Newer Design Guide Available

Cisco Smart Business Architecture has become part of the Cisco Validated Designs program. For up-to-date guidance on the designs described in this guide, see http://cvddocs.com/fw/Aug13-147 For information about the Cisco Validated Design program, go to http://www.cisco.com/go/cvd







Cloud Web Security Using Cisco ASA Deployment Guide

SMART BUSINESS ARCHITECTURE

February 2013 Series

Preface

Who Should Read This Guide

This Cisco® Smart Business Architecture (SBA) guide is for people who fill a variety of roles:

- Systems engineers who need standard procedures for implementing solutions
- Project managers who create statements of work for Cisco SBA implementations
- Sales partners who sell new technology or who create implementation
 documentation
- Trainers who need material for classroom instruction or on-the-job training

In general, you can also use Cisco SBA guides to improve consistency among engineers and deployments, as well as to improve scoping and costing of deployment jobs.

Release Series

Cisco strives to update and enhance SBA guides on a regular basis. As we develop a series of SBA guides, we test them together, as a complete system. To ensure the mutual compatibility of designs in Cisco SBA guides, you should use guides that belong to the same series.

The Release Notes for a series provides a summary of additions and changes made in the series.

All Cisco SBA guides include the series name on the cover and at the bottom left of each page. We name the series for the month and year that we release them, as follows:

month year Series

For example, the series of guides that we released in February 2013 is the "February Series".

You can find the most recent series of SBA guides at the following sites:

Customer access: http://www.cisco.com/go/sba

Partner access: http://www.cisco.com/go/sbachannel

How to Read Commands

Many Cisco SBA guides provide specific details about how to configure Cisco network devices that run Cisco IOS, Cisco NX-OS, or other operating systems that you configure at a command-line interface (CLI). This section describes the conventions used to specify commands that you must enter.

Commands to enter at a CLI appear as follows:

configure terminal

Commands that specify a value for a variable appear as follows:

ntp server 10.10.48.17

Commands with variables that you must define appear as follows:

class-map [highest class name]

Commands shown in an interactive example, such as a script or when the command prompt is included, appear as follows:

Router# enable

Long commands that line wrap are underlined. Enter them as one command:

wrr-queue random-detect max-threshold 1 100 100 100 100 100

100 100 100

Noteworthy parts of system output or device configuration files appear highlighted, as follows:

interface Vlan64

ip address 10.5.204.5 255.255.2

Comments and Questions

If you would like to comment on a guide or ask questions, please use the SBA feedback form.

If you would like to be notified when new comments are posted, an RSS feed is available from the SBA customer and partner pages.

February 2013 Series

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What's In This SBA Guide

Cisco SBA Borderless Networks

Cisco SBA helps you design and quickly deploy a full-service business network. A Cisco SBA deployment is prescriptive, out-of-the-box, scalable, and flexible.

Cisco SBA incorporates LAN, WAN, wireless, security, data center, application optimization, and unified communication technologies—tested together as a complete system. This component-level approach simplifies system integration of multiple technologies, allowing you to select solutions that solve your organization's problems—without worrying about the technical complexity.

Cisco SBA Borderless Networks is a comprehensive network design targeted at organizations with up to 10,000 connected users. The SBA Borderless Network architecture incorporates wired and wireless local area network (LAN) access, wide-area network (WAN) connectivity, WAN application optimization, and Internet edge security infrastructure.

Route to Success

To ensure your success when implementing the designs in this guide, you should first read any guides that this guide depends upon—shown to the left of this guide on the route below. As you read this guide, specific prerequisites are cited where they are applicable.

About This Guide

This *deployment guide* contains one or more deployment chapters, which each include the following sections:

- Business Overview—Describes the business use case for the design. Business decision makers may find this section especially useful.
- Technology Overview—Describes the technical design for the business use case, including an introduction to the Cisco products that make up the design. Technical decision makers can use this section to understand how the design works.
- **Deployment Details**—Provides step-by-step instructions for deploying and configuring the design. Systems engineers can use this section to get the design up and running quickly and reliably.

You can find the most recent series of Cisco SBA guides at the following sites:

Customer access: http://www.cisco.com/go/sba

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Introduction

Web access is a requirement for the day-to-day functions of most organizations, but a challenge exists to maintain appropriate web access for everyone in the organization, while minimizing unacceptable or risky use. A solution is needed to control policy-based web access in order to ensure employees work effectively and ensure that personal web activity does not waste bandwidth, affect productivity, or expose the organization to undue risk.

Another risk associated with Internet access for the organization is the pervasive threat that exists from accessing sites and content. As the monetary gain for malicious activities on the Internet has grown and developed, the methods used to affect these malicious and or illegal activities has grown and become more sophisticated. Botnets, one of the greatest threats that exists in the Internet today, is that of malicious Internet servers (mostly web) being used to host content that then attacks innocent user's browsers as they view the content. These types of attacks have been used very successfully by bot herders (originators of the attack) to gather in millions of infected members that are subject to the whims of the people who now control their machines. Other threats include the still popular and very broad threats of viruses and trojans, in which a user receives a file in some manner and is tricked into running it, and the file then executes malicious code. The third variant uses directed attacks over the network. Examples of these attacks are the Internet worms that gathered so much attention in the early to mid-2000s. These types of risks are depicted in the figure below.

Figure 1 - Business reasons for deploying Cisco Cloud Web Security



Business Overview

Cisco Cloud Web Security (CWS) addresses the need for a corporate web security policy by offering a combination of web usage controls with category and reputation-based control, malware filtering, and data protection.

Figure 2 - Cloud Web Security deployment



Browsing websites can be risky, and many websites inadvertently end up distributing compromised or malicious content as a result of inattention to update requirements or lax security configurations. The websites that serve the compromised and malicious content are constantly changing as human-operated and worm-infested computers scan the Internet in search of additional web servers that they can infect in order to continue propagating. This dynamic environment introduces significant challenges to maintain up-to-date Internet threat profiles.

Technology Overview

The Cisco Smart Business Architecture (SBA) Internet edge design provides the basic framework for the enhancements and additions that are discussed in this guide. A prerequisite for using this deployment guide is that you must have already followed the guidance in the *Firewall and IPS Deployment Guide*.

Through the use of multiple techniques, Cisco CWS provides granular control over all web content that is accessed. These techniques include real-time dynamic web content classification, a URL-filtering database, and file-type and content filters. The policies enforced by Cisco CWS provide strong web security and control for an organization. Cisco CWS policies apply to all users regardless of their location and device type.

Internal users at both the primary site and at remote sites access the Internet by using the primary site's Internet-edge Cisco Adaptive Security Appliance (ASA), which provides stateful firewall and intrusion prevention capabilities. It is simple and straightforward to add Cisco CWS to a Cisco ASA appliance that is already configured and operational. This integration uses the Cloud Web Security Connector for Cisco ASA and requires no additional hardware.

Mobile remote users connect to their organization's network by using devices that generally fall into two categories: laptops and mobile devices such as smartphones and tablets. Because the devices operate and are used differently, the capabilities currently available for each group differ. Laptops and other devices that support the Cisco AnyConnect Secure Mobility Client with Cisco CWS are not required to send web traffic to the primary site. This solution is covered in detail in the *Remote Mobile Access Deployment Guide*. If you have an existing CWS deployment for remote-access users, the procedures are similar.

Cisco CWS using Cisco ASA also protects mobile users who are using a non-CWS enabled AnyConnect Secure Mobility Client that connects through remote access VPN as detailed in both the *Remote Access VPN Deployment Guide* and *Remote Mobile Access Deployment Guide*. Cisco CWS is a cloud-based method of implementing web security that is similar in function to the Cisco Web Security Appliance (WSA), which uses an on-premise appliance for web security. This guide is focused on the deployment of Cisco CWS on Cisco ASA. For more information about using Cisco WSA in Cisco SBA, see the Web Security Using Cisco WSA Deployment Guide.

Some key differences between Cisco CWS and Cisco WSA include the items listed in the following table.

Table 1 - Cisco Web Security solution comparison

	Cisco CWS	Cisco WSA
Web/URL filtering	Yes	Yes
Supported protocols	HTTP/HTTPS	HTTP/HTTPS, FTP
Outbreak Intelligence (Zero-Day Malware)	Yes (Multiple scanners for malware)	Yes (URL/IP reputation filtering, Multiple scan- ners for malware)
Remote user security	Direct to cloud using Cisco AnyConnect	VPN backhaul
Remote user security (mobile devices)	VPN backhaul	VPN backhaul
Deployment	Redirect to cloud service	On Premise Redirect
Policy and reporting	Web portal (cloud)	On Premise

Many organizations provide guest access by using Wireless LAN and enforce an acceptable use policy and provide additional security for guest users by using Cisco CWS. This guide includes a section on how to deploy CWS for wireless guest users without requiring any configuration changes to Cisco ASA.

The Cisco ASA firewall family sits between the organization's internal network and the Internet and is a fundamental infrastructural component that minimizes the impact of network intrusions while maintaining worker productivity and data security. The design uses Cisco ASA to implement a service policy that matches specified traffic and redirects the traffic to the Cisco CWS cloud for inspection. This method is considered a transparent proxy, and no configuration changes are required to web browsers on user devices.

Figure 3 - Cloud Web Security detailed traffic flow



The easiest way to apply the service policy is to modify the existing global service policy to add Cisco CWS inspection. The global policy applies to traffic received on any interface, so the same service policy applies to the following:

- · Internal users at the primary site or at remote sites
- Wireless guest users connected to a demilitarized zone (DMZ) network
- Remote-access VPN users using a non-CWS enabled AnyConnect client connecting with either the integrated firewall and VPN model or standalone VPN model

The various traffic flows for each of these use cases are shown in the following figures.

Figure 4 - Cloud Web Security with internal and guest users



Figure 5 - Cloud Web Security for mobile devices using remote-access VPN



Certain source and destination pairs should be exempted from the service policy, such as remote-access VPN users accessing internal networks or internal users accessing DMZ networks. The creation of these exemptions is shown in the Deployment Details section of this guide.

The Cisco CWS cloud is accessed through a network of proxy servers, which have a broad geographic distribution in order to support a globally diverse set of customers. Cisco ASA is configured with a primary and secondary proxy server in order to provide high availability. Specific details for which proxy servers to use is provided by Cisco and based on the location and size of the deployment.

Cisco CWS is administered by using the CWS ScanCenter web portal. This includes creating filters and rules for policies, creating groups, activating keys, and viewing reports. All required CWS administration tasks are covered in this guide.

Notes

Deployment Details

The first part of this section describes how to configure the components in order to enable Cisco CWS service for internal users that access the Internet through the Internet-edge Cisco ASA, including users at the primary site and remote sites. Additionally, if internal users are using remote-access VPN from mobile devices, they are also protected with Cisco CWS. The second part of this section describes how to configure CWS for guest users, who may require a different policy than internal users.

Process

Configuring CWS Policies for Internal Users

1. Enable CWS security configuration

Procedure 1

Enable CWS security configuration

This guide assumes you have purchased a Cisco CWS license and created an administrative CWS account that allows a user to log in and manage the account.

Step 1: Access the Cisco CWS ScanCenter Portal at the following location, and then log in with administrator rights:

https://scancenter.scansafe.com

Step 2: Navigate to Admin > Management > Groups.

