Cisco Support Community Expert Series Webcast

Cisco Adaptive Security Appliance (ASA)

Lifeline of today's Data Centers

Akhil Behl
Solutions Architect
Author of *'Securing Cisco IP Telephony Networks'*
http://www.ciscopress.com/title/1587142953

July 30th 2013

Cisco Support Community – Expert Series Webcast (Presenter and Speaker)

- Today's featured expert is Cisco's Solutions Architect Akhil Behl
- Ask him questions now about Cisco ASA's next Gen Features

Akhil Behl

(Solutions Architect)

Cisco Support Community – Expert Series Webcast (Panel of Experts)

Parminder Pal Singh

(Cisco Technology Trainer)

Sumanta Bhattacharya

(Network Consultant)

Thank You for Joining Us Today

- Today's presentation will include audience polling questions
- We encourage you to participate!

Thank You for Joining Us Today

- If you would like a copy of the presentation slides, click the PDF link in the chat box on the right or go to the following url:

Document url:

https://supportforums.cisco.com/docs/DOC-35101

Polling Question 1

- **What is the most important feature from a Firewall perspective that you would like to have for your organization?**

a) **Scalability – I should be able to scale the throughput and processing power on an ongoing basis, as and when required**

b) **Threat protection – I want world class threat protection from various attacks to safeguard my organization's IT assets and information**

c) **Protection of and return on investment – I should be able to leverage new features without replacing the existing hardware**

d) **I think I need all of the above, cannot part with any thing**

Submit Your Questions Now!

Use the Q&A panel to submit your questions. Experts will start responding those

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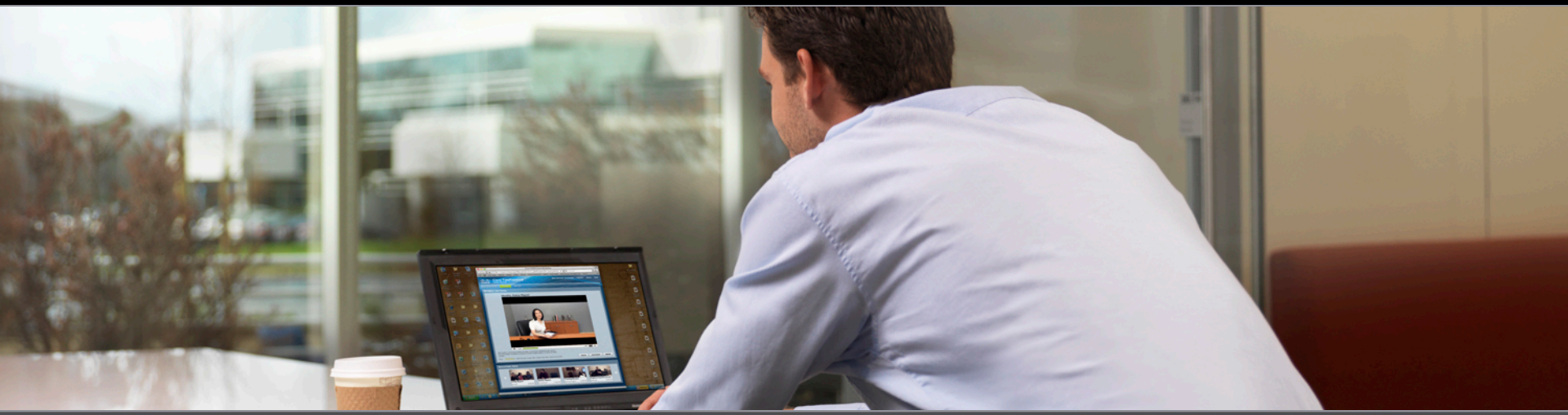
Agenda

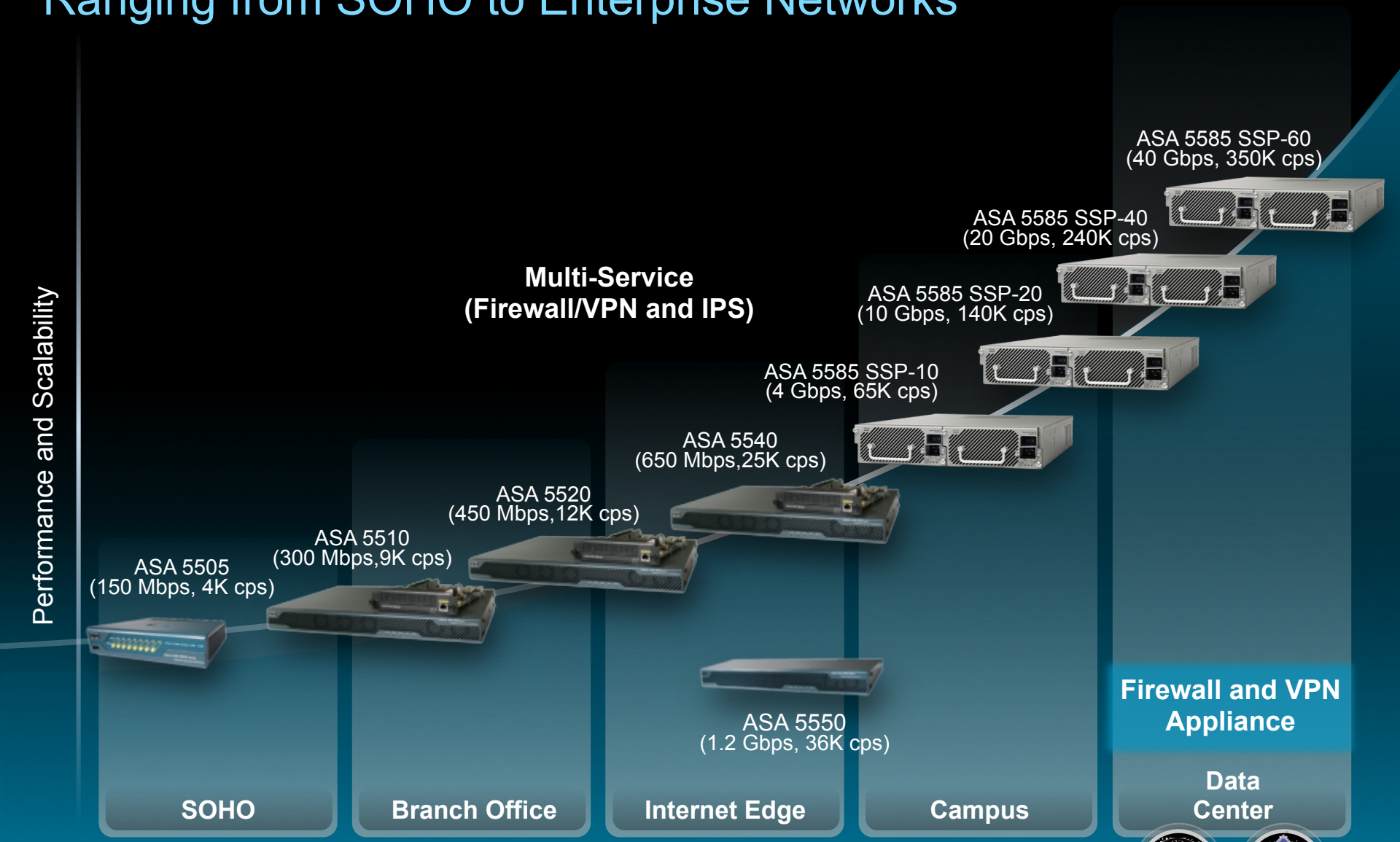
- An introduction to Cisco ASA 5500 / 5500-x series Firewalls
- Cisco ASA – Next-Gen Firewall technology for BN
- Insight into Cisco ASA Firewall Clustering
- Overview of Cisco ASA Web-Security (ScanSafe)
- Overview of Cisco ASA TrustSec
- Q&A



