## . 1 | 1 . 1 | 1 . CISCO

In the Human Network...

Security is Everywhere

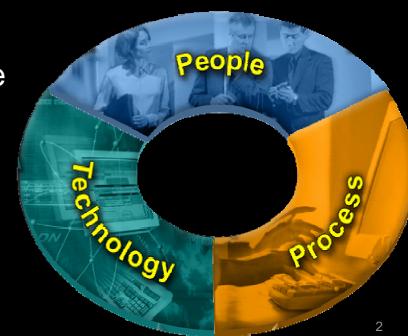


Colin Bradley
Advanced Technologies Lead for Security (ANZ)
<a href="mailto:cobradle@cisco.com">cobradle@cisco.com</a>



## Agenda

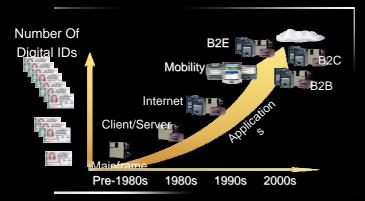
- The Changing Threat Landscape
- Cisco's Security Strategy the Self Defending Network
- Threat Control & Containment
- Technology & Solutions Update
- Summary



## Threat Trends... Why security is still a No.1 Business Priority

#### **Exponential growth of IDs**

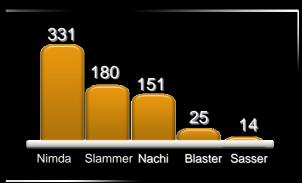
Identity and access management challenging



## exploit decreasing

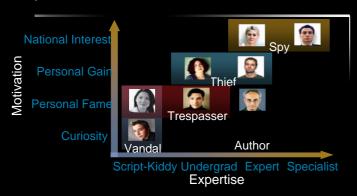
Days from update to

Updating alone is not sufficient



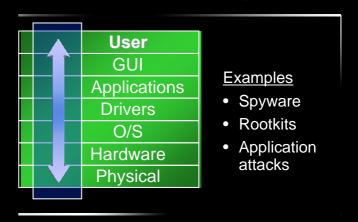
#### Organized crime on the rise

IP protection is critical



#### Attacks getting more sophisticated

Traditional defenses are inadequate



## Convergence, not a question of if but when! However, it does pose a new conundrum…

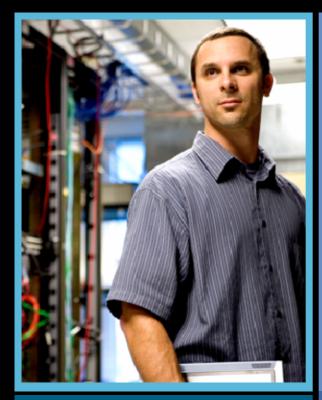


Need to Balance Security

Security

With QoS and Availability

## **Business Security Challenges**



Minimize Business
Disruption and
Information Asset
Vulnerability



Meet Regulatory
Compliance
Requirements



Maximize the
Efficiency of Limited
IT Staff and
Resources

## The market is at an inflexion point:

 New threats are being targeted at the application layer and specific individuals [Spear-Phishing etc]. So, greater need to re-focus on what's leaving the organisation and not what's coming in!)

Convergence

Consolidation & the "Microsoft Effect"

## Spyware for Sale The New Corporate Espionage



- Ruth and Michael Haephrati charged with writing custom spyware for corporate intelligence gathering
- Michael Haephrati began developing the Trojan in 2000
- Wife Ruth Haephrati marketed it to three private investigation companies in 2004
- Leveraged both known and unannounced vulnerabilities on Windows systems
- Captured various data using standard behaviors: keystroke logging, screen capture, file transmissions, etc.

"Organized criminals are hell bent on stealing information and making a profit. This case sends out a strong message that the menace of spyware is growing, and that companies need to realize that it's not just home users who are at risk."

### Doubt consolidation...

"The value of security as a standalone solution is diminishing."

RSA president Art Coviello said he was simply expressing the need for security "to be built more and more into an infrastructure....If I'm proven wrong about the timing [within three years], I won't be proven wrong in the need for this." but he did acknowledge, "There will always be a place for innovative startups."

RSA Conference, San Francisco, 7th February 2007

## Dispelling a Myth?

Is it more secure to use firewalls from two different vendors?

"Enterprises should standardize on one firewall platform to minimize self-inflicted configuration errors. It's not more secure to use firewalls from different vendors instead of one to protect enterprise networks" – Greg Young, John Pescatore in Gartner Research Note (published 5th February 2007)

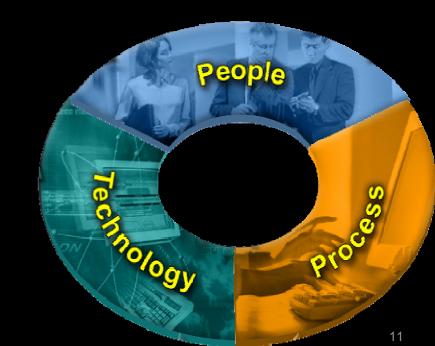
- \* Having two platforms greatly increases configuration and management problems
- \* The increasingly complex DMZ is increasing the complexity in the firewall rule base
- \* More than 99% of breaches are caused by firewall misconfigurations, not firewall flaws