1 Tech Tip

Policy can differ based on group assignment. The simplest method for assigning group membership is to generate a unique key for a group and use that key during deployment to group members. If more granular policies are required, other methods for group assignment include IP address range or mapping to an Active Directory group.

💿 ScanCenter	logged into: Cisco_Smart Business Architecture Group	Logout Help Guides C	iontact Us 🏹 ScanSafe
c	Home Dashboard Web Virus Spyware	Web Filtering Email	Admin Reports
Your account Authentication Ma	nagement 🔹 Audit 🔹 HTTPS Inspect	ion (Downloads (
Manage Groups			
Search, add or del	ete groups		
Search:	Search	Reload list 😏	
	Nothing found to display		
	Add Custom Group Add Directory Group	,	

Step 3: Click Add Custom Group.

Step 4: In the Add New Custom Group pane, enter the group name (Example: CWS IE-ASA5545X), and then click **Save**.

A group-specific authentication license key is generated for use in the Cisco ASA VPN configuration.

Step 5: Navigate to Admin > Authentication > Group Keys.

Step 6: For the group created in Step 4, click **Create Key**. ScanCenter generates a key that it sends to an email address of your choosing.

🔘 Scan	Center	logged into: Cisco_Smart Busi	ness Architecture Group	Logout Help G	uides Contact Us	ScanSafe
		Home Dashboar	d Web Virus Sp	ware Web Filtering	Email Admin	Reports
Your account	Authentication Mar	agement 🕢 Audit	HTTPS In	spection 🕢 Downloads		
	Create, activate and deactivate To add or delete a group, go to the " Search: IE-ASA5545X				Reload list 🚱	
	Group Name	Key Ref	State	Action	Sel.	
	CWS IE-ASA5545X	(1) No key	(1) No key	Create Key		
	One item found.					
	A	tivate Selected Deactivate Selec	cted Revoke Selected Sel	ect All Deselect All		

Step 7: Store a copy of this key by copying and pasting it into a secure file because the key cannot be rebuilt and can only be replaced with a new key. After it is displayed the first time (on generation) and sent in email, you can no longer view it in ScanCenter. After this key is generated, the page options change to Deactivate or Revoke.

Step 8: Navigate to Web Filtering > Management > Filters.



Step 9: Click Create a filter.

Step 10: Assign a name to the filter (Example: Filter Blocked Sites), select the categories blocked by your organization's policy (Examples: Pornography and Hate Speech), and then click **Save**. Access to these categories is completely restricted.

Step 11: Click Create a filter.

Step 12: Assign a name to the filter (Example: Filter Warned Sites), select the categories that are considered inappropriate by your organization's policy (Example: Gambling), and then click **Save**. Access to these categories is permitted, but only after accepting a warning message.

🖸 ScanCenter	logged into: Cisco	Smart Business Architecture Group	Logout He	elp <u>Guides</u>	Contact Us 🛛 🖉 S	icanSafe
	Home I	Dashboard - Web Virus - Spy	yware - Web Filtering	Email	Admin	Reports
Management Notifications						
Web Filtering > Management > Filters > Manage filters						
	III Manage filter	s 🔤 Edit a filter	ter			
	- <u>Hanage mee</u>	<u>o cico nici</u> nip <u>cico ci ci</u>				
List of Filters						
Filter	Name	Created on	Edit	Delete		
Filter Blocked Sites		27 Sep 12 16:01 UTC	D/	ŵ		
Filter Warned Sites		10 Oct 12 14:49 UTC	E/	â		

Step 13: Navigate to Web Filtering > Management > Policy.

Step 14: Select the Rule name Default, change the rule action to Allow, and then click Save.

Step 15: Click Create a rule.

Step 16: Assign a name to the rule (Example: Block_Blocked_Sites), and then select **Active**.

Step 17: In the Rule Action list, choose Block.

Step 18: In the Define Group pane, click Add group.

Step 19: On the dialog box, in the **Search** box, enter the name of the group created in Step 4, and then click **Go**.

1 Groups of 5	Search IE-ASA5545X Go	×
# A B C D E F	G H I J K L M N O P Q R S T U Y	w x y z
CWS IE-ASA5545X		Select

Step 20: Click Select, and then click Confirm Selection.

Step 21: In the Define Filters pane, click the down arrow labeled Choose a filter from the list, select the filter created in Step 10 (Example: Filter Blocked Sites), and then click Add.

Step 22: Click Create rule. The policy rule has now been created.

ScanCenter _	logged into: Cisco_Smart Business Architecture Group	Logout Help Guides	Contact Us Scar
	Home Dashboard Web Virus Spyw	are Web Filtering Email	Admin
anagement • Notifications			
Filtering > Management > Policy > Create	e a rule		
	🗏 Manage policy 🔤 Edit a rule 🗔 🐺 Create a rule		
Name Block_Blocked_Si	ites		Active 🔽
Rule Action 🖨 Block			
NOT). If no group is selected,	or	so users will need to be in any of the g	
Group		Set as an exception	Delete
CWS IE-ASA5545X			m
Add group 🕀			â
Define Filters ("WH Choose a Filter from the	AT")	responding "Set as exception" box (ac	tion of NOT).
Add Filter Filter Blo	ocked Sites 💽 Add 🕄		
Filter		Set as an exception	Delete
Filter Blocked Sites			â
of NOT). Adding multiple schedul	WHEN") the list and click "Add". To set a Schedule as an exception to the rule, select le is not recommended unless one is going to be "Set as exception" (action of " rose a schedule from the list Rev Radd 12		box (action
Schedule		Set as an exception	Delete
anytime			曲
Reset			Create rule

Next, create a new rule.

Step 23: Click Create a rule.

Step 24: Assign a name to the rule (Example: Warn_Warned_Sites), and then select **Active**.

Step 25: In the Rule Action list, choose Warn.

Step 26: In the Define Group pane, click Add group.

Step 27: On the dialog box, in the search box, enter the name of the group created in Step 4, and then click **Go**.

Step 28: Click Select, and then click Confirm Selection.

Step 29: In the Define Filters pane, click the down arrow labeled **Choose** a filter from the list, select the filter created in Step 12 (Example: Filter Warned Sites), and then click **Add**.

Step 30: Click Create rule. The policy rule has now been created.

Because all rules are evaluated on a first-hit rule, the following is the correct order for the rules in this example:

- 1. Block Blocked Sites (which blocks access to restricted categories)
- 2. Warn Warned Sites (which allows access to sites but with a warning)
- 3. Default (which permits all other sites)

	50	d	nCenter -	logged	into: Cisco_Smart Business Architecture	Group Lo	ogout <u>Help</u> <u>Guid</u>	les Contact Us		ScanS
				Ho	me - Dashboard - Web Virus	- Spyware - Web F	iltering En	nail A	Admin	Report
Mar	iagei	men	t 🔹 Notifications							
eb Fi	ilterin	<u>a > (</u>	Management > Policy > Ma	nage policy						
					1anage policy 🗮 Edit a rule 斗 Cr	eate a rule				
ules	highe	er in f	the list will take priority over	the lower ones. Use the ar	rows to change the priority of each rule l	by moving them up or down i	in the list.			
								in the came way	u an the re	at of the rule
leas	e note	e tha	t anonymization rules are tr	eated separately from the n	rows to change the priority of each rule l main policy. Hence these appear in a sep			in the same way	y as the re	st of the rule
leas	e note	e tha		eated separately from the n				in the same way	y as the re	st of the rule
leas nd a	e note inonyi	e tha mizat	t anonymization rules are tr ion will always take precede	eated separately from the n	main policy. Hence these appear in a sepa			in the same way	y as the re	st of the rule
leas nd a 'her	e note nonyi re is a	e tha mizat a ma	t anonymization rules are tr ion will always take precede oximum of 100 enabled	eated separately from the n ence.	main policy. Hence these appear in a sepa			in the same way	y as the re	st of the rule
leas nd a 'her Com	e note inonyi re is a ipany	e tha mizat a ma polic	t anonymization rules are tr ion will always take precede Eximum of 100 enabled	eated separately from the n ence. rules allowed for the pol	nain policy. Hence these appear in a sep i cy.	arate part of the table. Thes	e can be ordered i	_		
leas nd a 'her	e note inonyi re is a ipany	e tha mizat a ma polic ove	t anonymization rules are tr ion will always take precede iximum of 100 enabled y Rules	eated separately from the n ence. rules allowed for the pol Groups/User	nain policy. Hence these appear in a sep licy. s/IPs Filter	© Schedule	e can be ordered	Active	Edit	Delete
leas nd a 'her Com	e note inonyi re is a ipany	e tha mizat a ma polic	t anonymization rules are tr ion will always take precede Eximum of 100 enabled	eated separately from the n ence. rules allowed for the pol	nain policy. Hence these appear in a sep i cy.	arate part of the table. Thes	e can be ordered i	Active	Edit	Delete
leas nd a 'her Com	e note inonyi re is a ipany	e tha mizat a ma polic ove	t anonymization rules are tr ion will always take precede iximum of 100 enabled y Rules	eated separately from the n ence. rules allowed for the pol Groups/User	nain policy. Hence these appear in a sep licy. s/IPs Filter	© Schedule	e can be ordered	Active	Edit	Delete

Process

Configuring ASA for Cisco Cloud Web Security

- 1. Configure CWS servers
- 2. Configure ASA firewall objects
- 3. Configure ASA service policy
- 4. Test Cloud Web Security

Procedure 1

Configure CWS servers

Cisco ASA is configured with a primary and backup server. You will receive a provisioning email after purchasing your Cisco CWS license. This email includes the primary and backup server address that you use for configuring Cisco ASA. An example email is included in "Appendix C" in this guide.

Table 2 - Provisioning email explicit proxy setting example

Primary web services proxy address	proxyXXXX.scansafe.net
Web services proxy port	8080
Secondary web services proxy address	proxyXXXX.scansafe.net
Web services proxy port	8080

Tech Tip

Domain Name Service (DNS) is required to resolve the Fully Qualified Domain Name (FQDN) of a Cisco CWS web services proxy server. **Step 1:** From a client on the internal network, navigate to the Internet-edge firewall's inside IP address, and then launch Cisco ASA Security Device Manager. (Example: https://10.4.24.30)

Step 2: If the firewall is not configured to use DNS resolution, configure it now in Configuration > Device Management > DNS > DNS Client.

- Primary DNS Server—10.4.48.10
- Domain Name—cisco.local

Step 3: In the DNS Lookup pane, scroll to view the Interface list, click in the DNS Enabled column for the interface that is used to reach the DNS server (Example: inside), choose True, and then click Apply.

Configuration > Device	Management > DNS > DNS Client	
Specify how to resolve DNS	requests.	
DNS Setup		
Configure one DNS serv	er group 💿 Configure multiple DNS server groups	
Primary DNS Server:	10.4.48.10	
Secondary Servers:		
Domain Name:	cisco.local	
DNS Lookup		
	NS lookup on at least one interface.	
Interface	DNS Enabled	
dmz-guests	false	*
dmz-management	false	
dmz-tmg	false	
dmz-web	false	
dmz-wlc	false	=
inside	true	
outside-16	false	
outside-17	false	Ŧ
DNS Guard		
This function enforces one (DNS response per query. If DNS inspection is configured, this option is	ignored on that interface.
Enable DNS Guard on al		
Enable DIVS Guard on al	Interraces.	
		Apply Reset
		mpply Reset

Step 4: In Configuration > Device Management > Cloud Web Security, configure the following values from Table 2, and then click Apply.