The Cisco ASA 5500 and 5500-X Series Adaptive Security Appliances

Cisco ASA – Serves Wide Range of Solutions

Ranging from SOHO to Enterprise Networks



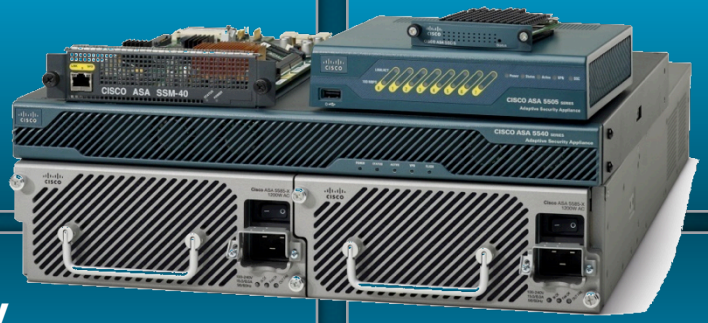
Adaptive Security Appliance Platform
Enterprise Strength and Scalability

Proven Technology
15+ years of enterprise-class products

Over 1 million ASA units in the market

Extensible / Scalable
Add services to fit growing needs

Multiple security services



World Class Security
Purpose-built for high-performance , highly scalable security

Software-Centric
Immediate benefits from any software feature enhancements

Cisco Adaptive Security Appliance Platform
Maximum Uptime, Greater Resiliency

High Availability

- Full-meshed Active/Standby and Active/Active
- Full application state synchronization
- Zero downtime upgrades
- Sub-second failover

Reliability and Resilience

- 2X reliability of a server-based solution
- Cisco ASA MTBF: 100-150K hrs
- Redundant power supplies
- Multi-level resiliency prevents component, link, system failure

The Cisco ASA 5500-X Series Firewalls

Purpose-Built Firewall for Mission-Critical Data Centers

Space | Access | Performance | Compliance | Threats

Elastic Scale

- Fastest connections per second
- Highest number of VPN sessions

Superior Span

- Unprecedented deployment flexibility
- 8X performance density

Leading-Edge Security

- Best of breed firewall, IPS, and VPN
- Includes Cisco guaranteed coverage
- Versatile, always-on remote access

Cisco ASA 5500-X – High End Performance

Delivers MultiScale™ Performance
to Meet the Needs of Mission-Critical Data Centers

- Rapid Connections per Second
- Abundance of Concurrent Sessions
- Accelerated Throughput
- Multiple Security Services
- Span Multiple Platforms and Deployment Scenarios

Polling Question 2

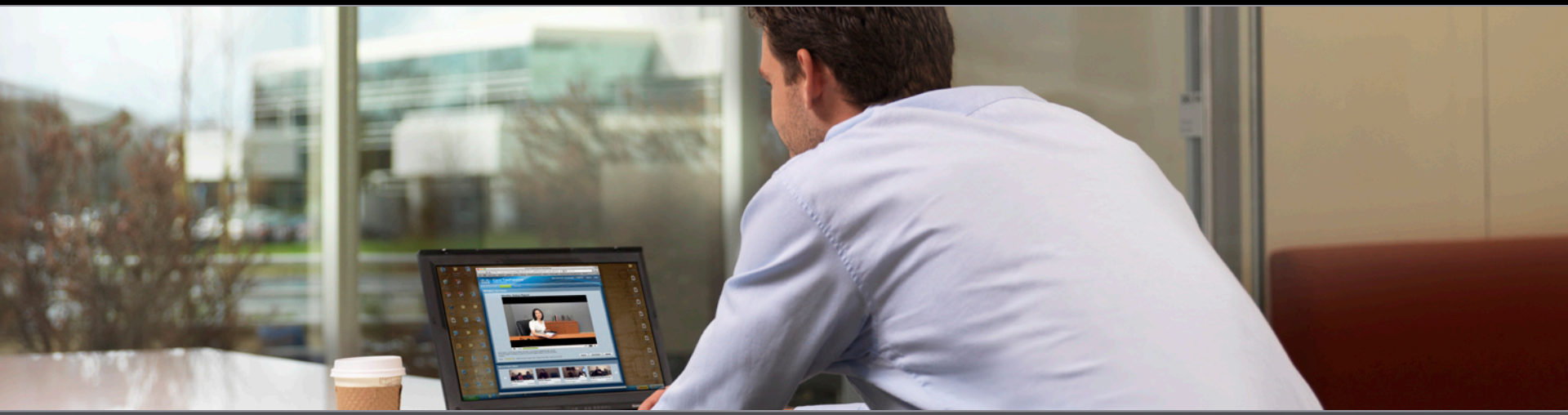
What is primary role of ASA in your Data Center?

a) Cisco ASA is heart and sole of my Data Center and I leverage it's next gen threat protection capabilities in addition to standard firewall features

b) It's used as a Unified Threat Management (UTM) Appliance protecting my network against a host of threats

c) It's used as a basic perimeter firewall for filtering traffic

d) I don't have Cisco ASA as of yet in my Data Center however, plan to have it's world-class protection for my network soon



Cisco ASA
Next-Gen Firewall Technology for Borderless Networks

Business Imperatives

Growing Number and Range of Devices

Sensitive Information from Different Sources

Prevalence of Data Theft

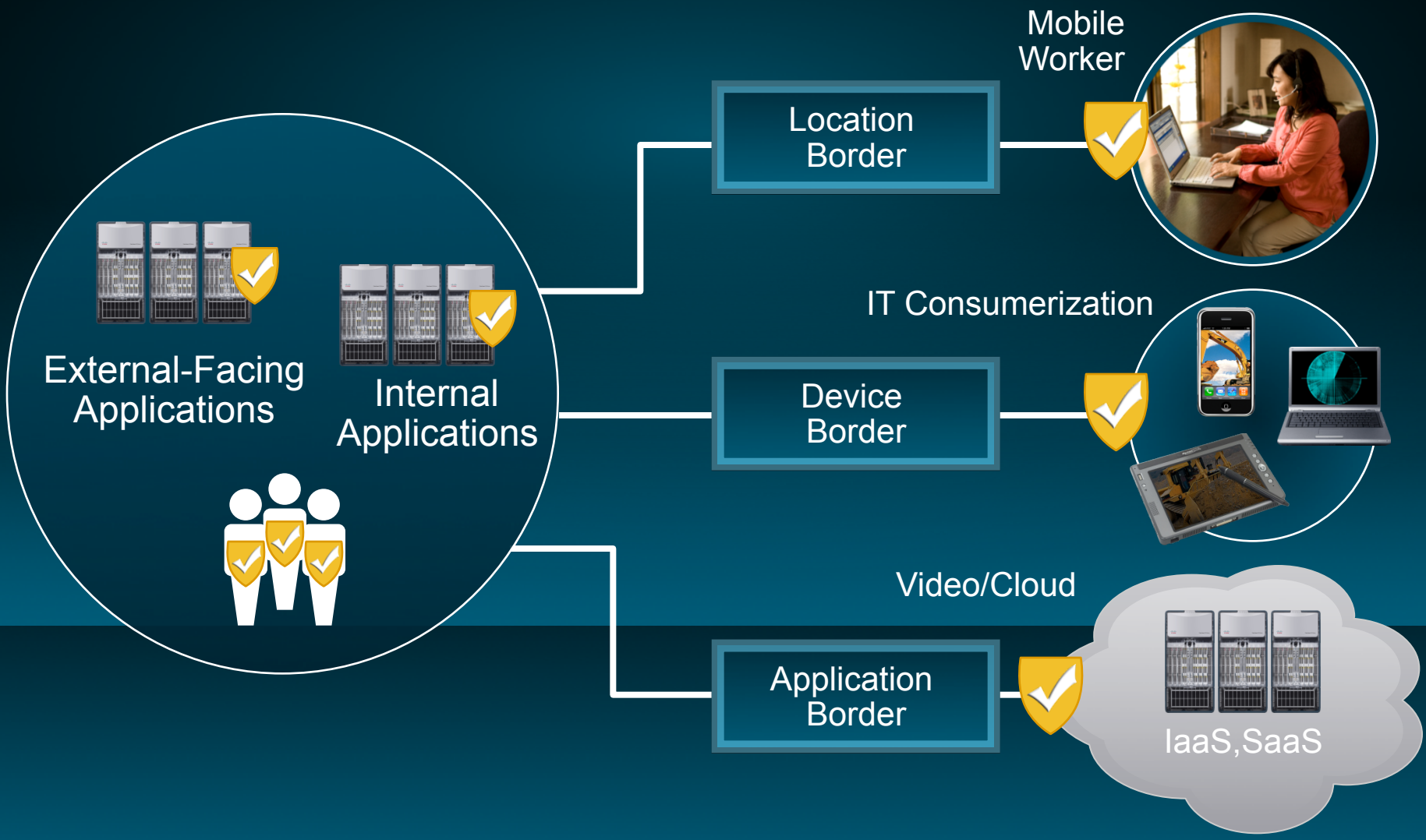
Simplify Security for the User, the Business, and for the Operations