## So, its time to change thinking. Its time to change the model....

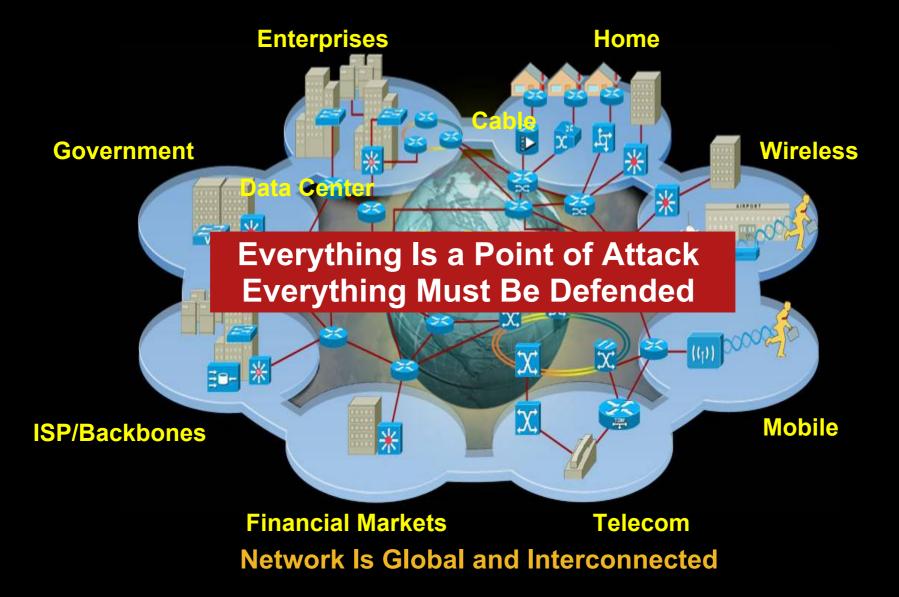
- Security solutions must have relevancy to convergence
- Increased productivity and return on investment must be leveraged from existing infrastructure solutions
- Eco-system will be proactive, anticipate, learn and adapt....become "Self-Defending".
- Market trends are towards consolidation Cisco and Microsoft are best placed to deliver in the new market
- Confidence and Trust are the only barriers!!!!

## Agenda

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## **Secure Everything**



## **Cisco Self-Defending Network**

### A systems approach leveraging the Network Platform



Enabling every element to be a point of defense and policy enforcement



Collaboration among the services and devices throughout the network to thwart attacks



Proactive security technologies that automatically prevent threats

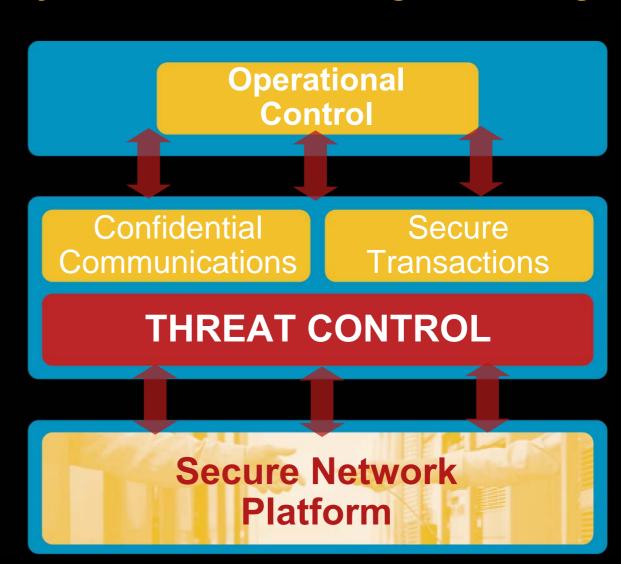
## Self-Defending Network Defined

"You can't do Security without understanding Networking"

Efficient security management, control, and response

Technologies and security services to:

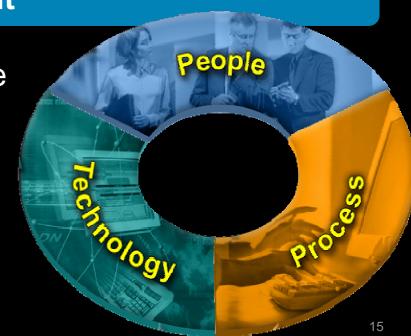
- Mitigate the effects of outbreaks
- Protect critical assets
- Ensure privacy
- Security as an integral, fundamental network capability
- Embedded security leverages network investment



1

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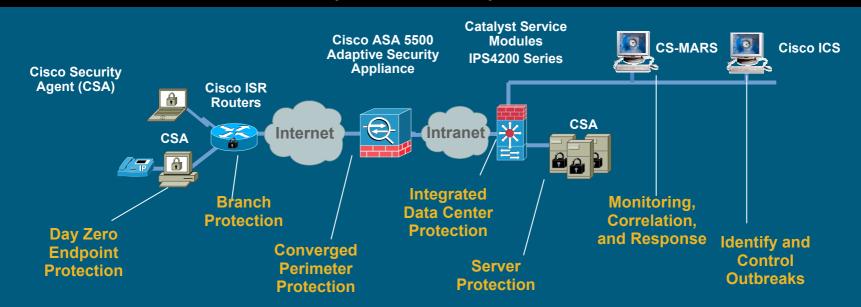


Cisco Public

### **Comprehensive Threat Protection**

#### Integrated

Multi-vector protections at all points in the Network, and Desktop and Server Endpoints



### **Collaborative**

- Cross-solution Feedback Linkages
- Common Policy Management
- Multi-vendor Event Correlation
- Attack path identification
- Passive/Active Fingerprinting
- CSA-IPS Collaboration\*

Presentation ID

### **Adaptive**

- Anomaly Detection with In-Production Learning
- Network Behavioral Analysis
- On-device & Network Event Correlation
- Real-time Security Posture Adjustment
- Dynamic Signature Sets & Recognition
- Rapid Response

