Voice of the Engineer

Deep Dive Series: Web Authentication, Guest and Device Registration

Voice of the Engineer

Solutions approach to partner training

- Partner Enablement through series of WebEx Training Sessions
- Basics are introductory sessions open to AM, SE, FE
- Deep Dives are Field Engineer focus

  Deployment information from the Experts for the Experts
- Recordings and Slides will be Archived on the Partner Community
- Voice of the Engineer – Deep Dives

  https://communities.cisco.com/docs/DOC-30977
- Voice of the Engineer – Basics

  https://communities.cisco.com/docs/DOC-30718

Voice of the Engineer – Deep Dives

https://communities.cisco.com/docs/DOC-30977

- Identity Services Engine (ISE)
  - ✓ TrustSec & ISE Overview - 9/25/12
  - ✓ AAA, 802.1X, MAB - 10/9/12
  - ✓ ISE Profiling – 10/23/12
  - ✓ Web Auth, Guest & Device Registration – 11/6/12
  - ✓ Bring Your Own Device & EAP Chaining – 11/20/12
  - ✓ Posture & Security Group Access – 12/4/12
  - ✓ Best Practices – 12/18/12
  - ✓ **ISE TAC Tips: Processes, Planning, Live Troubleshooting – 1/8/13**
  - ✓ **ISE TAC Tips: Live Troubleshooting – 1/22/13**
- AnyConnect
  - ✓ AnyConnect VPN – 1/15/13
  - ✓ AnyConnect NAM – 1/29/13
  - ✓ AnyConnect Mobile – 2/12/13
  - ✓ Advanced AnyConnect Configuration – 2/26/13
  - ✓ AnyConnect TAC Tips – 3/12/13

Agenda for Voice of the Engineer

- TrustSec & ISE Overview
- AAA, 802.1X, MAB
- Profiling
- Web Authentication, Guest & Device Registration
- Bring your own Device & EAP-Chaining
- Posture & SGA
- Troubleshooting & Best Practices