Maintain Regulatory Compliance and Manage Risk Well

Design and Defend for Unpredictable Threats

Security Imperatives

Changing Environment - Shifting Borders



Today's Data Center Challenges

Superior Scalability

Up to 350,000 connections per second

Up to **8** million connections

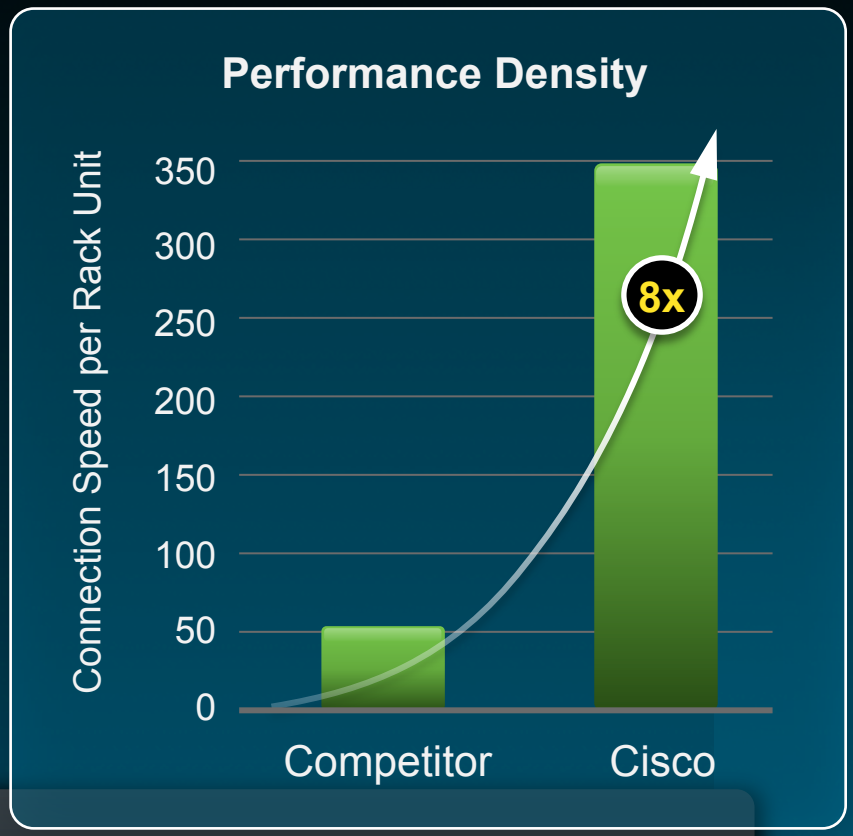
Up to **35** Gbps multi-protocol throughput

Clustering up to 8 firewalls

Lower power consumption

Lower cooling costs

All this in just **2** Rack Units



8X the Performance Density of Competitive Firewalls

Superior Span Across Security Verticals

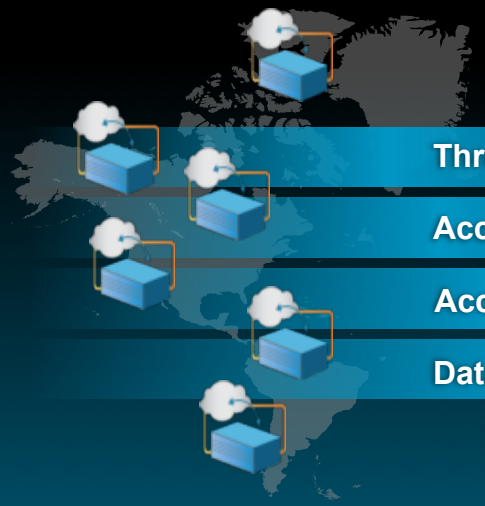
Network or Cloud Enforcement

- Consistent **Security**
- Consistent **Management**
- Consistent **Visibility**

Intelligent Traffic Routing Client

Broad OS Platform Support

Minimal Device Requirements



Threat Protection

Acceptable Use

Access Control

Data Loss Prevention

Platform Agnostic Security – BYOD Support

Choice

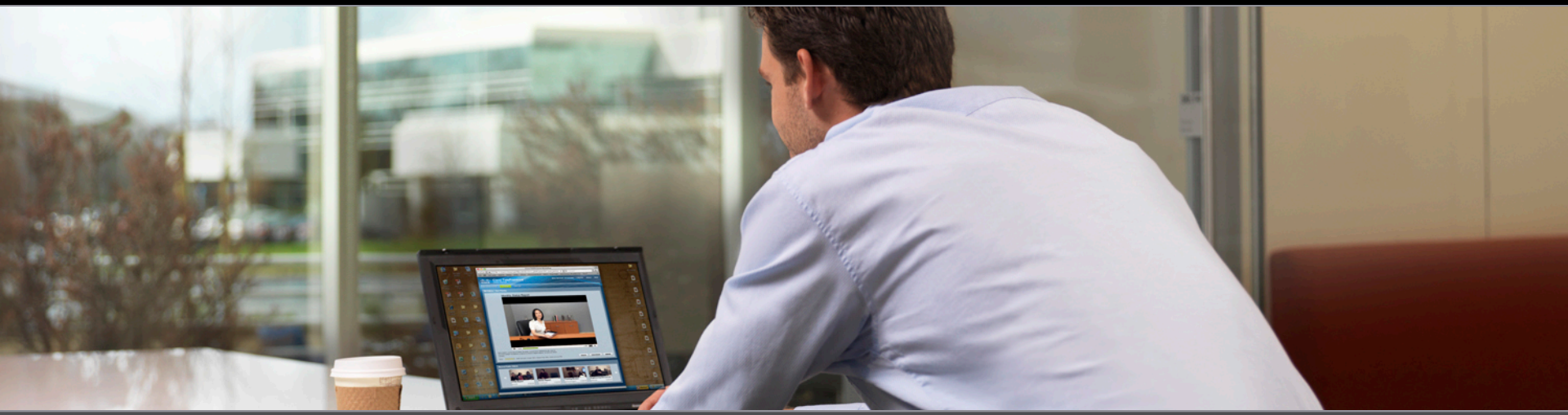
Diverse Endpoint Support for Greater Flexibility

Security

Rich, Granular Security Integrated into the Network

Experience

Always-on Intelligent Connection for Seamless Experience and Performance



Cisco ASA
Firewall Clustering

Why Clustering?