## Collaborative Systems Enabling Unparalleled Security

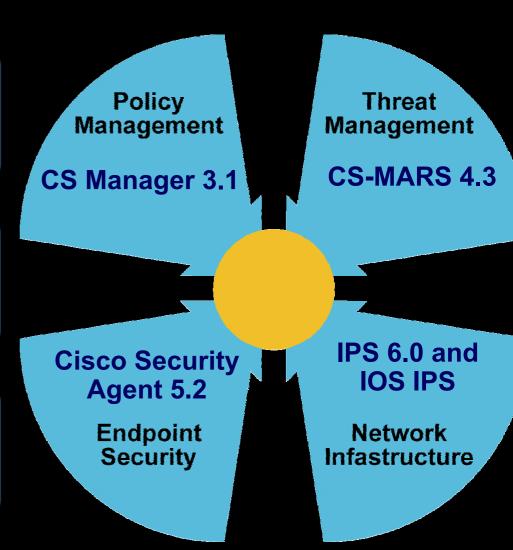
360° Visibility and Protection: Delivering comprehensive and proactive network defence

### **Simplified Control:**

Streamlining policy and threat management across the network

### **Business Resiliency:**

**Ensuring the enterprise's operations** 



### **Enhancements in IPS 6.0 Innovations in Intrusion Prevention**

\* New in 6.0 ^ Unique to the Industry

### Integrated

Multi-vector protections across the product portfolio in the Network, Desktop and Server Endpoints\*^

Visibility into attack relevancy through passive OS fingerprinting\*

Static OS mapping to include environment specific OS assignments\*

Database Protection\*

Insight into user and endpoint credentials\*

### Collaborative

Increased contextual analysis of endpoint\*

Ability to use CSA Watch Lists to influence IPS actions\*

### Adaptive

Day Zero Anomaly Detection – system learns traffic patterns\*

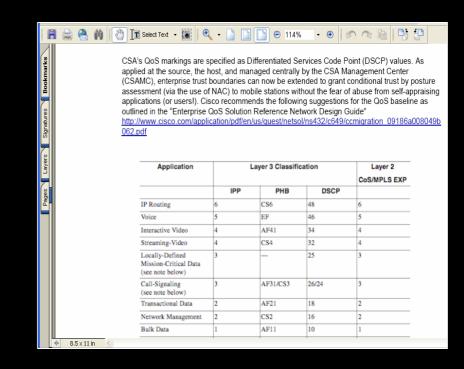
Dynamic Risk Rating adjustment based on attack relevance\*^ Automated event and action filtering based on OS match\*

**Hardware Platforms:** All IPS4200 Sensors, ASA5500 Series AIP modules, Cisco Access Router NM-CIDS modules, and Catalyst IDSM-2 modules

## CSA 5.2 Highlights Collaborative Security Enhances Threat Control

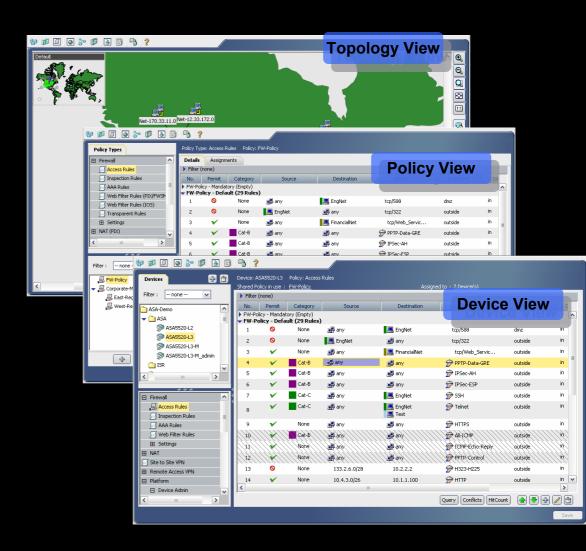
## CSA establishes endpoint-network relationship which enhances total network security

- Application- and user-based QoS tagging ^
- QoS and wireless policy controls provide WIFI optimization and security\*
- Data Protection capabilities provide flexible policy control (eg. What can USB be used for?)
- CSA and IPS: Real-time information sharing providing improved signature fidelity \*^

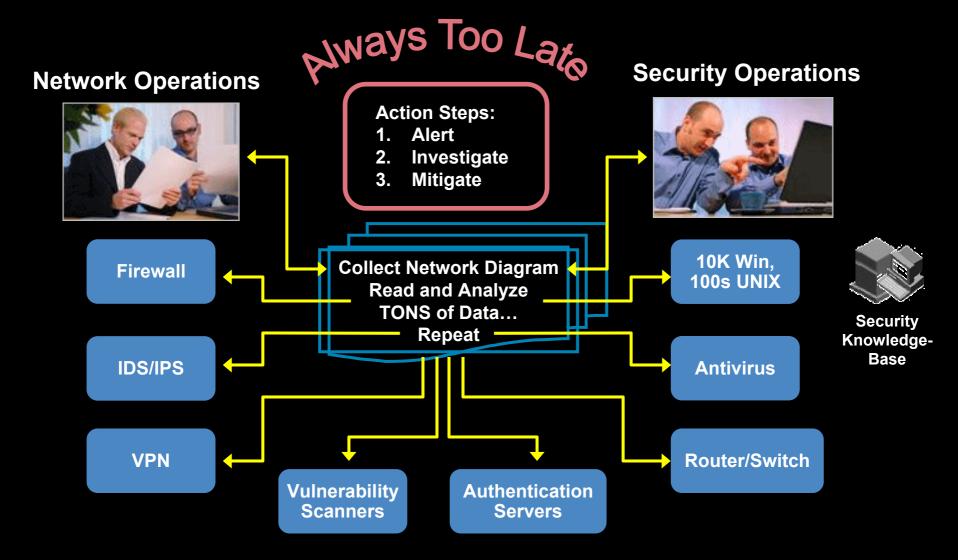


## Cisco Security Manager 3.1 "It has to be easy to use and flexible."

- Different views for different administration preference
  - Device view
  - Topology view
  - Policy view
- One-stop shop for VPN discovery, creation and customization (IPSEC and SSL)
- Native IPS Policy Management on 4200, Catalyst, ASA, and ISR platforms
- Device manager crosslaunch capability



