCU resource for IP Video Telephony
- Conferencing resources provides IP Telephony-like functionality for videoconferencing
- Allows customers to create point-point calls then seamlessly expand into videoconference format
- Same Telephony Button Setup Experience:
 - **"Confr"** – push, dial tone, add participants
 - **"MeetMe"** – push, enter number, create or join conference

Video Phone &



Cisco Video (Conference, Video Telephony)

Cisco Video (Conference, Video Telephony)

- IP PBX가
- Desk 가 ()
 - Call Transfer, Call Pickup (), Call Forward, Video Mute, etc)
- Desk가
- , (=)
- 가 , "Conference" Button

Video Telephony Components Summary

Cisco VT Advantage



- Cisco IP Phone carries voice, PC displays video
- Cisco VT Advantage software & Cisco VT Camera
- Supports SCCP Cisco IP Phones 7940G, 7960G, and 7970G

New

SCCP Video Endpoints



- Emulates 7960 Phone (incl. softkeys, directory, XML services)
- Available from Tandberg

New

H.323 Video Endpoints



- Available from AVVID partners -
 - Tandberg, Polycom, Motion Media, Sony, Sanyo (verification on CCM 4.0 required)

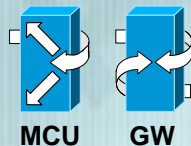
CallManager 4.0



- Providing Single Dial Plan and Call Control
- Audio and video resource management

New

IP/VC 3.2 plus 3540



- Integration with CCM via SCCP
- Enables Ad-Hoc Conferencing for SCCP Video Devices
- H.323 and SCCP support
- Gateway for PSTN access (H.320)

New

Summary

- **Cisco is Market leader in IP Communications**
- **Cisco has most comprehensive breadth of products**
- **IP Communications can provide your business with substantial ROI and improved productivity**
- **Video Telephony is a paradigm change**
- **Only IP Communications will provide your business with platform for future**