- Scaling to **100+ Gbps** of traffic through a cluster of Cisco ASA appliances
- Ease of **On-going** management
- Achieve **Deployment** Simplicity
- High **Availability** and **Investment** Protection

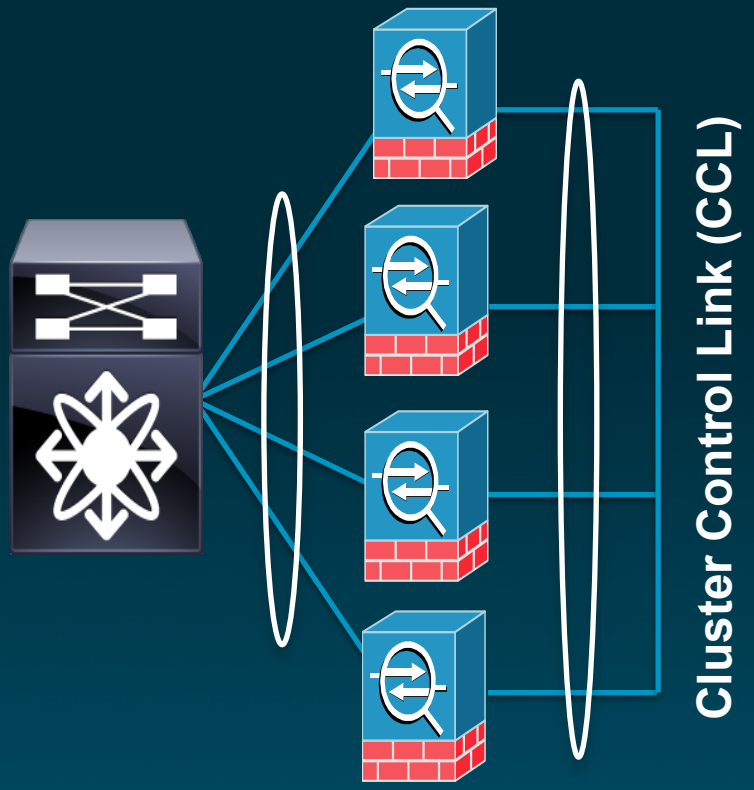
Data Centers Require Better Methods to Deliver Secure, High Performance Connectivity

Cisco ASA – Clustering Highlights

Scaling Factor	• Total throughput equals N times single node throughput times scaling factor • Linear scaling factor regardless of N
N-to-N High Availability	• All units are active • Seamless traffic redistribution in the event of node failure
Manageability	• Single configuration and automatic configuration synchronization across the cluster • Cluster-wide resource usage statistics
Same Level of Redundancy	• Every traffic flow has a backup within the cluster

Clustering Overview

- **Cluster up to eight ASA appliances**
- **Load-balancing approach**
  - Stateless load balancing by external switch (Ether Channel load balancing [ECLB]) or Router (Equal Cost Multipath [ECMP] or Cisco® Policy Based Routing [PBR])
  - Load balance within cluster over proprietary Cluster Control Protocol
- **In-cluster high availability via Cluster Control link (CCL)**
- **Hitless upgrade for Production Environments**

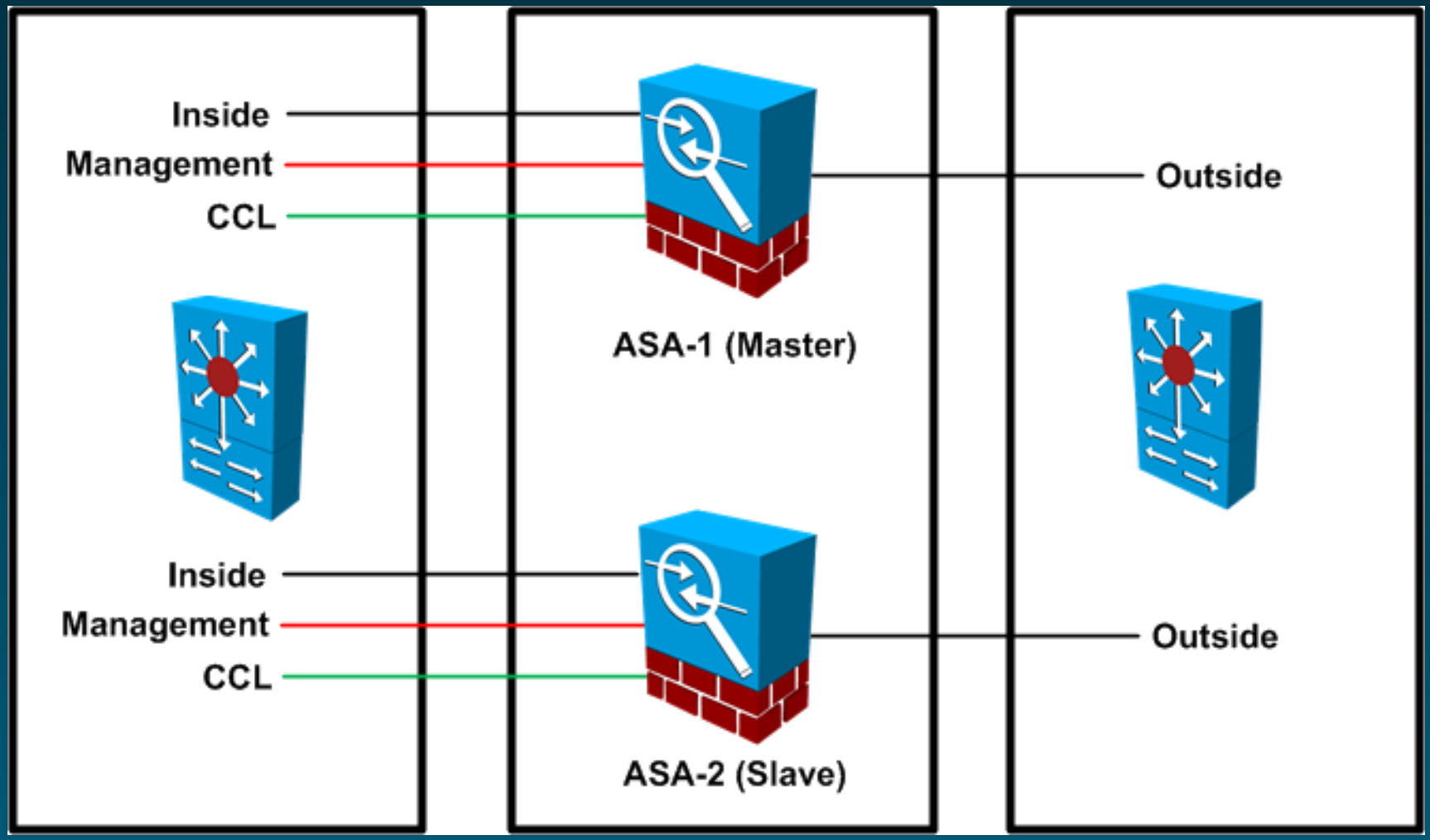


Clustering: High Availability

- All the units in the cluster are active and are passing traffic
- Clustering can be configured in **Individual mode** or **Spanned mode**
- All the units in the cluster are either owner or backup on a session by session basis
- In case of a node failure, the backup unit(s) take over the session
- Use of LACP allows neighboring switches to stop sending traffic over the failed link.
- Single Configuration console and Automatic Configuration Sync across the Cluster
- Remote Command Execution to any node
- Cluster-wide resource usage statistics

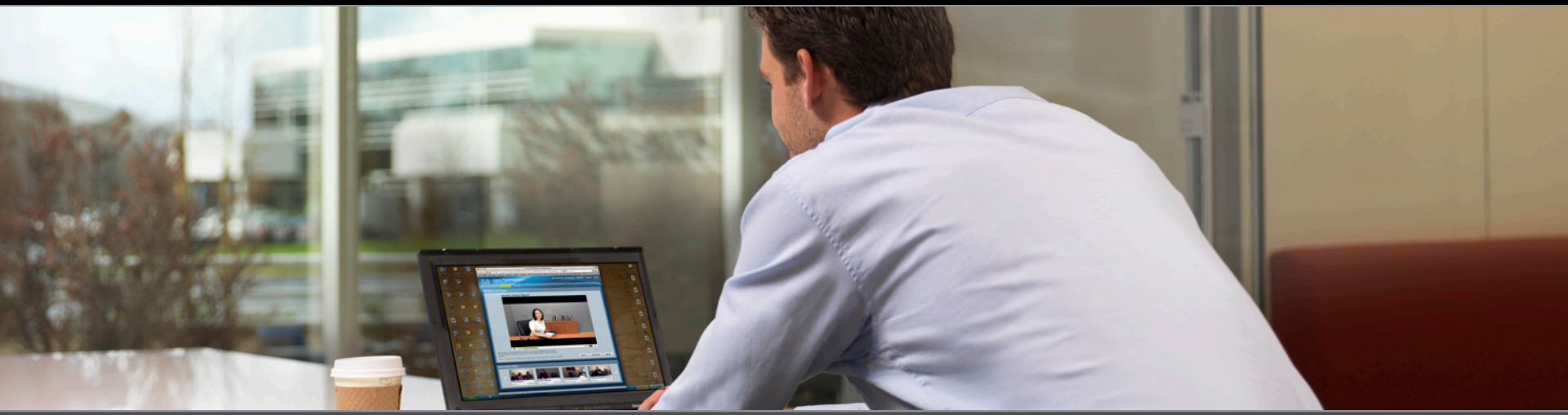
Cisco ASA Clustering Configuration

Live Demonstration (Topology)