- Primary Server IP Address/Domain Name—<FQDN from provisioning email>
- Secondary Server IP Address/Domain Name—<FQDN from provisioning email>
- License Key—<Group key from Step 6 of Procedure 1 in "Configuring CWS Policies for Internal Users" process >

Configuration > Device Mar	nagement > Cloud Web Security
Configure Cloud Web Security s	ervers and license parameters
Launch Cloud Web Security Por	r <u>tal</u> to configure Web content scanning, filtering, malware protection services and retrieving reports.
Primary Server	
IP Address/Domain Name:	tement 764 econoste pet
HTTP Port:	3080
Backup Server	
IP Address/Domain Name:	tower1482.scansafe.net
HTTP Port:	8080
Other	
Retry Counter:	5
License Key:	•••••••••••••••••••••••••••
Confirm License Key:	••••••
	Apply Reset

Step 5: In Monitoring > Properties > Cloud Web Security, verify the Cisco CWS server status. Your primary server should show a status of REACHABLE.

Monitoring > Properties > Cloud Web Security

Cloud Web Security Status and Statistics

Server Status:

Server	IP Address/FQDN	Status	Active
Primary	tower1764.scansafe.net(72.37.248.27)	REACHABLE	Active
Backup	tower1482.scansafe.net	69.174.58.187	Standby

Server Connection Statistics:

Server Connection	Value
Current HTTP sessions	0
Current HTTPS sessions	0
Total HTTP Sessions	32717
Total HTTPS Sessions	0
Total Fail HTTP sessions	0
Total Fail HTTPS sessions	0
Total Bytes In	9157153720
Total Bytes Out	13998272
HTTP session Connect Latency in ms(min/max/avg)	53/261/56
HTTPS session Connect Latency in ms(min/max/avg)	0/0/0

Procedure 2

Configure ASA firewall objects

Step 1: Navigate to Configuration > Firewall > Objects > Network Objects/Groups.

Table 3 - Firewall network objects

Network object name	IP address	Netmask
internal-network	10.4.0.0/15	255.254.0.0
dmz-networks	192.168.16.0/21	255.255.248.0

Step 2: Repeat Step 3 through Step 7 for all objects listed in Table 3. If the object already exists, then skip to the next object listed in the table.

Step 3: Click Add > Network Object.

Step 4: On the Add Network Object dialog box, in the **Name** box, enter the Network object name from Table 3. (Example: internal-network)

Step 5: In the Type list, choose Network.

Step 6: In the **IP Address** box, enter the IP address of the object from Table 3. (Example: 10.4.0.0)

Step 7: In the **Netmask** box, enter netmask of the object from Table 3, and then click **OK**. (Example: 255.254.0.0)

Name:	internal-networks	
Туре:	Network	•
IP Version:		
IP Address:	10.4.0.0	
Netmask:	255.254.0.0	•
Description:	internal network range	
NAT		*

Step 8: After adding all of the objects listed in Table 3, in the Network Objects/Groups pane, click **Apply**.

Procedure 3

Configure ASA service policy

The existing global service policy is modified to enable Cisco CWS.

Step 1: In Configuration > Firewall > Service Policy Rules, select Add > Add Service Policy Rule.

Step 2: Skip the Add Service Policy Rule Wizard – Service Policy dialog box by clicking **Next**.

Step 3: On the Add Service Policy Rule Wizard – Traffic Classification Criteria dialog box, in the **Create a new traffic class** box, enter **cws-httpclass**, for Traffic Match Criteria, select **Source and Destination IP Address**, and then click **Next**.

뒄 Add Service Policy Rule Wi:	zard - Traffic Classification Criteria
Oreate a new traffic class:	cws-http-class
Description (optional):	Class to match HTTP traffic for Cloud Web Security
Traffic Match Criteria	
Default Inspection Tra	
Source and Destinatio	n IP Address (uses ACL)
Tunnel Group	
TCP or UDP Destination	n Port
RTP Range	
IP DiffServ CodePoint	s (DSCP)
IP Precedence	
Any traffic	
Add rule to existing traffic d	ass: global-class 👻
Rule can be added to an exi	sting class map if that class map uses access control list (ACL) as its traffic match criterion.
O Use class-default as the training of the	fic class.
If traffic does not match a e	xisting traffic class, then it will match the class-default traffic class. Class-default can be used in catch all situation.
	< Back <u>Next</u> <u>Cancel</u> <u>Help</u>

Next, create the single global policy for Cisco CWS in order to match traffic on all interfaces. Since this policy may be used by internal users and remote access VPN users, certain source and destination traffic pairs are exempted from the CWS policy by using **Do not match** as shown in the following table. The final policy rule matches all other source and destination pairs.

Table 4 - Example Policy for Cisco Cloud Web Security

Action	Source object	Destination object	Service	Description
Do not match	any4	internal-network	ip	Do not match any to internal networks
Do not match	any4	dmz-networks	ip	Do not match any to DMZ networks
Match	any4	any4	tcp/http	Match HTTP to any other networks

The Add Service Policy Rule Wizard allows only a simple policy containing a single match entry, so the following steps are used to configure only the first entry in Table 4. You configure the remaining entries in Table 4 after you complete the first pass of the wizard.

Step 4: On the Add Service Policy Rule Wizard – Traffic Match – Source and Destination Address dialog box, for **Action**, select the action listed in the first row of Table 4. (Example: Do not match)

Step 5: In the **Source** box, enter the source object listed in the first row of Table 4. (Example: any4)

Step 6: In the **Destination** box, enter the destination object listed in the first row of Table 4. (Example: internal-network)

Step 7: In the **Service** box, enter the service listed in the first row of Table 4. (Example: ip), and then click **Next**.

Action: 🔘 Mati	ch 💿 Do not match	
Source Criteria		
Source:	any4 -	
User:		
Security Group:		
Destination Crite		
Destination:	internal-network	
Security Group:		
Service:	ip -	
	Do not match any to internal networks	
Description:		
More Option:	S	

Step 8: On the Add Service Policy Rule Wizard – Rule Actions dialog box, click the **Protocol Inspection** tab, select **Cloud Web Security**, and then click **Configure**.

Step 9: On the Select Cloud Web Security Inspect Map dialog box, click **Add**.

Step 10: On the Add Cloud Web Security Inspect Map dialog box, enter a name (Example: CWS-HTTP-80). On the Parameters tab, in the **Default User** box, enter a username that will be used by default (Example: sba-default).

Step 11: Select HTTP, and then click OK.

🔁 Add Clou	d Web Security Inspect Map								
Name:	CWS-HTTP-80								
Description:	Description: Cloud Web Security TCP-80								
Parameters	Inspections								
Default	User and Group								
Defa	ult User: sba-default								
Defa	ult Group:								
Protoco									
Port:	⊙ None ● HTTP ─ HTTPS								
	OK Cancel Help								

Step 12: On the Select Cloud Web Security Inspect Map dialog box, select the inspect map you created in Step 10, for Cloud Web Security Action, select **Fail Open**, and then click **OK**.

🖆 Select Cloud Web Security Inspect Map	83
Select a Cloud Web Security inspect map for fine control ove	r inspection.
Name	Add
CWS-HTTP-80	
Cloud Web Security Traffic Action	
🔿 Fail Close 🛛 💿 Fail Open	
0	
OK Cancel Help	

Step 13: On the Add Service Policy Rule Wizard – Rule Actions dialog box, click **Finish**.

CTIQBE			
Cloud Web Security	Configure	Cloud Web Security Inspect Map: CWS-HTTP-80, fail open	
DCERPC	Configure		
DNS	Configure		
ESMTP	Configure		
FTP	Configure		
GTP	Configure		
H.323 H.225	Configure		
H.323 RAS	Configure		
HTTP	Configure		
ICMP			
ICMP Error			
🕅 IL5			
IM	Configure		
IP-Options	Configure		
IPSec-Pass-Thru	Configure		
IPv6	Configure		
MMP	Configure		
- ucco			

Because the Add Service Policy Rule Wizard allowed only a simple policy containing a single match entry, use the following steps in order to configure the remaining entries from Table 4, which are replicated in Table 5.

Table 5 - Example Policy for Cloud Web Security (remaining entries from Table 4)

Action	Source object	Destination object	Service	Description
Do not match	any4	dmz-networks	ip	Do not match any to DMZ networks
Match	any4	any4	tcp/http	Match HTTP to any other networks

Step 14: In **Configuration > Firewall > Service Policy Rules**, select the highest numbered rule for the Cisco CWS policy (Example: cws-http-class). Right-click to Copy, and then right-click to Paste After.

Configuration > F	onfiguration > Firewall > Service Policy Rules										
💠 Add - 🕼 🖆 Edit 👔 Delete 🗲 🌾 👗 📭 💼 - Q. Find 🔚 Degram 🏹 Packet Trace											
Traffic Classification									Rule Actions	Description	
Name	#	Enabled	Match	Source	Src Securi	Destination	Dst Security Group	Service	Time	Rue Actions	Description
🗉 Global; Policy: g	lobal_	policy									
inspection_d			🕒 Match	🍅 any		🍅 any		Q default-inspec		Q Inspect DNS Map preset Q Inspect ESMTP (14 more inspect actions)	
global-class	1	V	Match	🏟 any4		🏟 any4		<u>ı</u> ⊵ ip		🥥 ips inline, close traffic	
cws-http-class	1	V	a Do not match	🏟 any4		🏟 any4		💌 ip		Q Inspect Cloud Web Secur	Do not match any to internal network

Step 15: Skip the Paste Service Policy Rule Wizard – Service Policy dialog box by clicking **Next**.

Step 16: On the Paste Service Policy Rule Wizard – Traffic Classification Criteria dialog box, select **Add rule to existing traffic class**, and then from list of classes, choose the class created in Step 3 (Example: cws-http-class). Click **Next**.

😰 Paste Service Policy Rule W	Vizard - Traffic Classification Criteria	×
Create a new traffic class:	global-class1	
Description (optional):		
Traffic Match Criteria		
Default Inspection Tra	ific	
Source and Destination	n IP Address (uses ACL)	
Tunnel Group		
TCP or UDP Destination	n Port	
RTP Range		
IP DiffServ CodePoint	s (DSCP)	
IP Precedence		
Any traffic		
Add rule to existing traffic of	lass: cws-http-class 👻	
Rule can be added to an exi	sting class map if that class map uses access control list (ACL) as its traffic match criterion.	
Use class-default as the training of the tr	file class	
Ŭ		
If traffic does not match a e	xisting traffic class, then it will match the class-default traffic class. Class-default can be used in catch all situation.	
	< Back Next > [Cancel] [lelp

Step 17: On the Paste Service Policy Rule Wizard – Traffic Match – Source and Destination Address dialog box, for **Action**, select the action listed in Table 5. (Example: Do not match)

Step 18: In the **Source** box, enter the source object listed in Table 5. (Example: any4)

Step 19: In the **Destination** box, enter the destination object listed in Table 5. (Example: dmz-networks)

Step 20: In the **Service** box, enter the service listed in Table 5. (Example: ip), and then click **Next**.

Source Criteria		
Source:	any4	
Jser:		
Security Group:		
Destination Crite		
Destination:	dmz-networks	
Security Group:		
Service:	ip a	
Description:	Do not match any to internal networks	
More Option		(
More Option	5	

Step 21: On the Paste Service Policy Rule Wizard – Rule Actions dialog box, click **Finish**.