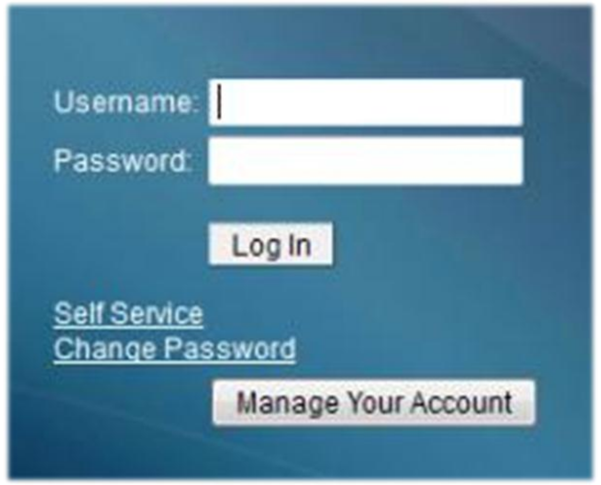
Web Authentication and Guest Services

Agenda

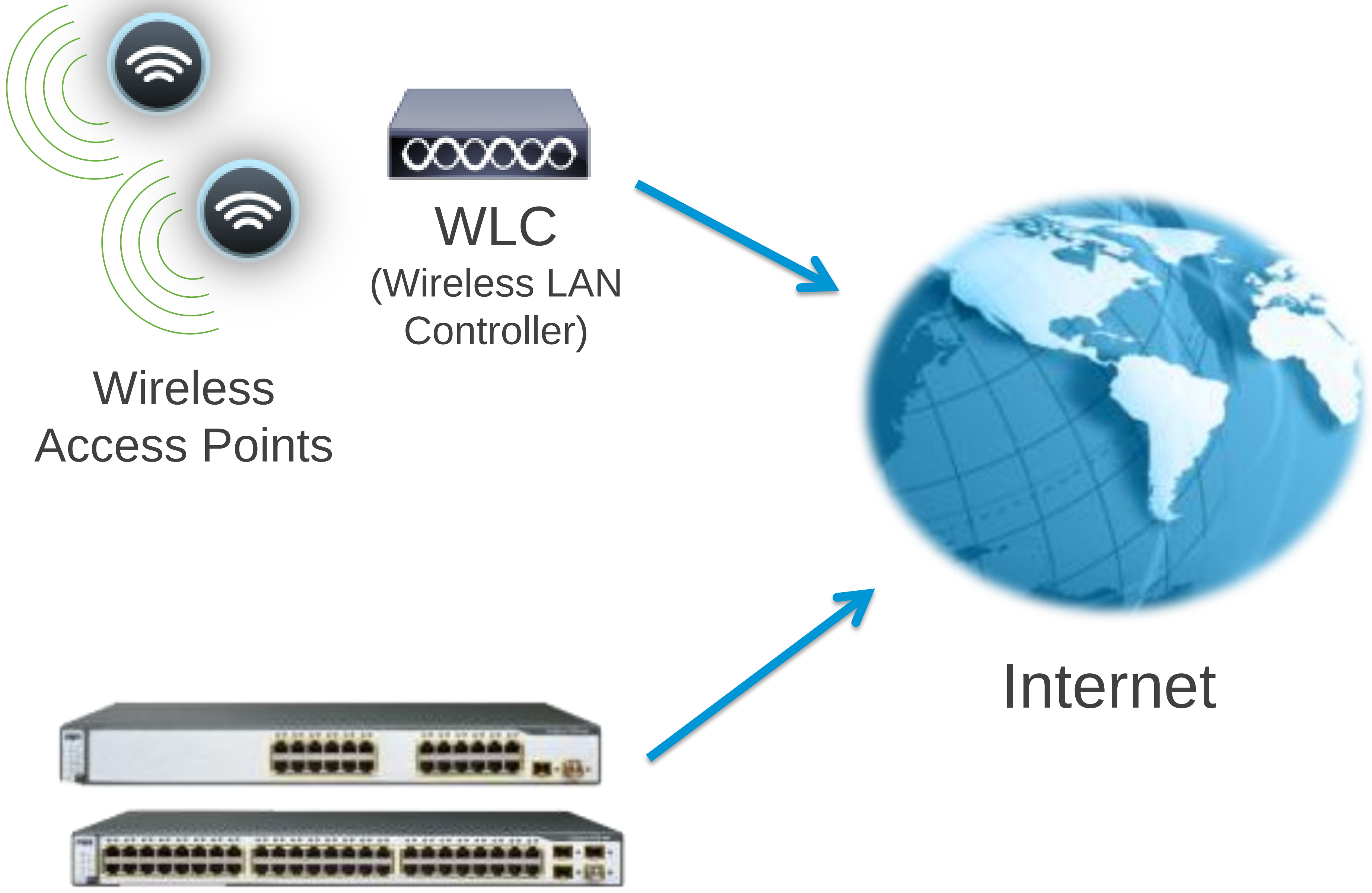
- Web Authentication
- URL Redirection
- Provisioning Guest Accounts
- Guest Portals
- Device Registration
- Monitoring Guests

Web Authentication

Guest Access Needs



Guest authentication portal



Wireless Access Points

WLC (Wireless LAN Controller)