Clustering Limitations

- Not all inspection engines are available in clustered mode
- Remote Access VPN is not available in clustered mode
- Site-to-Site VPN is centralized to one node
- Unified Communications is not supported in clustered mode



Cisco ASA
ScanSafe

Cisco ASA – The Best In Class

Best in Class Network Security

Best in class Cloud web security

ScanSafe

ScanSafe Overview

ScanSafe – Web Applications Visibility and Control

Classification and Control of Web Traffic

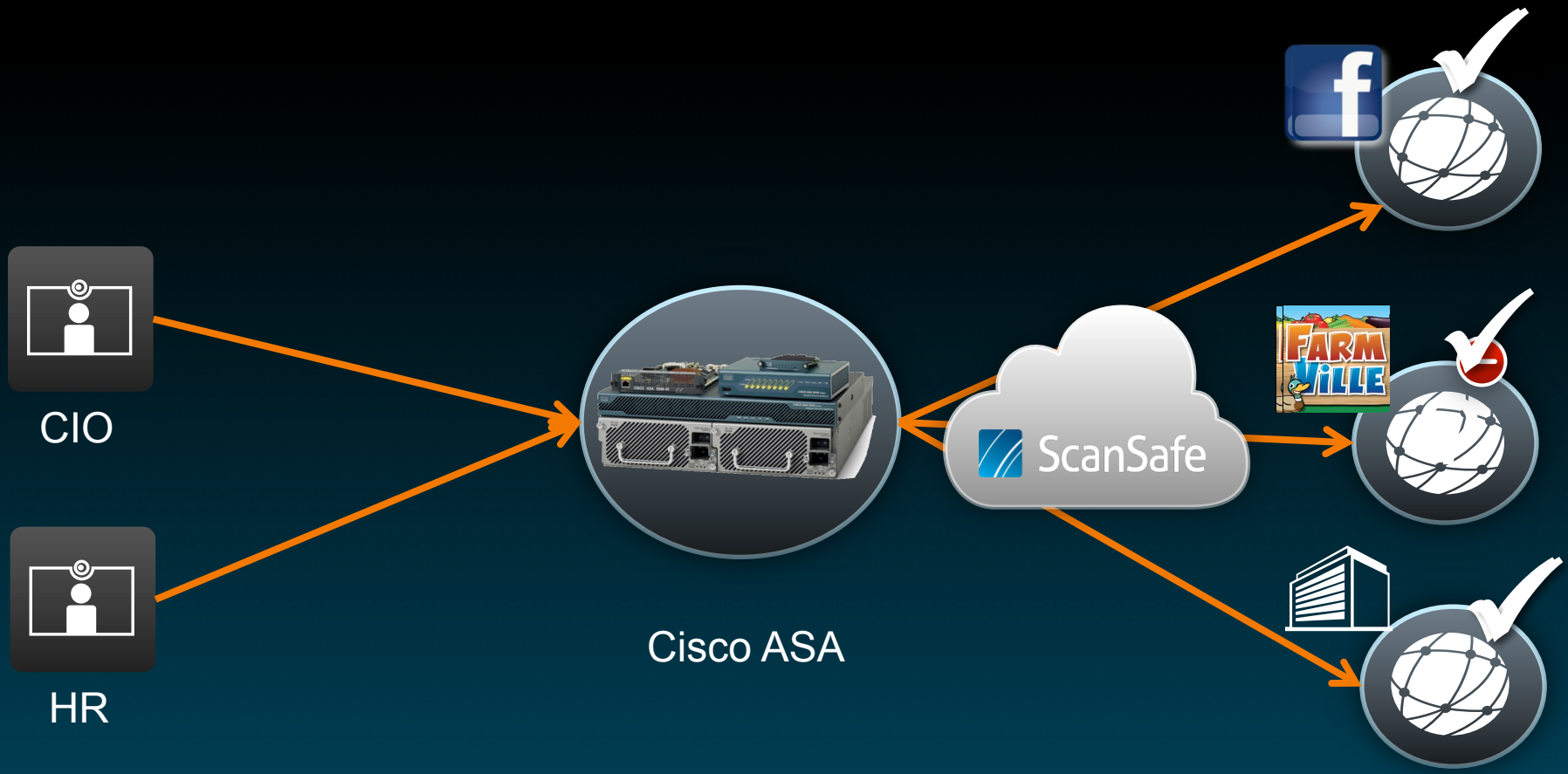
1000+ apps

Detailed Classification and Control of Microapps and App Behaviors

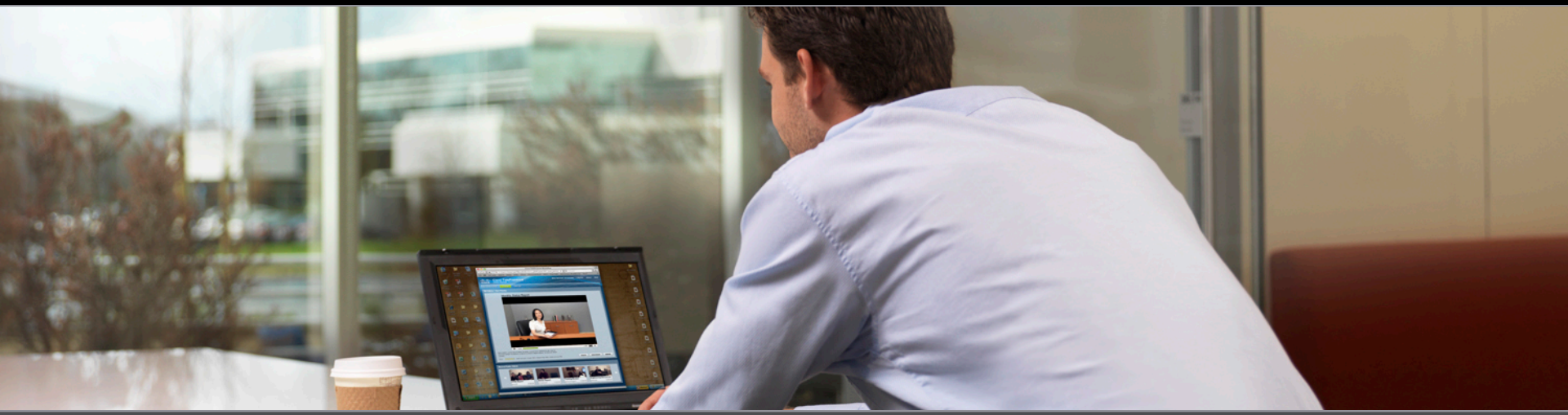
75,000+ microapps

Bandwidth Controls

Flexible Policy Enforcement



- Identity aware cloud based web security
- Supports per context ScanSafe redirection
- Multiple AV engines and Web-content Scanlets



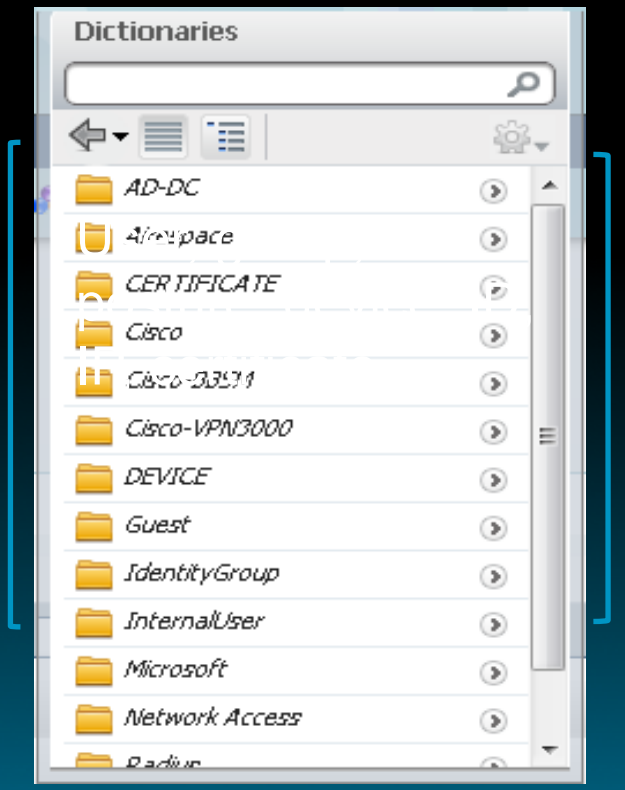
Cisco ASA
TrustSec

What is Cisco TrustSec?