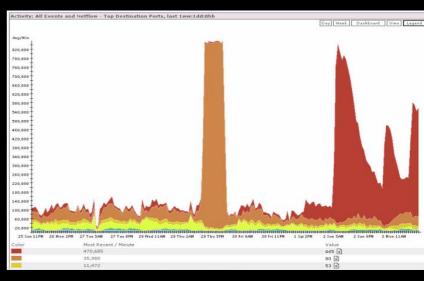
## The Security Monitoring Challenge



## CS-MARS 4.3 (Monitoring, Analysis, and Response System) Operationalizing Threat Management

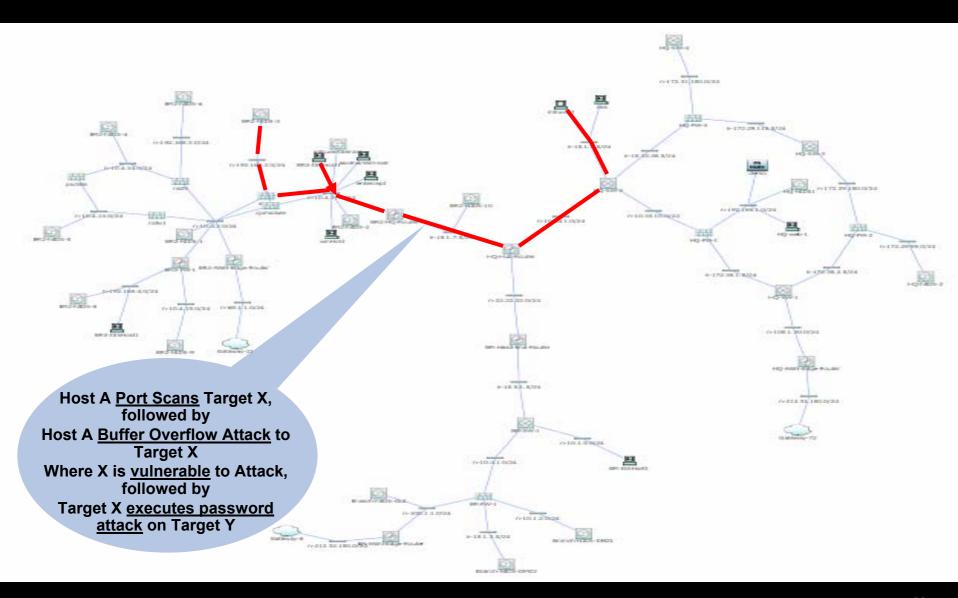
CS-MARS Transforms Raw Network and Security Data into Actionable Intelligence Used to Subvert Real Security Incidents, as Well as Maintain Corporate Compliance

- Network-intelligent correlation
- Incident validation
- Attack visualization
- Automated investigation
- Leveraged mitigation
- Compliance management
- High performance
- Low TCO