Step 22: Repeat Step 14 through Step 21 for all of the entries in Table 5.

Step 23: Verify that your service policy rules match the following figure, and then click **Apply**.

cws-http-class	1	1	a Do not match	🍅 any4	🏟 any4	<u>⊥e></u> ip	Q Inspect Cloud Web Security .	Do not match any to internal networks
	2	V	ab Do not match	🏟 any4	any4	<u>™</u> ip		Do not match any to DMZ networks
	3	1	🐚 Match	🏟 any4	any4	🐵 http		Match HTTP to any other networks

Procedure 4

Step 1: From a client machine on the internal network, open a web browser to the following website:

http://whoami.scansafe.net

This website returns diagnostic information from the Cisco CWS service.



If the service is not active, the following information is returned.

🗲 🕘 🏉 http://whoami.scansafe.net/ 🔎 – 🗟 🖒 🗙 🏉 scansafe.net 🛛 🗙	☆ ☆ 🏵
User is not currently using the service	*
	-

Notes

Process

Configuring CWS Policies for Guest Users

- 1. Enable CWS security configuration
- 2. Test Cloud Web Security

This is an optional process that is only required if you want to apply a different Cisco CWS policy for guest users. Otherwise, the same policy created for internal users is applied.

Reader Tip

This process assumes that wireless LAN guest access has already been configured following the guidance in the *Wireless LAN Deployment Guide*. Only the procedures required to enable Cisco CWS for an existing guest user deployment are included.

Procedure 1

Enable CWS security configuration

Step 1: Access the Cisco CWS ScanCenter Portal at the following location, and then log in with administrator rights:

https://scancenter.scansafe.com

Step 2: Navigate to Admin > Management > Groups.

ScanCenter	logged into: Cisco_Smart Business Architectur	e Group Logout Help Gu	ides Contact Us 🏹 ScanSafe
	Home - Dashboard - Web Viru	ıs Spyware Web Filtering	Email Admin Reports
Your account Authentication	Management Audit	HTTPS Inspection Downloads	
Manage Groups			
r Search a	idd or delete groups		_
Search		Reload list	0
Group N	ame	Delete	
CWS IE-A	<u>ISA5545X</u>		
	One item found.		
1			
	Delete Selected		
	Add Custom Group Add Direct	ory Group	

Step 3: Click Add Custom Group.

Step 4: On the Add New Custom Group pane, enter the group name (Example: CWS Wireless Guest), and then click **Save**.

Step 5: On the Admin > Management > Groups page, click the link for the group created in Step 4.

Step 6: In the IP Expressions pane, add the IP subnet range that corresponds to the wireless guest DMZ configuration in the *Wireless LAN Deployment Guide*, click **Save**, and then click **Done**.

ScanCenter Logged into: Cisco_Smart Business Architecture Group	p <u>Guides</u> <u>Con</u>	tact Us 🛛 🗸 S	canSafe
Home Dashboard Web Virus Spyware Web Filtering	Email	Admin	Reports
Your account (Authentication (Management (Audit (HTTPS Inspection (Downloads			
Edit Custom Group			
Please enter the new Custom Group name: Custom Groups can be any alphanumeric combination up to 256 characters.			
CWS Wireless Guest	Save		
IP Expressions			
Please add / edit your user group IP expressions and click 'Save'. 192.168.28.0/22	A		
	Ŧ		
	Save		
r Users The syntax for adding users from active directory is as follows : Win1tr://(domain-name)(user-name) (Please note that WinNT is case sensitive.)			
	*		
	Save		
	Done		

Step 7: Navigate to Web Filtering > Management > Filters.



The filtering policy in this guide is an example only. The actual policy implemented should align with the organization's security policy and business requirements. This example uses a whitelist policy and uses filters that initially select all categories for blocking or warning. Only specifically selected categories are exempt.

If you make the whitelist too limited, web browsing to many common websites may be restricted.

If your policy uses both a block list and a warn list as suggested in this example, all permitted categories must be contained in both lists.

Step 8: Click Create a filter.

Step 9: Assign a name to the filter (Example: Filter Blocked Sites - Guest), click **Select All**, clear the categories permitted by your organization's policy (Examples: Search Engines and Portals, News, Social Networking and Travel), and then click **Save**. Access to all other categories is completely restricted.

Step 10: Click Create a filter.

Step 11: Assign a name to the filter (Example: Filter Warned Sites - Guest), click **Select All**, clear the categories that are considered appropriate by your organization's policy that do not require a warning (Example: Gambling), and then click **Save**. Access to all other categories is permitted, but only after accepting a warning message.

💿 ScanCenter 📩	logged into: Cisc	o_Smart Business Archite	ecture Group	Logout He	lp Guides (Contact Us	ScanSafe
	Home	Dashboard Web	Virus Spywa	re - Web Filtering	Email	Admin	Reports
Management Notifications	D						
Web Filtering > Management > Filters > Manage filter	rs						
	III Manage fil	ters III Edit a filter	Create a filter				
List of Filters							
	Filter Name		Created on	Edit	Delete		
Filter Blocked S	lites	13 Nov 12 1	7:41 UTC	E/	۵.		
Filter Blocked S	lites - Guest	14 Dec 12 1	6:48 UTC	E	۵		
Eilter Warned S	Sites	13 Nov 12 1	7:39 UTC	EV/	畲		
Filter Warned S	Sites - Guest	14 Dec 12 1	6:53 UTC	D/	畲		
default		15 Feb 11 1	0:18 UTC	E/			

Step 12: Navigate to Web Filtering > Management > Policy.

Step 13: Click Create a rule.

Step 14: Assign a name to the rule (Example: Block_Blocked_Sites_Guest), and then select **Active**.

Step 15: In the Rule Action list, choose Block.

Step 16: In the Define Group pane, click Add group.

Step 17: On the dialog box, in the **Search** box, enter the name of the group created in Step 4, and then click **Go**.

1 Groups of 6	Search Guest	60	×
# A B C D E F G	H I J K L M	N O P Q R S T U Y	w x y z
CWS Wireless Guest			Select

Step 18: Click Select, and then click Confirm Selection.

Step 19: In the Define Filters pane, click the down arrow labeled Choose a filter from the list, select the filter created in Step 8 (Example: Filter Blocked Sites - Guest), and then click Add.

Step 20: Click Create rule. The policy rule has now been created.

Juan	Center	logged into: Cisco_Smart Business Architecture Group		Contact Us Sca	
		Home Dashboard Web Virus Spyware	Web Filtering	Admin	Repo
Management	Notifications				
/eb Filtering > Man	agement > Policy > Create a rule				
		🔚 Manage policy			
	Name Block_Blocked_Sites_Guest			Active 🔽	
	Rule Action C Block				
	┌ Define Group ("WHO")				
	Search for a group by dicking on "Add gr	oup". To set a group as an exception to the rule, select the corresp	onding "Set as exception" box	(action of	
	NOT). If no group is selected, this rule will soph	/ to anyone. Adding multiple groups has the action of "OR", so user	s will need to be in any of the s	roupe lieted	
		member of both a regular group and an exception group the rule wil		i daps ilstea	
	Group		Set as an exception	Delete	
	CWS Wireless Guest			a	
	Add group 🕀			a	
	Define Filters ("WHAT") Choose a Filter from the list and click "Ad	d". To set a Filter as an exception to the rule, select the correspond	ding "Set as exception" box (ac	tion of NOT).	
	Add Filter Filter Blocked Sites - Guest				
	Filter		Set as an exception	Delete	
	Filter Blocked Sites - Guest			a	
	Choose a Schedule from the list and click	"Add". To set a Schedule as an exception to the rule, select the co	rrecoording "Set as exception"	hox (action	
	of NOT).			DOX (BEBOIL	
	Adding multiple schedule is not recommer	nded unless one is going to be "Set as exception" (action of "AND NO	OT")		
	Add Schedule Choose a schedule fre	om the list 😱 Add 😳			
	Schedule		Set as an exception	Delete	
	anytime			a	
	anyune		<u></u>		

Next, create a new rule.

Step 21: Click Create a rule.

Step 22: Assign a name to the rule (Example: Warn_Warned_Sites_Guest), and then select **Active**.

Step 23: In the Rule Action list, choose Warn.

Step 24: In the Define Group pane, click Add group.

Step 25: On the dialog box, in the search box, enter the name of the group created in Step 4, and then click **Go**.

Step 26: Click Select, and then click Confirm Selection.

Step 27: In the Define Filters pane, click the down arrow labeled **Choose a filter from the list**, select the filter created in Step 10 (Example: Filter Warned Sites - Guest), and then click **Add**.

Step 28: Click Create rule. The policy rule has now been created.

		nCenter 🔤	logged into: Cisco_Sn	nart Business Architecture Group	Logout	rep r oudes r			
			Home Da	shboard - Web Virus - Spy	ware - Web Filterin	g Email	Adr	nin -	Reports
Mar	nagemer	nt							
eb Fi	iltering >	Management > Policy > Manage p	olicy						
			III Manage policy	🗏 Edit a rule					
leas	-		-	e the priority of each rule by moving			same way a	s the rest	of the rules
	e note tha		-				same way a	s the rest	of the rules
ind a	e note tha nonymiza	at anonymization rules are treated	separately from the main policy. He				same way a	s the rest	of the rules
and a Ther	e note tha nonymiza	at anonymization rules are treated tion will always take precedence. aximum of 100 enabled rules a	separately from the main policy. He				e same way a	s the rest	of the rules
nd a Ther	e note tha nonymiza r e is a m a	at anonymization rules are treated tion will always take precedence. aximum of 100 enabled rules a	separately from the main policy. He				e same way as	s the rest	of the rules
nd a Ther Com #	e note tha nonymiza re is a ma	at anonymization rules are treated tion will always take precedence. aximum of 100 enabled rules a	separately from the main policy. He	nce these appear in a separate part	of the table. These can b	e ordered in the			
rher Com # 1	e note tha monymiza re is a ma pany pole Move	at anonymization rules are treated tion will always take precedence, aximum of 100 enabled rules a sy Rules	separately from the main policy. He allowed for the policy. Groups/Users/IPs	nce these appear in a separate part	of the table. These can b	e ordered in the Action	Active	Edit	Delete
rher Com # 1 2	e note tha monymiza re is a ma pany pole Move	at anonymization rules are treated tion will always take precedence, aximum of 100 enabled rules a sy Rules <u>Block Blocked Sites</u>	separately from the main policy. He allowed for the policy. Groups/Users/IPs 'CWS IE-ASA5545X*	rice these appear in a separate part Filter 'Filter Blocked Sites'	of the table. These can b O Schedule Tanytime	e ordered in the Action O Block	Active	Edit	Delete
nd a Ther Com	e note tha monymiza re is a ma pany pole Move	at anonymization rules are treated tion will always take precedence. aximum of 100 enabled rules a y Rules Block Blocked Sites Warn Warned Sites	separately from the main policy. He allowed for the policy. Groups/Users/IPs "CW5 IE-ASA5545x" "CW5 IE-ASA5545x"	Filter Filter "Filter Blocked Sites" "Filter Warned Sites"	© Schedule "anytime"	Action Block Warn	Active V	Edit	Delete ਜ਼ਿ

Since the guest user traffic and internal user traffic is all redirected from the same Cisco ASA, the same group key is used. In order to properly match the guest traffic by the source IP address, the guest rules must be evaluated first.