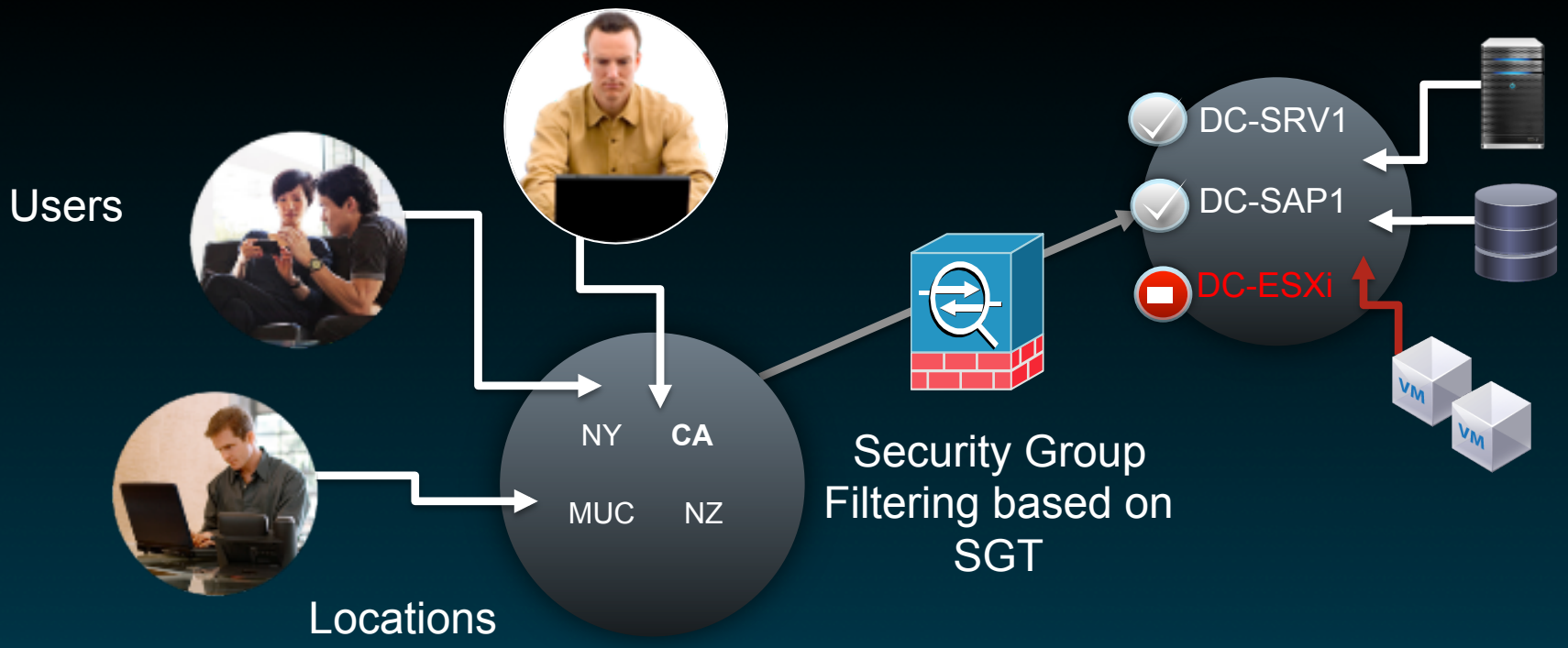
Covers anything having to do with Identity:

- IEEE 802.1X (Dot1x)
- Profiling Technologies
- Guest Services
- Secure Group Access (SGA)
- Access Control Server (ACS)
- Identity Services Engine (ISE)