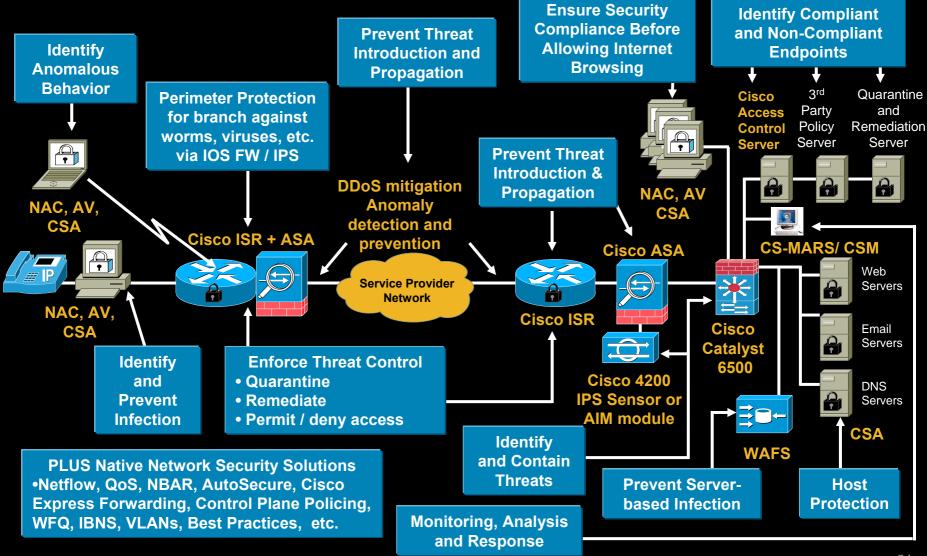


Sasser Detection—
Dynamic Visual Snapshot

### **CS-MARS: "Connect the Dots"**



## **Cisco Threat Control & Containment An End-to-End Security Architecture**



## **Cisco Threat Control and Containment**

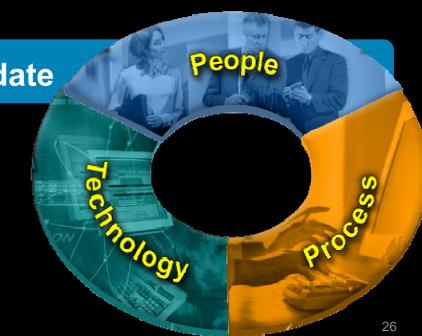


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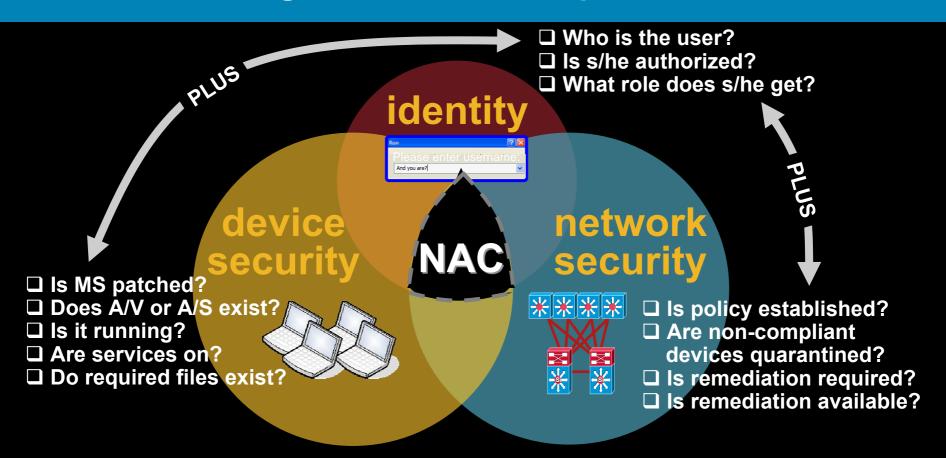


## Cisco NAC



### What Is Network Admission Control?

Using the network to enforce policies ensures that incoming devices are compliant.



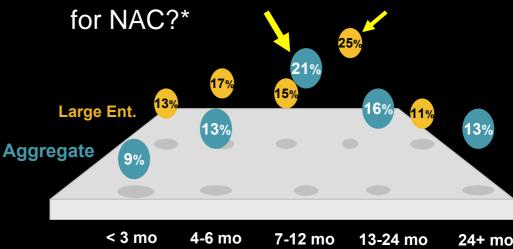
### 2007 Will Be the Year of Cisco NAC

### The Market Is Heating Up

- Now over 30 competitors, includes many major security companies
- Infonetics estimates a \$3.9 billion market by 2008
- NAC is increasingly a priority budget item



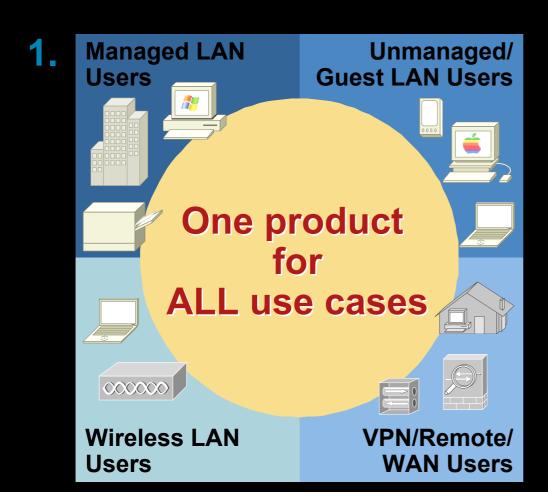




\* Source: Current Analysis, July 2006

### Capture Your Customer's NAC Budget

## The Cisco NAC Appliance Advantage



- 2. 1,200+ customers across all use cases: No. 1 NAC solution
- 3. Most deployments ready under 5 days
- 4. Scales from 100 users to 100,000+ user, across 150+ locations
- **5.** Does not require infrastructure upgrade



## In September 2006, Cisco & Microsoft

- Unveiled a NAC-NAP Joint Interoperable Architecture
- Provided a related technical white paper
- Outlined a general roadmap for when customers can implement interoperable components
- Demonstrated the interoperability at the Security Standards Conference
- Limited betas started late in calendar year 2006
- General production deployments to be supported by both Cisco and Microsoft when Windows Server "Longhorn" ships 2H 2007





### Nirvana

Running Vista on all desktop devices and NAP / NAC framework components available across the entire infrastructure

Question: how quickly can you have all devices running Vista and have the whole network on 65xx/37xx/ISR etc from Cisco

### Stepping Stones

Use NAC Appliance to solve immediate pain points

Cisco Security Agent to protect and integrate legacy NT4 systems into an agreed NAP / NAC customer centric strategy

Use a combination of MSFT agents for Vista/XPSP2, Cisco Trust Agent for other devices (W2K, Linux, Solaris...)

IBNS (through 802.1x) as option to progress to NAC Framework implementation (Recognise, Assess, Enforce and Remediate).

Will progress over time from stepping stone to Nirvana

Presentation ID

# Router Security - Cisco ISR



## All-in-One Security for the WAN





#### **Secure Network Services**



LAN





Secure Wireless



#### **Perimeter Defense**

Secure

Voice











URL **Filtering**  **Application** Firewall

**IPS** 

Network **NetFlow Admission Control** 

#### **Secure Connectivity**



SSL **VPN** 



**IPsec VPN** 



**DMVPN** 



**GET VPN** 

#### **Business Continuity**





**ISDN** 





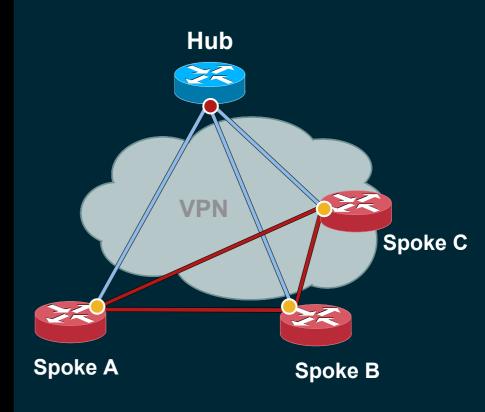


Satellite

## Dynamic Multipoint VPN (DMVPN) Secure Meshed Tunnels – Automatically!

## Dynamic Multipoint VPN Benefits:

- Fully Meshed connectivity with the configuration simplicity of hub and spoke VPN
- Preserves (central) bandwidth, minimizes latency



= DMVPN Tunnels

= Traditional Static Tunnels

= Static Known IP Addresses

= Dynamic Unknown IP Addresses

### **IPS Overview on the ISR**

Cost effective IPS solutions for:

Branch offices & Telecommuters

SMB & Commercial customers

Managed Service offerings

- Can inspect traffic passing through any combination of LAN/WAN interfaces in both directions
- Closely integrated with other Cisco security solutions to deliver "Distributed Threat Mitigation"
- IOS-IPS supports / shares a subset of the signatures available on our dedicated IPS appliance & modules

Confidential Communications -The ASA 5500 Series



#### Cisco ASA 5500 Series

Convergence of Robust, Market-Proven Technologies

Market-Proven Technologies

Firewall Technology Cisco PIX



IPS Technology Cisco IPS



Content Security
Trend Micro



VPN Technology Cisco VPN 3000



Network Intelligence Cisco Network Services



Adaptive Threat Defense, Secure Connectivity



App Inspection, Use Enforcement, Web Control Application Security



Malware/Content Defense, Anomaly Detection IPS & Anti-X Defenses

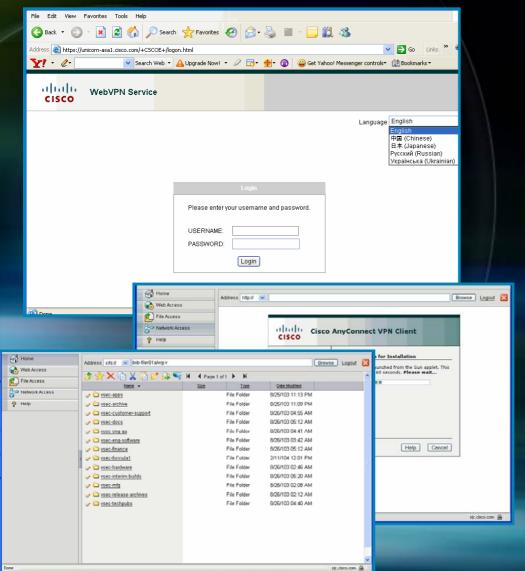


Traffic/Admission Control,
Proactive Response
Network Containment
and Control



Secure Connectivity IPSec & SSL VPN

# Cisco ASA 5500 Software v8.0 Introduces Significant Enhancements in Clientless Access



- Precise, granular access control to specific resources
- Enhanced Portal Design

Localizable

RSS feeds

Personal bookmarks

**AnyConnect Client access** 

- Drag and Drop file access and webified file transport
- Transformation enhancements including Flash support

# **Cisco AnyConnect Client**



Next generation VPN client, available on many more platforms including:

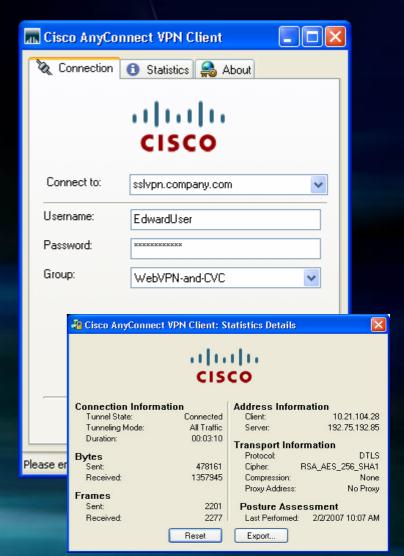
Windows Vista 32-bit, Windows XP 32- and 64-bit, and Windows 2000

Mac OS X 10.4 (Intel and PPC)

Intel-based Linux

Windows Mobile 5 Pocket PC Edition

Stand-alone, Web Launch, and Portal Connection Modes



#### Cisco ASA 5500 Series VPN Solutions

**Enterprise-Class Site-to-Site VPN Capabilities Network-Aware Site-to-Site VPNs** 

#### **QoS-Enabled VPN**

Support for low latency queuing for latency-sensitive traffic such as VolP



Internet

#### **OSPF** Routing **Over VPN**

#### **IPSec Stateful Failover**

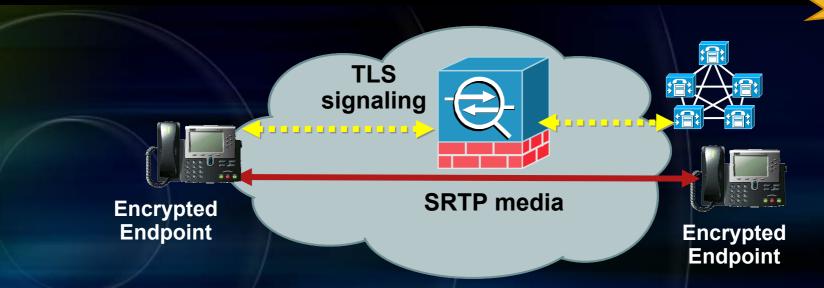
Provides high performance Active-Standby failover with automatic key and SA information synchronization

#### **Robust X.509 Certificate Support**

- Manual enrollment support (PKCS 7/10)
- n-tiered X.509 certificate chaining support
- 4096-bit RSA keysize support



# Industry-First Encrypted Voice/Video Security Solution Now Available with Cisco ASA 5500 Software v8.0



Any Cisco voice/video communications encrypted with SRTP/TLS can now be inspected by Cisco ASA 5500 Adaptive Security Appliances:

- Maintains integrity and confidentiality of call while enforcing security policy through advanced SIP/SCCP firewall services
- TLS signaling is terminated and inspected, then re-encrypted for connection to destination (leveraging integrated hardware encryption services for scalable performance)
- Dynamic port is opened for SRTP encrypted media stream, and automatically closed when call ends

# **Cisco Adaptive Security Appliance**



# Cisco Secure Wireless



### **Cisco Secure Wireless Solution**

An architecture that builds on the inherent security of the Cisco Unified Wireless Network to combine best of breed security services for unparalleled control of business resources to meet compliance needs