Step 29: Click the Up arrow next to the Block_Blocked_Sites_Guest rule until it is listed first.

Step 30: Click the Up arrow next to the Warn_Warned_Sites_Guest rule until it is listed second, and then click **Apply Changes**.

				Home - Da	ishboard - Web Virus - Spy	ware - Web Filterin	g Email	Adr	nin	Report
Ma	nage	men	t • Notifications	•						
/eb F	ilterin	a >	Management > Policy > Manage po	licy						
				Manage policy	🗏 Edit a rule					
and a	anony	miza	ion will always take precedence.		nce these appear in a separate part	of the table. These can b	e ordered in the	e same way a	s the rest	t of the rule
and a	anony	miza			nce these appear in a separate part	of the table. These can b	e ordered in the	e same way a	s the rest	t of the rule
and a	anony	miza a ma	ion will always take precedence.		nce these appear in a separate part	of the table. These can b	e ordered in the	e same way a:	s the rest	t of the rule
and a	anony reis	miza a ma	ion will always take precedence.		nce these appear in a separate part i	of the table. These can b	e ordered in the Action	e same way as	s the rest	1
The Cor	anony reis	miza a ma polic	ion will always take precedence. ximum of 100 enabled rules a y	llowed for the policy.						1
The Cor	anony reis	miza a ma polic	ion will always take precedence. Eximum of 100 enabled rules a Y Rules	llowed for the policy. Groups/Users/IPs	Filter	© Schedule	Action	Active	Edit	Delete
The Cor # 1	anony reis	miza a ma polic	ion will always take precedence. Eximum of 100 enabled rules a Y Rules Block Blocked Sites Guest	llowed for the policy. Groups/Users/IPs "CWS Wireless Guest"	Filter "Filter Blocked Sites - Guest"	© Schedule "anytime"	Action Block	Active	Edit	Delete
The Cor # 1 2	anony reis	miza a ma polic	ion will always take precedence. xximum of 100 enabled rules a y Rules Block Blocked Sites Guest Warn Warned Sites Guest	Ilowed for the policy. Groups/Users/IPs "CWS Wireless Guest" "CWS Wireless Guest"	Filter "Filter Blocked Sites - Guest" "Filter Warned Sites - Guest"	© Schedule "anytime" "anytime"	Action Block Warn	Active	Edit E∕⁄	Delete

Procedure 2

Step 1: From a client machine on the guest network, open a web browser to the following website:

http://whoami.scansafe.net

This website returns diagnostic information from the Cisco CWS service.



If the service is not active, the following information is returned.



Notes

Appendix A: Product List

Internet Edge

Functional Area	Product Description	Part Numbers	Software
Firewall	Cisco ASA 5545-X IPS Edition - security appliance	ASA5545-IPS-K9	ASA 9.0(1) IPS 7.1(6)E4
	Cisco ASA 5525-X IPS Edition - security appliance	ASA5525-IPS-K9	
	Cisco ASA 5515-X IPS Edition - security appliance	ASA5515-IPS-K9	
	Cisco ASA 5512-X IPS Edition - security appliance	ASA5512-IPS-K9	
	Cisco ASA5512-X Security Plus license	ASA5512-SEC-PL	
	Firewall Management	ASDM	7.0(2)

Web Security

Functional Area	Product Description	Part Numbers	Software
Cloud Web Security	Cisco Cloud Web Security (ScanSafe)	Cisco Cloud Web Security	—
		Please Contact your Cisco Cloud Web Security Sales Representative for Part Numbers: scansafe-sales-questions@cisco.com	

Appendix B: Configuration Files

IE-ASA5545X

```
ASA Version 9.0(1)
1
hostname IE-ASA5545X
domain-name cisco.local
enable password 8Ry2YjIyt7RRXU24 encrypted
xlate per-session deny tcp any4 any4
xlate per-session deny tcp any4 any6
xlate per-session deny tcp any6 any4
xlate per-session deny tcp any6 any6
xlate per-session deny udp any4 any4 eq domain
xlate per-session deny udp any4 any6 eq domain
xlate per-session deny udp any6 any4 eq domain
xlate per-session deny udp any6 any6 eq domain
passwd 2KFQnbNIdI.2KYOU encrypted
names
ip local pool RA-pool 10.4.28.1-10.4.31.254 mask 255.255.252.0
L
interface GigabitEthernet0/0
 no nameif
 no security-level
 no ip address
1
interface GigabitEthernet0/0.300
 vlan 300
 nameif inside
 security-level 100
 ip address 10.4.24.30 255.255.255.224 standby 10.4.24.29
 summary-address eigrp 100 10.4.28.0 255.255.252.0 5
interface GigabitEthernet0/1
```

no nameif no security-level no ip address 1 interface GigabitEthernet0/1.1116 description Web Server connection on VLAN 116 vlan 1116 nameif dmz-web security-level 50 ip address 192.168.16.1 255.255.255.0 standby 192.168.16.2 ipv6 address 2001:db8:a:1::1/64 standby 2001:db8:a:1::2 ipv6 enable 1 interface GigabitEthernet0/1.1117 vlan 1117 nameif dmz-email security-level 50 ip address 192.168.17.1 255.255.255.0 standby 192.168.17.2 1 interface GigabitEthernet0/1.1118 vlan 1118 nameif dmz-dmvpn security-level 75 ip address 192.168.18.1 255.255.255.0 standby 192.168.18.2 1 interface GigabitEthernet0/1.1119 vlan 1119 nameif dmz-wlc security-level 50 ip address 192.168.19.1 255.255.255.0 standby 192.168.19.2 Т

```
interface GigabitEthernet0/1.1122
 description Interface to the TMG DMZ
vlan 1122
nameif dmz-tmg
 security-level 50
 ip address 192.168.22.1 255.255.255.0 standby 192.168.22.2
L.
interface GigabitEthernet0/1.1123
vlan 1123
nameif dmz-management
 security-level 50
 ip address 192.168.23.1 255.255.255.0 standby 192.168.23.2
interface GigabitEthernet0/1.1128
vlan 1128
nameif dmz-quests
 security-level 10
ip address 192.168.28.1 255.255.252.0 standby 192.168.28.2
L
interface GigabitEthernet0/2
description LAN/STATE Failover Interface
!
interface GigabitEthernet0/3
no nameif
no security-level
no ip address
interface GigabitEthernet0/3.16
description Primary Internet connection on VLAN 16
vlan 16
 nameif outside-16
 security-level 0
 ip address 172.16.130.124 255.255.255.0 standby 172.16.130.123
ipv6 address 2001:db8:a::1/64 standby 2001:db8:a::2
 ipv6 enable
interface GigabitEthernet0/3.17
```

description Resilient Internet connection on VLAN 17 vlan 17 nameif outside-17 security-level 0 ip address 172.17.130.124 255.255.255.0 standby 172.17.130.123 interface GigabitEthernet0/4 shutdown no nameif no security-level no ip address interface GigabitEthernet0/5 shutdown no nameif no security-level no ip address ! interface GigabitEthernet0/6 shutdown no nameif no security-level no ip address 1 interface GigabitEthernet0/7 shutdown no nameif no security-level no ip address ! interface Management0/0 management-only nameif IPS-mgmt security-level 0 no ip address ! boot system disk0:/asa901-smp-k8.bin

ftp mode passive clock timezone PST -8 clock summer-time PDT recurring dns domain-lookup inside dns server-group DefaultDNS name-server 10.4.48.10 domain-name cisco.local same-security-traffic permit intra-interface object network internal-network subnet 10.4.0.0 255.254.0.0 description The organization's internal network range object network dmz-networks subnet 192.168.16.0 255.255.248.0 description The organization's DMZ network range object network internal-network-ISPa subnet 10.4.0.0 255.254.0.0 description PAT traffic from inside out the primary Internet connection object network internal-network-ISPb subnet 10.4.0.0 255.254.0.0 description PAT traffic from inside out the secondary internet connection object network outside-webserver-ISPa host 172.16.130.100 description WebServer on ISP A object network dmz-webserver-ISPa host 192.168.16.100 object network outside-webserver-ISPb host 172.17.130.100 description WebServer on ISPb object network dmz-webserver-ISPb host 192.168.16.100 description NAT the webserver in the DMZ to outside address on ISP B object network dmz-dmvpn-1 host 192.168.18.10 description NAT the primary DMVPN hub router in the DMZ to ISP A

object network dmz-dmvpn-2 host 192.168.18.11 description NAT the secondary DMVPN hub router in the DMZ to ISP В object network outside-dmvpn-ISPa host 172.16.130.1 description DMVPN hub router on ISP A object network outside-dmvpn-ISPb host 172.17.130.1 description DMVPN hub router on ISP B object network dmz-web-net-v6 subnet 2001:db8:a:1::/64 object network dmz-webserver-ispa-v6 host 192.168.16.111 object network outside-webserver-ispa-v6 host 2001:db8:a::111 object network dmz-ipv6-natpool range 192.168.16.32 192.168.16.63 object network outside-IPv6-all subnet ::/0 object network dmz-guest-network-ISPa subnet 192.168.28.0 255.255.252.0 description DMZ outside PAT addresses for ISPa object network internal-wlc-5508 host 10.4.46.64 description Internal 5508 WLC object network internal-wlc-flex-7500 host 10.4.46.68 description Internal FlexConnect 7500 WLC object network dmz-wlc-2504-1 host 192.168.19.56 description Primary 2504 Anchor Controller for Guest Wireless Access object network dmz-wlc-5508 host 192.168.19.54 description 5508 Anchor Controller for Guest Wireless Access object network dmz-wlc-2504-2

host 192.168.19.57 description Resilient 2504 Anchor Controller for Guest Wireless object network internal-aaa host 10.4.48.15 description Internal AAA Server object network internal-ntp host 10.4.48.17 description Internal NTP Server object network internal-dhcp host 10.4.48.10 description Internal DHCP Server object network internal-dns host 10.4.48.10 description Internal DNS Server object network dmz-wlc-primary-5508-RP host 192,168,19,154 description Primary WLC Redundancy Port object network dmz-wlc-resilient-5508-RP host 192.168.19.155 description Resilient WLC Redundancy Port object network internal-exchange host 10.4.48.25 description Internal Exchange server object network NETWORK OBJ 10.4.28.0 22 subnet 10.4.28.0 255.255.252.0 object network internal ISE-1 host 10.4.48.46 description Internal ISE-AdvGuest Server object network outside-esa-ISPa host 172.16.130.25 object network dmz-esa370-ISPa host 192.168.17.25 description ESAc370 on email DMZ object network outside-esa-ISPb host 172.17.130.25 object network dmz-esa370-ISPb host 192,168,17,25