SGT = f

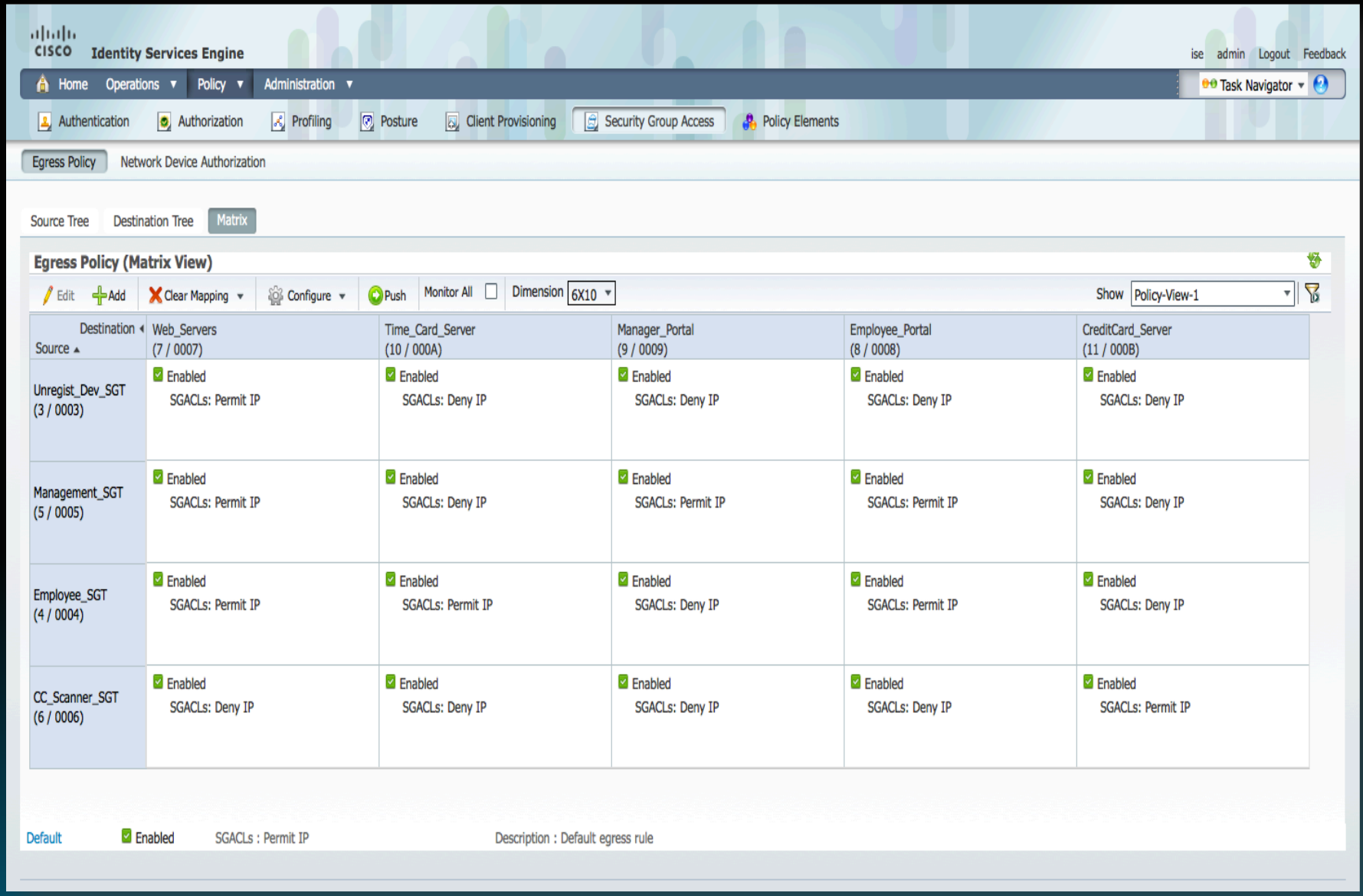


Cisco ASA TrustSec Overview

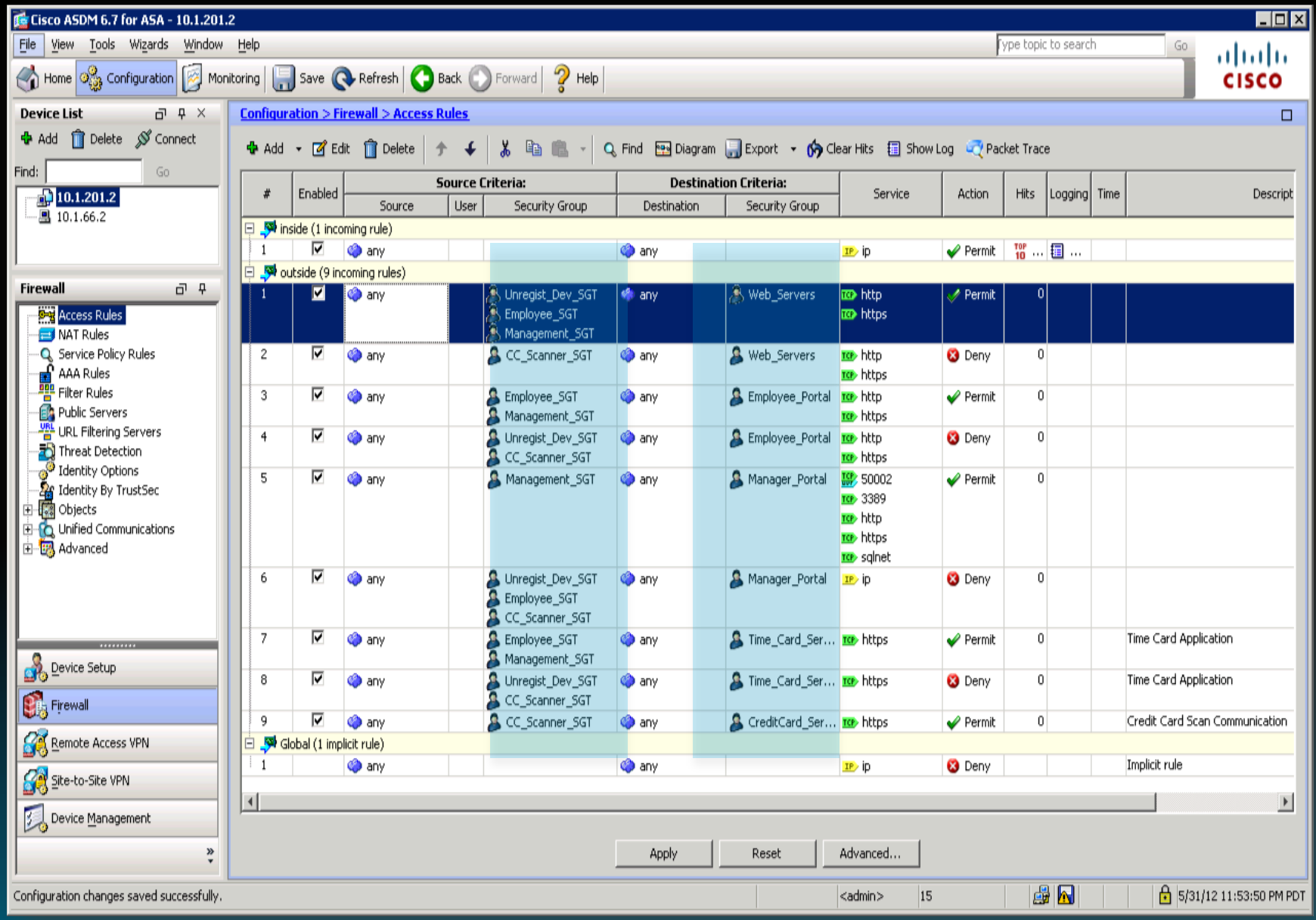


- Cisco Security Group Tags (TrustSec and ASA) helps reduced >500,000 firewall rules to 50 rules
- SGT can be a function of one or many attributes; allows complex policy rules
- ASA Access Policies can be a combination of SGT and 5-tuple rules

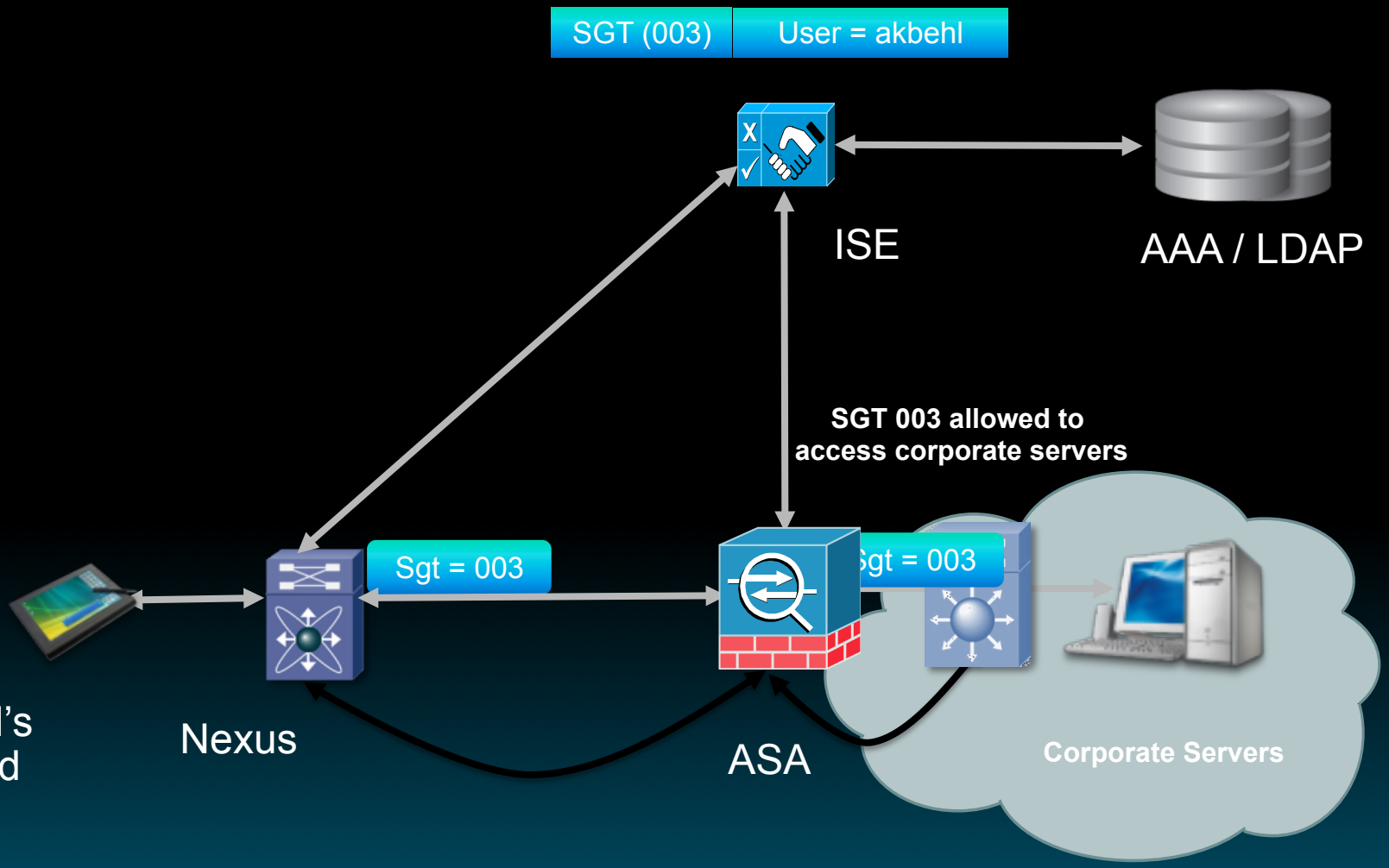
Policy definition – ISE Egress Policy Matrix