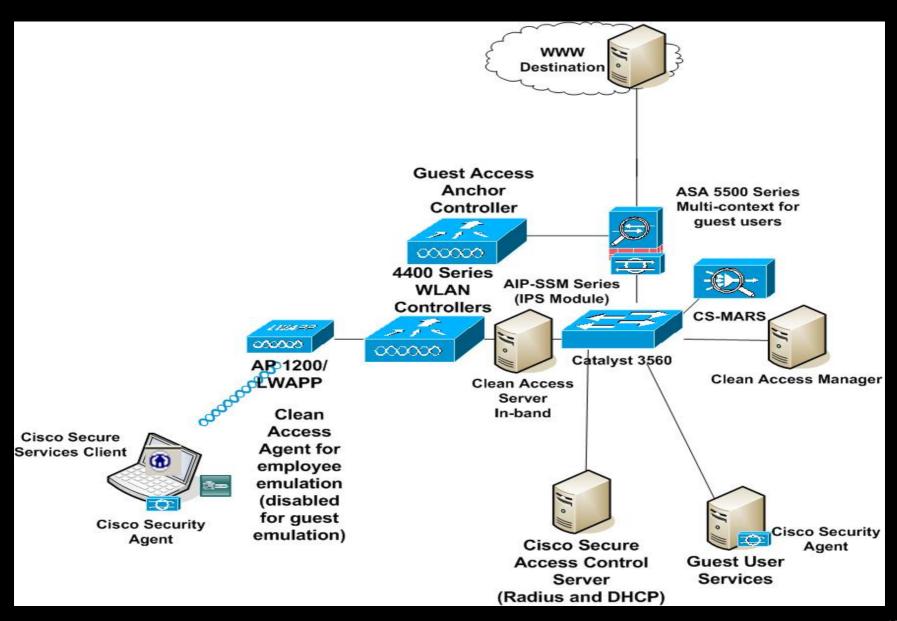
#### What's New?

- An end-to-end architecture
- Integration of wireless and security products
- A solution far superior to that of any wireless competitor

#### **Key Features**

- Unified wired & wireless IPS/IDS
- Client validation, posture assessment and remediation
- Wireless single sign on & 802.1X integration
- Can be integrated with firewalls for secure guest access
- L2, L3-7 & Host intrusion prevention
- Automatic rogue detection via RF monitoring

#### **Secure Wireless Solution Architecture**



Cisco Secure Unified Communications



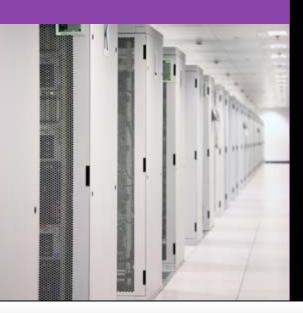
## **Protect Your Most Vital Asset**

#### The Good News....

Included as features in Cisco UC Products (ex: Encryption)

2

Included in networking products (ex: VLAN)



3

Security things you should do anyway (ex: Firewalling, IPS)



#### **Protect All Levels of IP Communications**

#### **Applications**

#### **Value-Added Components**



Messaging, Customer Care, and Other Application Software

**Endpoints** 

#### **User Interfaces**



IP Phones, Video Terminals, and Other Delivery Devices

**Call Control** 

**System Config and Operation** 



Infrastructure and Protocols for **Call Management and Operation** 

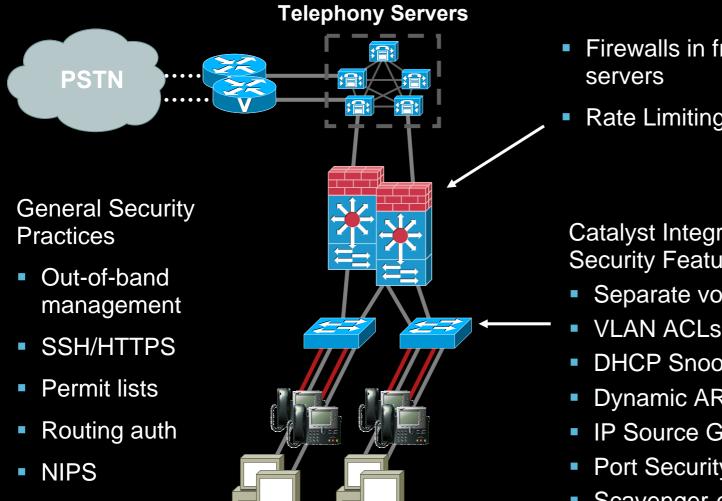
**Infrastructure Transport** 



Secure, Reliable **Communications that Connects All of the Other Components** 

### IP **Communications System**

# Secure Voice by First Securing the Network



- Firewalls in front of telephony
- Rate Limiting in Cat6k

Catalyst Integrated Security Features (CISF)

- Separate voice & data VLANs
- VLAN ACLs (VACLs)
- DHCP Snooping
- **Dynamic ARP Inspection**
- IP Source Guard
- Port Security
- Scavenger-class QoS

Security mgmt

# Deployment of Security Features Is a Balance Between Risk and Cost

**Cost—Complexity—Manpower—Overhead** 

Bronze	Silver	Gold
Default, Easy, No-Brainer	Moderate, Reasonable	Increasing Complexity
Basic Layer 3 ACLs	Simple Firewalls	Application Firewalls
Standard OS Hardening	Rate Limiting	NAC / 802.1X
Unmanaged CSA	Catalyst® Integrated Security	Network Anomaly Detection
Antivirus	VPN—SOHO/Mobile	Security Info Management
HTTPS	Optional OS Hardening	Trusted Endpoint QoS
SLDAP	Managed CSA/VMS	
Signed Firmware and Configs	Directory Integration	
Phone Security Settings	TLS / SRTP to Phones	
	IPSec / SRTP to Gateways	

# The Power of Cisco Integration



Phone authenticated with X.509
Phone provides automatic VLAN segmentation (Voice, Data)
Firewall functionality within the switch
Traffic prioritized with QoS on the network

**Encrypted voice and data routed on network** 

**Call Management and Operation for Encrypted Voice** 

Only Cisco offers a comprehensive systems approach to unified communications security.