description ESAc370 on email DMZ object network 5505-pool subnet 10.4.156.0 255.255.252.0 description 5505 Teleworker Subnet object network asdm-websecproxy-115-111-223-66 host 115.111.223.66 object network asdm-websecproxy-122-50-127-66 host 122.50.127.66 object network asdm-websecproxy-184-150-236-66 host 184.150.236.66 object network asdm-websecproxy-196-26-220-66 host 196.26.220.66 object network asdm-websecproxy-201-94-155-66 host 201.94.155.66 object network asdm-websecproxy-202-167-250-90 host 202.167.250.90 object network asdm-websecproxy-202-167-250-98 host 202.167.250.98 object network asdm-websecproxy-202-177-218-66 host 202.177.218.66 object network asdm-websecproxy-202-79-203-98 host 202.79.203.98 object network asdm-websecproxy-46-255-40-58 host 46.255.40.58 object network asdm-websecproxy-46-255-40-90 host 46.255.40.90 object network asdm-websecproxy-46-255-40-98 host 46.255.40.98 object network asdm-websecproxy-69-10-152-66 host 69.10.152.66 object network asdm-websecproxy-69-174-58-179 host 69.174.58.179 object network asdm-websecproxy-69-174-58-187 host 69.174.58.187 object network asdm-websecproxy-69-174-87-131 host 69.174.87.131 object network asdm-websecproxy-69-174-87-163

host 69.174.87.163 object network asdm-websecproxy-69-174-87-171 host 69.174.87.171 object network asdm-websecproxy-69-174-87-75 host 69.174.87.75 object network asdm-websecproxy-70-39-176-115 host 70.39.176.115 object network asdm-websecproxy-70-39-176-123 host 70.39.176.123 object network asdm-websecproxy-70-39-176-131 host 70.39.176.131 object network asdm-websecproxy-70-39-176-139 host 70.39.176.139 object network asdm-websecproxy-70-39-176-35 host 70.39.176.35 object network asdm-websecproxy-70-39-176-59 host 70.39.176.59 object network asdm-websecproxy-70-39-177-35 host 70.39.177.35 object network asdm-websecproxy-70-39-177-43 host 70.39.177.43 object network asdm-websecproxy-70-39-231-107 host 70.39.231.107 object network asdm-websecproxy-70-39-231-163 host 70.39.231.163 object network asdm-websecproxy-70-39-231-171 host 70.39.231.171 object network asdm-websecproxy-70-39-231-180 host 70.39.231.180 object network asdm-websecproxy-70-39-231-182 host 70.39.231.182 object network asdm-websecproxy-70-39-231-188 host 70.39.231.188 object network asdm-websecproxy-70-39-231-190 host 70.39.231.190 object network asdm-websecproxy-70-39-231-91 host 70.39.231.91

object network asdm-websecproxy-72-37-244-163 host 72.37.244.163 object network asdm-websecproxy-72-37-244-171 host 72.37.244.171 object network asdm-websecproxy-72-37-248-19 host 72.37.248.19 object network asdm-websecproxy-72-37-248-27 host 72.37.248.27 object network asdm-websecproxy-72-37-249-139 host 72.37.249.139 object network asdm-websecproxy-72-37-249-147 host 72.37.249.147 object network asdm-websecproxy-72-37-249-163 host 72.37.249.163 object network asdm-websecproxy-72-37-249-171 host 72.37.249.171 object network asdm-websecproxy-72-37-249-195 host 72.37.249.195 object network asdm-websecproxy-72-37-249-203 host 72.37.249.203 object network asdm-websecproxy-80-254-147-251 host 80.254.147.251 object network asdm-websecproxy-80-254-148-194 host 80.254.148.194 object network asdm-websecproxy-80-254-150-66 host 80.254.150.66 object network asdm-websecproxy-80-254-154-66 host 80.254.154.66 object network asdm-websecproxy-80-254-154-98 host 80.254.154.98 object network asdm-websecproxy-80-254-155-66 host 80.254.155.66 object network asdm-websecproxy-80-254-158-147 host 80.254.158.147 object network asdm-websecproxy-80-254-158-155 host 80.254.158.155 object network asdm-websecproxy-80-254-158-179

host 80.254.158.179 object network asdm-websecproxy-80-254-158-187 host 80.254.158.187 object network asdm-websecproxy-80-254-158-211 host 80.254.158.211 object network asdm-websecproxy-80-254-158-219 host 80.254.158.219 object network asdm-websecproxy-80-254-158-35 host 80.254.158.35 object network dmz-tmg-ISPa host 192.168.22.25 description TMG on dmz-tmg object network dmz-tmg-ISPb host 192.168.22.25 description TMG on dmz-tmg object network outside-tmg-ISPa host 172.16.130.55 description TMG server on ISP-A object network outside-tmg-ISPb host 172.17.130.55 description TMG server on ISP-B object network internal-ad host 10.4.48.10 description Internal Active Directory Server object-group service DM INLINE SERVICE 1 service-object tcp destination eq ftp service-object tcp destination eq ftp-data service-object tcp destination eq tacacs service-object udp destination eq ntp service-object udp destination eq syslog object-group service DM INLINE TCP 1 tcp port-object eq www port-object eq https object-group service DM INLINE TCP 2 tcp port-object eq www port-object eq https object-group icmp-type DM INLINE ICMP 1

icmp-object echo icmp-object echo-reply object-group service DM INLINE SERVICE 2 service-object esp service-object udp destination eq 4500 service-object udp destination eq isakmp object-group service DM INLINE SERVICE 3 service-object esp service-object udp destination eq 4500 service-object udp destination eq isakmp object-group service DM INLINE TCP 3 tcp port-object eq www port-object eq https object-group network internal-wlc-group description Internal Wireless LAN Controllers network-object object internal-wlc-5508 network-object object internal-wlc-flex-7500 object-group network dmz-wlc-group description Wireless LAN Controllers in the DMZ network-object object dmz-wlc-2504-1 network-object object dmz-wlc-5508 network-object object dmz-wlc-2504-2 object-group service DM INLINE SERVICE 4 service-object tcp destination eq tacacs service-object udp destination eq 1812 service-object udp destination eq 1813 object-group service DM INLINE TCP 4 tcp port-object eq ftp port-object eq ftp-data object-group service DM INLINE SERVICE 5 service-object 97 service-object udp destination eq 16666 service-object udp destination eq 5246 service-object udp destination eg 5247 object-group service DM INLINE SERVICE 6 service-object tcp destination eq domain service-object udp destination eq domain

object-group network DM INLINE NETWORK 1 network-object object dmz-networks network-object object internal-network object-group service DM INLINE TCP 5 tcp port-object eq www port-object eq https object-group network dmz-wlc-RP-group description DMZ Wireless LAN Controllers Redundancy Port Group network-object object dmz-wlc-primary-5508-RP network-object object dmz-wlc-resilient-5508-RP object-group service DM INLINE UDP 1 udp port-object eq 1812 port-object eq 1813 object-group service DM INLINE TCP 6 tcp port-object eq www port-object eq https object-group service DM INLINE TCP 7 tcp port-object eq www port-object eq https object-group service DM INLINE SERVICE 7 service-object tcp destination eq 135 service-object tcp destination eq 445 service-object tcp destination eq kerberos service-object tcp destination eq ldap service-object udp destination eq 389 service-object udp destination eq ntp object-group service DM INLINE TCP 8 tcp port-object eq www port-object eq https access-list global access remark Permit management protocols from the management DMZ to the internal network access-list global access extended permit object-group DM INLINE SERVICE 1 192.168.23.0 255.255.255.0 object internal-network access-list global access remark Allow anyone to access the webservers in the DMZ access-list global access extended permit tcp any 192.168.16.0 255.255.255.0 object-group DM INLINE TCP 1

access-list global_access extended permit icmp any 192.168.18.0
255.255.255.0 object-group DM_INLINE_ICMP_1
access-list global_access extended permit object-group DM_INLINE_
SERVICE_3 any object dmz-dmvpn-2
access-list global_access remark Allow traffic to the DMVPN hub
routers
access-list global_access extended permit object-group DM_INLINE_
SERVICE_2 any object dmz-dmvpn-1
access-list global_access remark Allow WLC's to communicate with
the NTP server locate din the data center.
access-list global_access extended permit udp object-group dmz-
wlc-group object internal-ntp eq ntp
access-list global_access remark Allow DMZ based WLC's to
communicate with the AAA/ACS Server on the internal network.
access-list global_access extended permit object-group DM_INLINE_
SERVICE_4 object-group dmz-wlc-group object internal-aaa
access-list global_access extended permit tcp object-group dmz-
wlc-group any object-group DM_INLINE_TCP_4
access-list global_access remark Allow DMZ based WLC's to
communicate with the internal WLC's
access-list global_access extended permit object-group DM_INLINE_
<pre>SERVICE_5 object-group dmz-wlc-group object-group internal-wlc-</pre>
group
access-list global_access remark Allow DMZ WLC's to obtain IP
address via internal DHCP server
access-list global_access extended permit udp object-group dmz-
wlc-group object internal-dhcp eq bootps
access-list global_access remark Allow wireless guest users to
obtain an IP address from the internal DHCP server.
access-list global_access extended permit udp 192.168.28.0
255.255.252.0 object internal-dhcp eq bootps
access-list global_access remark Allow Guest Wireless Users to
resolve DNS names.
access-list global_access extended permit object-group DM_INLINE_
SERVICE_6 192.168.28.0 255.255.252.0 object internal-dns
access-list global_access remark Allow wireless guest users
access to the DMZ based webservers, possibly for walled garden

access

access-list global_access extended permit tcp 192.168.28.0
255.255.252.0 192.168.16.0 255.255.255.0 object-group DM_INLINE_
TCP_5
access-list global_access remark Allow Standby AP-SSO WLC's to
communicate to internal NTP server using RP Port
access-list global_access extended permit udp object-group dmz-
wlc-RP-group object internal-ntp eq ntp
access-list global_access remark Allow ELC to connect to ISE
access-list global_access extended permit udp 192.168.19.0
255.255.255.0 object internal_ISE-1 object-group DM_INLINE_UDP_1
access-list global_access remark guest client web auth access to
ISE
access-list global_access extended permit tcp 192.168.28.0
255.255.252.0 object internal_ISE-1 eq 8443
access-list global_access remark Deny traffic from the wireless
guest network to the internal and dmz resources
access-list global_access extended deny ip 192.168.28.0
255.255.252.0 object-group DM_INLINE_NETWORK_1
access-list global_access remark Allow Wireless DMZ users access
to the internet
access-list global_access extended permit ip 192.168.28.0
<u>255.255.252.0 any</u>
access-list global_access remark Exchange to ESA outbound SMTP
access-list global_access extended permit tcp object internal-
exchange 192.168.17.0 255.255.255.0 eq smtp
access-list global_access remark Block other outbound SMTP
access-list global_access extended deny tcp object internal-
network any4 eq smtp
access-list global_access remark Internet to ESA inbound SMTP
access-list global_access extended permit tcp any4 192.168.17.0
255.255.255.0 eq smtp
access-list global_access remark ESA to Exchange inbound SMTP
access-list global_access extended permit tcp 192.168.17.0
255.255.255.0 object internal-exchange eq smtp
access-list global_access remark DNS
access-list global access extended permit udp 192.168.17.0