Policy Enforcement – Cisco ASA



Cisco ASA TrustSec in Action



Cisco ASA TrustSec – Use Case(s)

User=akbehl

Authenticates from a corporate asset (laptop), gets assigned SGT = 007/Quarantine
It turns out that AV was turned OFF
Once AV is turned on akbehl gets assigned 008/Compliant
On ASA: { if SGT = 008; allowfull_access to enterprise_servers }

User=Guest

Authenticates from guest_iPad
Gets assigned to SGT = 100/Guest
On ASA: { if SGT = 100; allow internet_only access }

Polling Question 3

- **Do you leverage Cisco ASA's next gen security features such as – Clustering, ScanSafe or TrustSec?**

a) I leverage all three features in my Data Center environment and am realizing the benefits

b) I intend to / leverage all / some of these features for maximizing the throughput and scalability, reliable web filtering and BYOD policy implementation and hope these will help me bring down TCO and increase ROI

c) I'm not sure if these features will be useful in my environment and need further information to make a conscious decision

d) I do not intend to use any of these features in near future

Further Reading and References

- Cisco ASA Product Portfolio

  www.cisco.com/go/asa

- Cisco ASA Startup and Basic Configuration
  http://www.firewall.cx/cisco-technical-knowledgebase/cisco-firewalls/964-cisco-asa5500-startup.html

- Securing Cisco IP Telephony Networks

  http://www.amazon.com/dp/1587142953

- Cisco ASA Configuration Guides
  http://www.cisco.com/en/US/products/ps6120/products_installation_and_configuration_guides_list.html

Submit Your Questions Now!

Use the Q&A panel to submit your questions. Experts will start responding those

Trivia Question

- **How is Cisco Adaptive Security Appliance (ASA) making your new car safer?**

a) Cisco ASA is part of the infrastructure for NCCAR an organization that assist in the testing of safety of new cars

b) Cisco ASA is part of the NASCAR circuit

c) Cisco ASA came out in 2004 as part of a national safety initiative for new cars

Follow-up **Ask the Expert** Event

- **If you have additional questions, you can ask them to Akhil, Sumanta & Parminder. They will be answering from July 30 to August 9.**
- **https://supportforums.cisco.com/community/netpro/expert-corner#view=ask-the-experts**

- **You can watch the video or read the Q&A, 5 business days after the event at**
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Cisco IOS XR Software: Fundamentals, Configuration, and Troubleshooting

Wednesday Aug 7, at

11 a.m. Brasilia City time (UTC-3 hours)

9 a.m. PDT San Francisco (UTC -7 hours),

10 a.m. EDT New York (UTC-4 hours)

Join Cisco Expert **Rodrigo Delgadinho**

Learn basic concepts about Cisco IOS XR Software and have an overview of the Cisco IOS XR Software architecture

Register for this live Webcast @

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Current

Topic: RF Gateway 1 (RFGW1)

Join Cisco Expert: **Ron Hanson**

Learn and ask questions about all aspects of the RF Gateway 1 (RFGW1) including Installation, operation, configuration, and troubleshooting.

Topic: Cisco Cloud Web Security – Transparent Solution

Join Cisco Expert: **Jennifer Halim**

Learn and ask questions regarding true transparent experience with Cisco Cloud Web Security using your existing Cisco devices (WSA Connector, ASA Connector, ISRG2 Connector).

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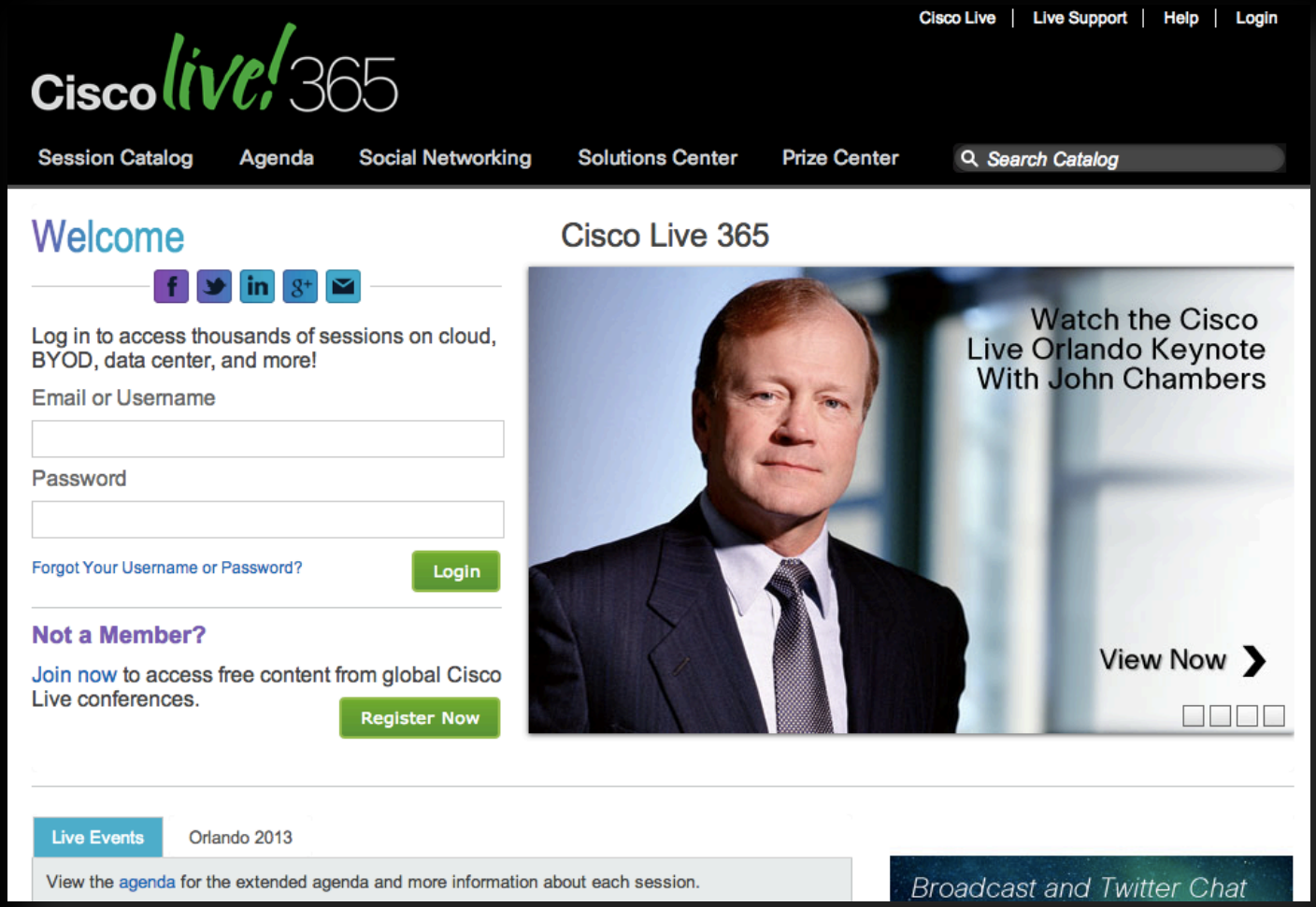

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If you speak Spanish, Portuguese, Japanese, Polish or Russian, we invite you to ask your questions and collaborate in your language:

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http://www.youtube.com/user/ciscosupportchannel


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Trivia Answer

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Thank You for Your Time

Please Take a Moment to Complete the Evaluation