## Partner Enablement



# Partner Enablement Today Demands Continue to Accelerate...



- Complex real-time Applications
- Intelligence migrating to Network
- Increasing complexity



- Integrated and Specialist Partners
- Sell, deliver and support Integrated Solutions
- Efficiently expand Capability



Systems-based Approach & Framework:

**Enabling us to Scale** 

Timely and Consistent Channelized Training, Programs, Resources & Tools

# FY'07 Priorities and Strategies

# Selling & Marketing

- Consistent & Complete Launch Packages
- Across Sales Cycle
- PE Engagement Playbook
- Building a Practice Playbooks
- Managed Services

#### Training

- Consistent Framework & Learning Roadmaps
  - Sales, Technical & Lifecycle Services
- Efficient & Consistent Infrastructure
- Best Practice Sharing
- Global Reach

# Tools & Methodologies

- Close AT & Commercial Tool Gaps
  - Quoting
  - Implementation
  - Support
- Methodologies:
  - Assessment
  - Gap Analysis
  - Project Plan

#### 'Must Have' Partner Enablement Tools

#### ▶ Pre/Sales Tools

Discovery

Solution Expert

**Quote Builder** 

Step-to-Success

PDI Help Desk

Partner Presales

PEC (E-Learning)

#### **Marketing Tools**

Sales Accelerator

Competitive Edge Portal

Customized Partner Intelligence (CPI)

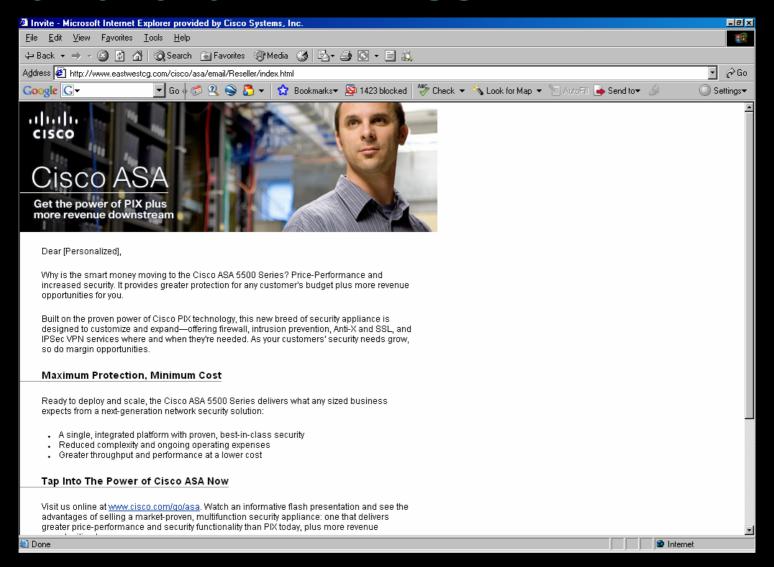
Collateral-on-Demand







#### The Power of PIX...PLUS



#### Q4 - AIM Sales Tools & Resources Kit

Kit to be provided for channel partners to leverage after training. Contents include:

#### -Learning Resources

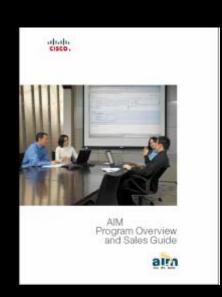
- Program Overview & Sales Guide
- Solutions Demo Guide (how to set up, walk through)

#### -Sales Tools

- -Solution overview flash demo
- -Product flash demos MARS/ASA/IPS
- -Presentations
- -Product collateral (At a glance, data sheets, FAQ, etc)

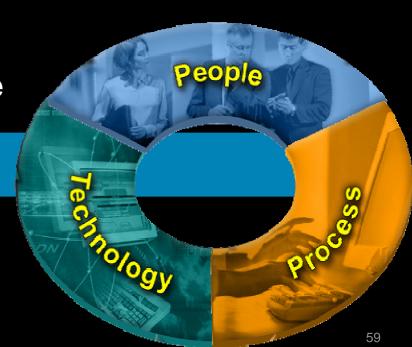
#### -Additional Resources

- -Other collateral (white papers, case studies)
- -CD with files and collateral



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# So Why Cisco? (We are our own best reference!)

**Versatility** 



Internally, We Face
Many of the Same
Challenges as You and
Your Customer's Do



**Functionality** 





**Performance** 



**Cost of Ownership** 



**Security** 

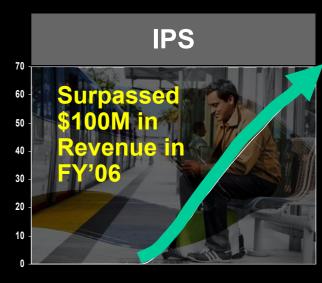


**Ease of Operation** and Maintenance

# **Security Products – Growth Acceleration**









Presentation ID





## Get Mobile, Integrate into UC, but be Secure!



# So Why Cisco? (Our commitment starts at the top)

#### Product and Technology Innovation

>1500 security-focused engineers

Nine acquisitions added to our security solution portfolio in last two years

60+ NAC partners work collaboratively with us to deliver on an unprecedented security vision

#### Responsible Leadership

NIAC Vulnerability Framework Committee Critical Infrastructure Assurance Group PSIRT—responsible disclosure

MySDN.com—intelligence and best practices sharing



"Because the network is a strategic customer asset, the protection of its business-critical applications and resources is a top priority."

John Chambers, CEO, Cisco Systems®

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