255.255.255.0 object internal-dns eq domain
access-list global_access remark NTP
access-list global_access extended permit udp 192.168.17.0
255.255.255.0 object internal-ntp eq ntp
access-list global_access remark Block other to internal networks
access-list global_access extended deny ip 192.168.17.0
255.255.255.0 object internal-network
access-list global_access remark ESA to internet outbound SMTP
access-list global_access extended permit tcp 192.168.17.0
255.255.255.0 any4 eq smtp
access-list global_access remark HTTP to Internet
access-list global_access extended permit tcp 192.168.17.0
255.255.255.0 any4 eq www
access-list global_access remark HTTPS to Internet
access-list global_access extended permit tcp 192.168.17.0
255.255.255.0 any4 eq https
access-list global_access remark Deny IP traffic from the DMZ to
any other network
access-list global_access extended deny ip object dmz-networks
any4
access-list global_access extended deny tcp object internal-
network any4 eq telnet
access-list global_access extended permit ip object internal-
network any4 log disable
access-list global_access extended permit tcp any6 object dmz-
web-net-v6 object-group DM_INLINE_TCP_2
access-list global_access extended permit tcp any6 object dmz-
webserver-ispa-v6 object-group DM_INLINE_TCP_3
access-list global_access remark Permint HTTP/HTTPS traffic onto
the TMG DMZ
access-list global_access extended permit tcp any4 192.168.22.0
255.255.255.0 object-group DM_INLINE_TCP_6
access-list global_access remark Permit HTTP/HTTPS from TMG to
the internal Exchange Server
access-list global_access extended permit tcp 192.168.22.0
255.255.255.0 object internal-exchange object-group DM_INLINE_
TCP 7 log disable

access-list global access remark Internal DNS access-list global access extended permit udp 192.168.22.0 255.255.255.0 object internal-dns eq domain access-list global access remark TMG Server requires HTTP/HTTPS to get to the internet for updates. access-list global access extended permit tcp 192.168.22.0 255.255.255.0 any4 object-group DM INLINE TCP 8 access-list global access extended permit object-group DM INLINE SERVICE 7 192.168.22.0 255.255.255.0 object internal-ad access-list global mpc extended permit ip any4 any4 access-list RA PartnerACL remark Partners can access this host only. access-list RA PartnerACL standard permit host 10.4.48.35 access-list RA SplitTunnelACL remark Internal Networks access-list RA SplitTunnelACL standard permit 10.4.0.0 255.254.0.0 access-list RA SplitTunnelACL remark DMZ networks access-list RA SplitTunnelACL standard permit 192.168.16.0 255.255.248.0 access-list WCCP Redirect List remark Block RFC-1918 10.0.0.0/8 access-list WCCP Redirect List extended deny ip any4 10.0.0.0 255.0.0.0 access-list WCCP Redirect List remark Block RFC-1918 172.16.0.0/12 access-list WCCP Redirect List extended deny ip any4 172.16.0.0 255.240.0.0 access-list WCCP Redirect List remark Block RFC-1918 192.168.0.0/16 access-list WCCP Redirect List extended deny ip any4 192.168.0.0 255.255.0.0 access-list WCCP Redirect List remark Permit all others access-list WCCP Redirect List extended permit ip any4 any4 access-list global mpc 1 remark Do not match any to internal networks access-list global mpc 1 extended deny ip any4 object internalnetwork access-list global mpc 1 remark Do not match any to DMZ networks

access-list global_mpc_1 extended deny ip any4 object dmz-	
networks	
access-list global_mpc_1 remark Match HTTP to any other network.	5
access-list global_mpc_1 extended permit tcp any4 any4 eq www	
access-list Block_Trusted_Host remark Trusted Host is	
0.4.48.10:443	
access-list Block_Trusted_Host extended deny tcp any4 host	
.0.4.48.10 eq https	
access-list Block_Trusted_Host remark Permit all other traffic	
access-list Block_Trusted_Host extended permit ip any4 any4	
access-list CWS_Tower_Exclude remark ASDM-generated Web Security	Y
Droxy ACE	
access-list CWS_Tower_Exclude extended permit ip object asdm-	
vebsecproxy-80-254-158-35 any	
access-list CWS_Tower_Exclude remark ASDM-generated Web Securit	Y
Droxy ACE	
access-list CWS_Tower_Exclude extended permit ip object asdm-	
websecproxy-80-254-147-251 any	
access-list CWS_Tower_Exclude remark ASDM-generated Web Securit	Y
Droxy ACE	
access-list CWS_Tower_Exclude extended permit ip object asdm-	
websecproxy-80-254-158-155 any	
access-list CWS_Tower_Exclude remark ASDM-generated Web Securit	Y
Droxy ACE	
access-list CWS_Tower_Exclude extended permit ip object asdm-	
websecproxy-80-254-158-147 any	
access-list CWS_Tower_Exclude remark ASDM-generated Web Security	Y
Droxy ACE	
access-list CWS_Tower_Exclude extended permit ip object asdm-	
ebsecproxy-80-254-158-179 any	
access-list CWS_Tower_Exclude remark ASDM-generated Web Security	Y
Droxy ACE	
access-list CWS_Tower_Exclude extended permit ip object asdm-	
websecproxy-80-254-158-187 any	
access-list CWS_Tower_Exclude remark ASDM-generated Web Securit	Y
Droxy ACE	
access-list CWS_Tower_Exclude extended permit ip object asdm-	

websecproxy-80-254-158-211 any
access-list CWS Tower Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS Tower Exclude extended permit ip object asdm-
websecproxy-80-254-158-219 any
access-list CWS Tower Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-80-254-148-194 any
access-list CWS Tower Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS Tower Exclude extended permit ip object asdm-
websecproxy-46-255-40-58 any
access-list CWS Tower Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-46-255-40-90 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-46-255-40-98 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-80-254-150-66 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-80-254-154-66 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-80-254-154-98 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-80-254-155-66 any

access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-196-26-220-66 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-201-94-155-66 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-184-150-236-66 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-69-10-152-66 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-72-37-244-171 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-72-37-244-163 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-72-37-248-19 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-72-37-248-27 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-231-107 any
access-list CWS Tower Exclude remark ASDM-generated Web Security

proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-231-91 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-231-171 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-231-163 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security_
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-231-180 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-231-182 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-231-188 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security_
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-231-190 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security_
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-69-174-58-179 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-69-174-58-187 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE

access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-176-35 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-176-59 any
<pre>access-list CWS_Tower_Exclude remark ASDM-generated Web Security</pre>
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-176-115 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-176-123 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-176-131 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-176-139 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-72-37-249-171 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-72-37-249-163 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-72-37-249-139 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-

websecproxy-72-37-249-147 any
access-list CWS Tower Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS Tower Exclude extended permit ip object asdm-
websecproxy-72-37-249-195 any
access-list CWS Tower Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS Tower Exclude extended permit ip object asdm-
websecproxy-72-37-249-203 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-177-35 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-70-39-177-43 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-69-174-87-75 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-69-174-87-171 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-69-174-87-131 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-69-174-87-163 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-202-167-250-98 any

access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-202-167-250-90 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-115-111-223-66 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-122-50-127-66 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-202-79-203-98 any
access-list CWS_Tower_Exclude remark ASDM-generated Web Security
proxy ACE
access-list CWS_Tower_Exclude extended permit ip object asdm-
websecproxy-202-177-218-66 any
!
scansafe general-options
server primary ip 72.37.248.27 port 8080
server backup ip 69.174.58.187 port 8080
retry-count 5
license 6B2F23DCD7704A3947F02CBA6A17BCF2
!
pager lines 24
logging enable
logging buffered informational
logging asdm informational
mtu inside 1500
mtu dmz-web 1500
mtu dmz-email 1500
mtu dmz-dmvpn 1500
mtu dmz-wlc 1500
mtu dmz-tmg 1500

mtu dmz-management 1500 mtu dmz-quests 1500 mtu outside-16 1500 mtu outside-17 1500 mtu IPS-mgmt 1500 failover failover lan unit primary failover lan interface failover GigabitEthernet0/2 failover polltime unit msec 200 holdtime msec 800 failover polltime interface msec 500 holdtime 5 failover key FailoverKey failover replication http failover link failover GigabitEthernet0/2 failover interface ip failover 10.4.24.33 255.255.258 standby 10.4.24.34 monitor-interface inside monitor-interface dmz-web monitor-interface dmz-email monitor-interface dmz-dmvpn monitor-interface dmz-wlc monitor-interface dmz-tmg monitor-interface dmz-management monitor-interface dmz-quests monitor-interface outside-16 monitor-interface outside-17 icmp unreachable rate-limit 1 burst-size 1 asdm image disk0:/asdm-702.bin no asdm history enable arp timeout 14400 no arp permit-nonconnected nat (inside,outside-17) source static any any destination static NETWORK OBJ 10.4.28.0 22 NETWORK OBJ 10.4.28.0 22 no-proxy-arp route-lookup nat (inside,outside-16) source static any any destination static NETWORK OBJ 10.4.28.0 22 NETWORK OBJ 10.4.28.0 22 no-proxy-arp route-lookup nat (any,any) source static internal-network internal-network

destination static 5505-pool 5505-pool 1 object network internal-network-ISPa nat (any,outside-16) dynamic interface object network internal-network-ISPb nat (any,outside-17) dynamic interface object network dmz-webserver-ISPa nat (any,outside-16) static outside-webserver-ISPa object network dmz-webserver-ISPb nat (any,outside-17) static outside-webserver-ISPb object network dmz-dmvpn-1 nat (any, any) static outside-dmvpn-ISPa net-to-net object network dmz-dmvpn-2 nat (any,any) static outside-dmvpn-ISPb net-to-net object network outside-IPv6-all nat (outside-16,dmz-web) dynamic pat-pool dmz-ipv6-natpool round-robin object network dmz-guest-network-ISPa nat (any,outside-16) dynamic interface object network dmz-esa370-ISPa nat (any,outside-16) static outside-esa-ISPa object network dmz-esa370-ISPb nat (any,outside-17) static outside-esa-ISPb object network dmz-tmg-ISPa nat (dmz-tmg,outside-16) static outside-tmg-ISPa object network dmz-tmg-ISPb nat (dmz-tmg,outside-17) static outside-tmg-ISPb access-group global access global ipv6 route outside-16 ::/0 2001:db8:a::7206 1 router eigrp 100 no auto-summary network 10.4.24.0 255.255.252.0 network 192.168.16.0 255.255.248.0 passive-interface default no passive-interface inside redistribute static

!

route outside-16 0.0.0.0 0.0.0.0 172.16.130.126 1 track 1 route outside-17 0.0.0.0 0.0.0.0 172.17.130.126 50 route outside-16 172.18.1.1 255.255.255.255 172.16.130.126 1 timeout xlate 3:00:00 timeout pat-xlate 0:00:30 timeout conn 1:00:00 half-closed 0:10:00 udp 0:02:00 icmp 0:00:02 timeout sunrpc 0:10:00 h323 0:05:00 h225 1:00:00 mgcp 0:05:00 mgcp-pat 0:05:00 timeout sip 0:30:00 sip media 0:02:00 sip-invite 0:03:00 sipdisconnect 0:02:00 timeout sip-provisional-media 0:02:00 uauth 0:05:00 absolute timeout tcp-proxy-reassembly 0:01:00 timeout floating-conn 0:00:00 dynamic-access-policy-record DfltAccessPolicy aaa-server AAA-SERVER protocol tacacs+ aaa-server AAA-SERVER (inside) host 10.4.48.15 key SecretKey aaa-server AAA-RADIUS protocol radius aaa-server AAA-RADIUS (inside) host 10.4.48.15 key SecretKey radius-common-pw SecretKey aaa authentication enable console AAA-SERVER LOCAL aaa authentication ssh console AAA-SERVER LOCAL aaa authentication http console AAA-SERVER LOCAL aaa authentication serial console AAA-SERVER LOCAL aaa authorization exec authentication-server http server enable http 10.4.48.0 255.255.255.0 inside snmp-server host inside 10.4.48.35 community cisco no snmp-server location no snmp-server contact snmp-server community cisco snmp-server enable traps snmp authentication linkup linkdown coldstart warmstart sla monitor 16 type echo protocol ipIcmpEcho 172.18.1.1 interface outside-16

sla monitor schedule 16 life forever start-time now			
crypto ipsec ikev1 transform-set ESP-AES-256-MD5 esp-aes-256 esp-			
md5-hmac			
crypto ipsec ikev1 transform-set ESP-DES-SHA esp-des esp-sha-hmac			
crypto ipsec ikev1 transform-set ESP-3DES-SHA esp-3des esp-sha-			
hmac			
crypto ipsec ikev1 transform-set ESP-DES-MD5 esp-des esp-md5-hmac			
crypto ipsec ikev1 transform-set ESP-AES-192-MD5 esp-aes-192 esp-			
md5-hmac			
crypto ipsec ikev1 transform-set ESP-3DES-MD5 esp-3des esp-md5-			
hmac			
crypto ipsec ikev1 transform-set ESP-AES-256-SHA esp-aes-256 esp-			
sha-hmac			
crypto ipsec ikev1 transform-set ESP-AES-128-SHA esp-aes esp-sha-			
hmac			
crypto ipsec ikev1 transform-set ESP-AES-192-SHA esp-aes-192 esp-			
<u>sha-hmac</u>			
crypto ipsec ikev1 transform-set ESP-AES-128-MD5 esp-aes esp-md5-			
hmac			
crypto ipsec security-association pmtu-aging infinite			
crypto dynamic-map SYSTEM_DEFAULT_CRYPTO_MAP 65535 set ikev1			
transform-set ESP-AES-128-SHA ESP-AES-128-MD5 ESP-AES-192-SHA			
ESP-AES-192-MD5 ESP-AES-256-SHA ESP-AES-256-MD5 ESP-3DES-SHA ESP-			
3DES-MD5 ESP-DES-SHA ESP-DES-MD5			
crypto dynamic-map SYSTEM_DEFAULT_CRYPTO_MAP 65535 set reverse-			
route			
crypto map outside-16_map 65535 ipsec-isakmp dynamic SYSTEM_			
DEFAULT_CRYPTO_MAP			
crypto map outside-16_map interface outside-16			
crypto ca trustpoint _SmartCallHome_ServerCA			
crl configure			
crypto ca trustpoint ASDM_TrustPoint0			
enrollment self			
subject-name CN=IE-ASA5545X			
proxy-ldc-issuer			
crl configure			

crypto ca trustpoint IE-ASA5545X-Trustpoint

enrollment self subject-name CN=IE-ASA5545X.cisco.local keypair IE-ASA5545X-Keypair proxy-ldc-issuer crl configure crypto ca trustpoint IE-ASA5545X-FO-Trustpoint enrollment self subject-name CN=IE-ASA5545X-FO.cisco.local keypair IE-ASA5545X-Keypair proxy-ldc-issuer crl configure crypto ca trustpool policy crypto ikev1 enable outside-16 crypto ikev1 policy 10 authentication crack encryption aes-256 hash sha group 2 lifetime 86400 crypto ikev1 policy 20 authentication rsa-sig encryption aes-256 hash sha group 2 lifetime 86400 crypto ikev1 policy 30 authentication pre-share encryption aes-256 hash sha group 2 lifetime 86400 crypto ikev1 policy 40 authentication crack encryption aes-192 hash sha group 2 lifetime 86400

crypto ikev1 policy 50 authentication rsa-sig encryption aes-192 hash sha aroup 2 lifetime 86400 crypto ikev1 policy 60 authentication pre-share encryption aes-192 hash sha group 2 lifetime 86400 crypto ikev1 policy 70 authentication crack encryption aes hash sha group 2 lifetime 86400 crypto ikev1 policy 80 authentication rsa-sig encryption aes hash sha group 2 lifetime 86400 crypto ikev1 policy 90 authentication pre-share encryption aes hash sha group 2 lifetime 86400 crypto ikev1 policy 100 authentication crack encryption 3des hash sha group 2 lifetime 86400 crypto ikev1 policy 110

authentication rsa-sig encryption 3des hash sha group 2 lifetime 86400 crypto ikev1 policy 120 authentication pre-share encryption 3des hash sha group 2 lifetime 86400 crypto ikev1 policy 130 authentication crack encryption des hash sha group 2 lifetime 86400 crypto ikev1 policy 140 authentication rsa-sig encryption des hash sha group 2 lifetime 86400 crypto ikev1 policy 150 authentication pre-share encryption des hash sha group 2 lifetime 86400 track 1 rtr 16 reachability telnet timeout 5 ssh 10.4.48.0 255.255.255.0 inside ssh timeout 5 ssh version 2 console timeout 0 L.

tls-proxy maximum-session 1000 1 threat-detection basic-threat threat-detection statistics access-list no threat-detection statistics tcp-intercept wccp web-cache redirect-list WCCP Redirect List wccp 90 redirect-list WCCP Redirect List ntp server 10.4.48.17 ssl encryption aes256-sha1 aes128-sha1 3des-sha1 ssl trust-point IE-ASA5545X-Trustpoint outside-16 ssl trust-point IE-ASA5545X-FO-Trustpoint outside-17 webvpn enable outside-16 enable outside-17 anyconnect-essentials anyconnect image disk0:/anyconnect-win-3.1.00495-k9.pkg 1 anyconnect image disk0:/anyconnect-linux-3.1.00495-k9.pkg 2 anyconnect image disk0:/anyconnect-macosx-i386-3.1.00495-k9.pkg 3 anyconnect profiles RA-Profile disk0:/ra-profile.xml anyconnect profiles RA-WebSecurityProfile disk0:/rawebsecurityprofile.wsp anyconnect profiles RA-WebSecurityProfile.wso disk0:/rawebsecurityprofile.wso anyconnect enable tunnel-group-list enable group-policy 5505Group internal group-policy 5505Group attributes wins-server none dns-server none vpn-tunnel-protocol ikev1 password-storage disable split-tunnel-policy tunnelall default-domain value cisco.local secure-unit-authentication enable nem enable

group-policy GroupPolicy_Employee internal

group-policy GroupPolicy Employee attributes banner value Group "vpn-employee" allows for unrestricted access with a tunnel all policy. vpn-filter value Block Trusted Host split-tunnel-policy excludespecified split-tunnel-network-list value CWS Tower Exclude webvpn anyconnect modules value websecurity anyconnect profiles value RA-Profile type user anyconnect profiles value RA-WebSecurityProfile.wso type websecurity always-on-vpn profile-setting group-policy GroupPolicy AnyConnect internal group-policy GroupPolicy AnyConnect attributes wins-server none dns-server value 10.4.48.10 vpn-tunnel-protocol ssl-client default-domain value cisco.local group-policy GroupPolicy Partner internal group-policy GroupPolicy Partner attributes banner value Group "vpn-partner" allows for access control list (ACL) restricted access with a tunnel all policy. vpn-filter value RA PartnerACL webvpn anyconnect profiles value RA-Profile type user group-policy GroupPolicy Administrator internal group-policy GroupPolicy Administrator attributes banner value Group "vpn-administrator" allows for unrestricted access with a split tunnel policy. split-tunnel-policy tunnelspecified split-tunnel-network-list value RA SplitTunnelACL webvpn anyconnect profiles value RA-Profile type user username admin password w2Y.60p4j7clVDk2 encrypted privilege 15 tunnel-group AnyConnect type remote-access tunnel-group AnyConnect general-attributes address-pool RA-pool

authentication-server-group AAA-RADIUS default-group-policy GroupPolicy AnyConnect password-management tunnel-group AnyConnect webvpn-attributes group-alias AnyConnect enable group-url https://172.16.130.124/AnyConnect enable group-url https://172.17.130.124/AnyConnect enable tunnel-group Teleworker5505 type remote-access tunnel-group Teleworker5505 general-attributes authentication-server-group AAA-RADIUS default-group-policy 5505Group tunnel-group Teleworker5505 ipsec-attributes ikev1 pre-shared-key cisco123 class-map global-class match access-list global mpc class-map cws-http-class description Class to match HTTP traffic for Cloud Web Security match access-list global mpc 1 class-map inspection default match default-inspection-traffic policy-map type inspect dns preset dns map parameters message-length maximum client auto message-length maximum 512 policy-map type inspect scansafe CWS-HTTP-80 description Cloud Web Security TCP-80 parameters default user sba-default http policy-map global policy class inspection default inspect dns preset dns map inspect ftp inspect h323 h225

inspect h323 ras	Neter
inspect ip-options	Notes
inspect netbios	
inspect rsh	
inspect rtsp	
inspect skinny	
inspect esmtp	
inspect sqlnet	
inspect sunrpc	
inspect tftp	
inspect sip	
inspect xdmcp	
inspect icmp	
class global-class	
ips inline fail-close	
class cws-http-class	
inspect scansafe CWS-HTTP-80 fail-open	
!	
service-policy global_policy global	
prompt hostname context	
no call-home reporting anonymous	
call-home	
profile CiscoTAC-1	
no active	
destination address http https://tools.cisco.com/its/service/	
oddce/services/DDCEService	
destination address email callhome@cisco.com	
destination transport-method http	
subscribe-to-alert-group diagnostic	
subscribe-to-alert-group environment	
subscribe-to-alert-group inventory periodic monthly 2	
subscribe-to-alert-group configuration periodic monthly 2	
subscribe-to-alert-group telemetry periodic daily	
hpm topN enable	
: end	

Appendix C: Provisioning Email Example

From: ScanSafe Provisioning [mailto:provisioning@scansafe.net] Subject: Provisioning Notification: Customer X / PO Ref:XXXXXXXX

On Day-Month-Year we completed the provisioning of the ScanSafe Web Security services for Customer X in accordance with the order details below:

Services:	Subscription Seats and Services	
Term:	Subscription Months	
Registered IP Addresses:	-None configured yet-	
Domains:	-None configured yet-	

The service is now available and you should make the necessary configuration changes described below to use the service. Please configure your system so that external Web traffic is sent via ScanSafe, using the explicit proxy setting below:

Primary Web Services Proxy Address:	proxyXXXX.scansafe.net
Web Services Proxy port:	8080
Secondary Web Services Proxy Address:	proxyXXXX.scansafe.net
Web Services Proxy port:	8080

The exact configuration changes required will vary depending in your specific existing infrastructure.

To log in to the service configuration Web portal and administer the service, please visit https://scancenter.scansafe.com/portal/admin/login.jsp and enter your email and password details below:

Email:	contact@CustomerX.com	
Password :	-Not Shown-	
Company ID:	XXXXXXXXXX	

As part of our ongoing commitment to quality and service, a member of the ScanSafe Customer Services team will be in touch with you to ensure that the service is functioning according to your expectations.

If you require any assistance or experience any problems with the service, please do not hesitate to contact our support team.

We appreciate your choosing ScanSafe to provide Web security and look forward to a successful working partnership with you.

Customer Services EMEA +44 (0) 207 034 9400 US + (1) 877 472 2680

support@scansafe.com

This email and any attachments are strictly confidential and intended for the addressee(s) only. If this email has been sent to you in error, please let us know by forwarding it to us at support@scansafe.com.

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