Internet

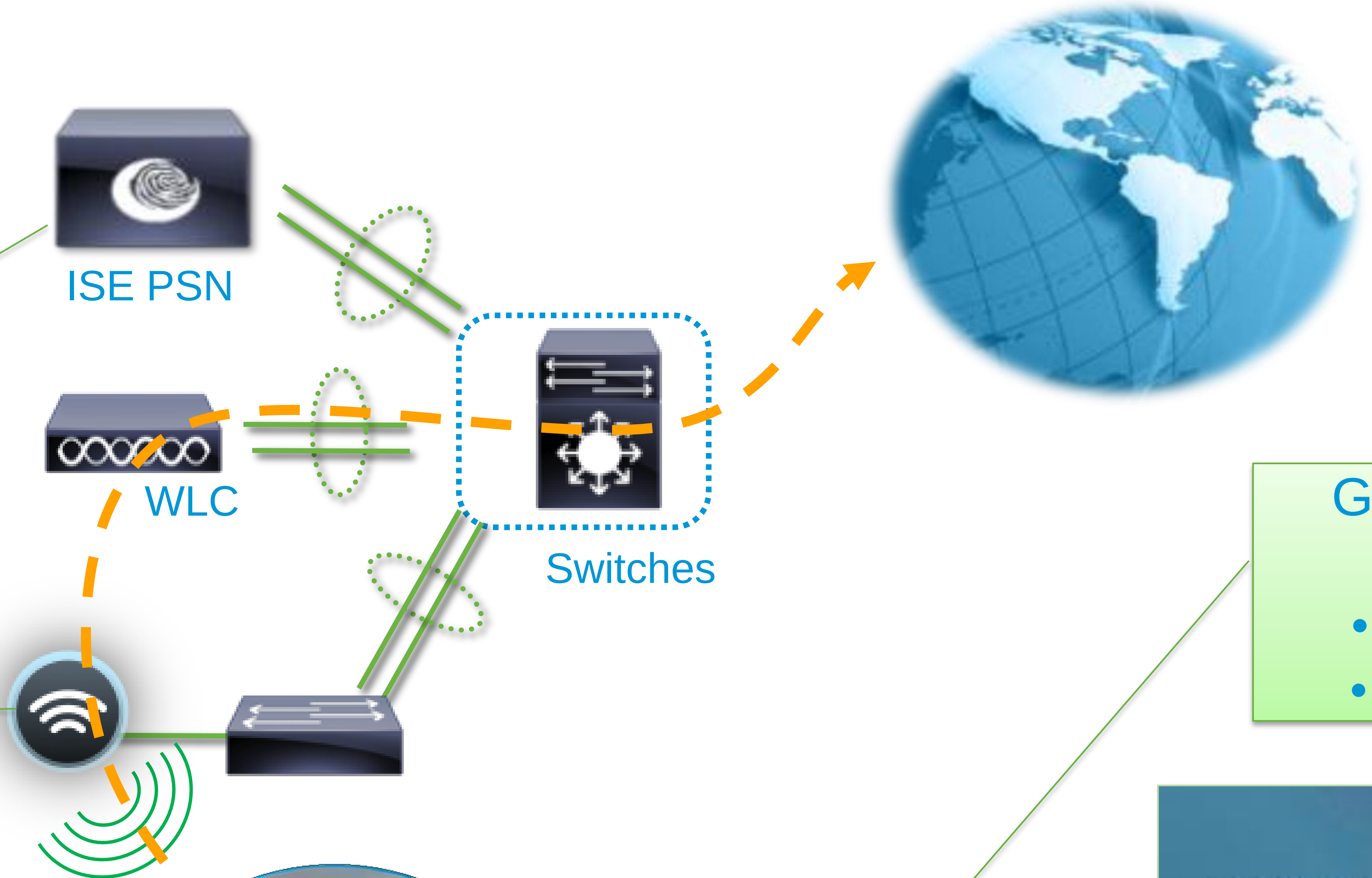
LAN switches

Web Authentication Example

How Does it Work?

Web session redirected to ISE web portal for authentication

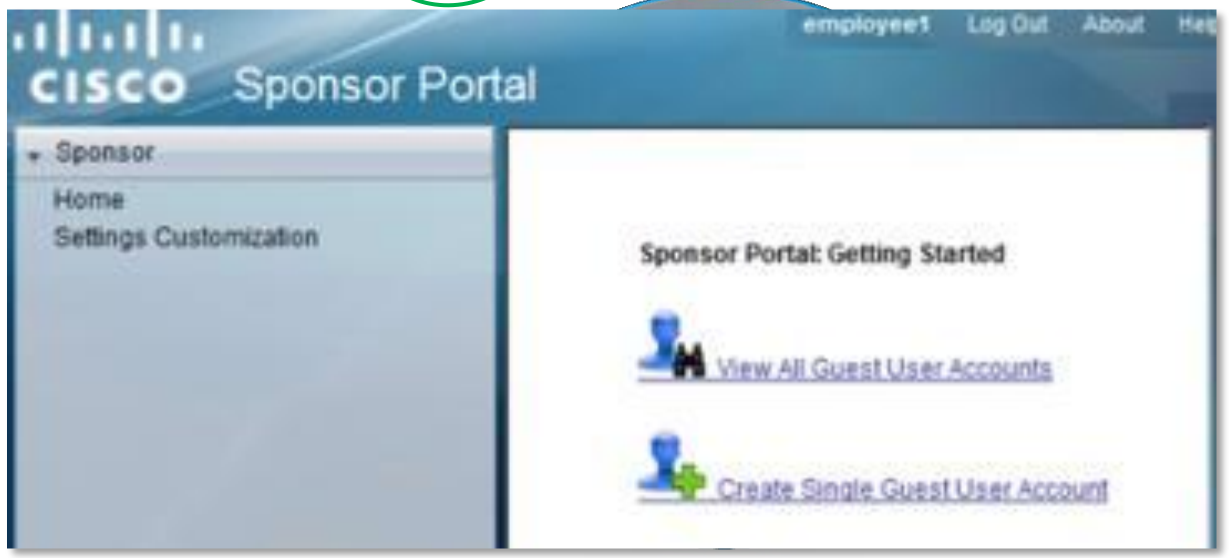
Open SSID « guest » with Web authentication



Authorized Guest Access

Guest account created by:

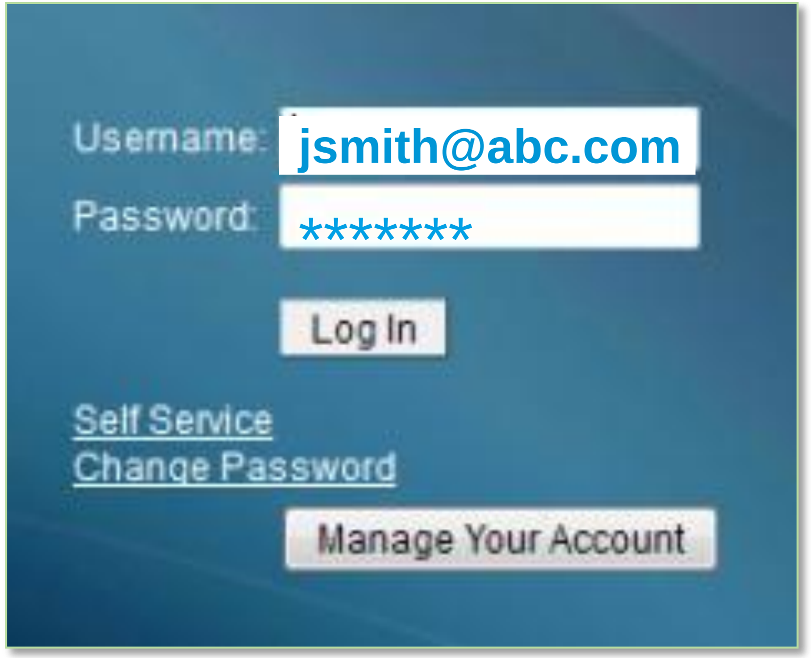
- Sponsor, or
- Self service



Sponsor Portal: Getting Started

View All Guest User Accounts

Create Single Guest User Account

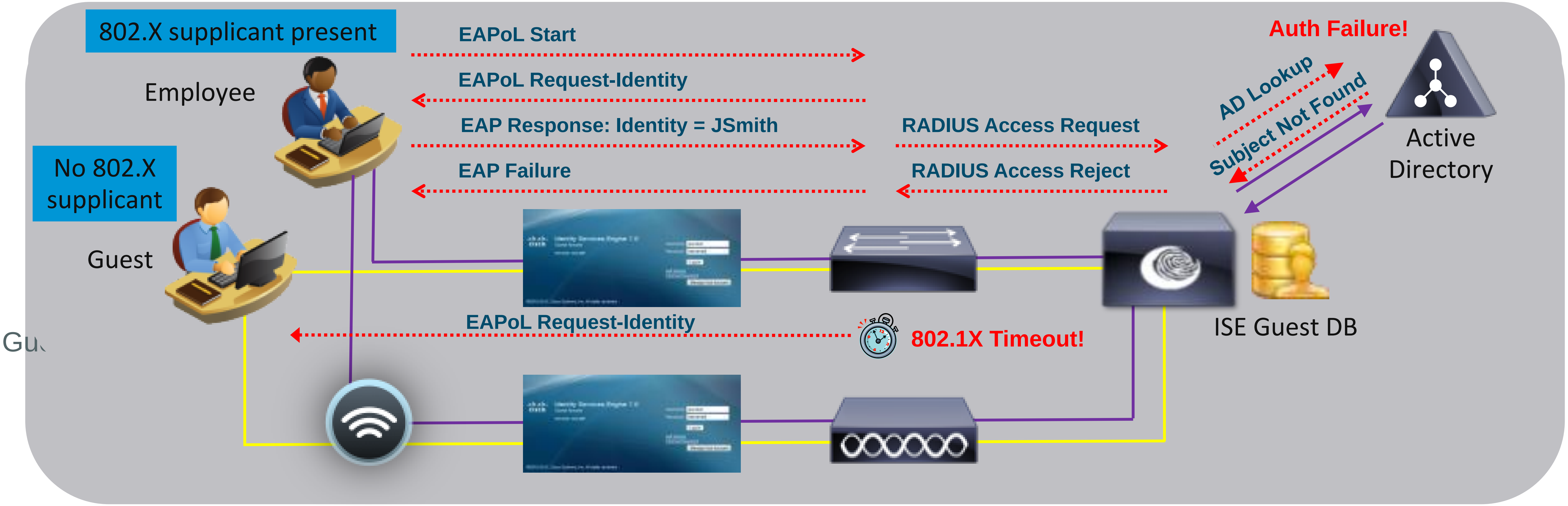


Username: jsmith@abc.com

Password: *******

Web Authentication for Guests/Employees

- Guests: Authenticate temporary/occasional users w/o 802.1X
- Employees: Provide permanent/frequent users fallback auth method if fail auth or 802.1X misconfigured



- ISE can use Identity Sequences to check the Local Guest Account repository → then Active Directory.
- ISE can assign different levels of access to Guest and Employee

Web Auth Considerations

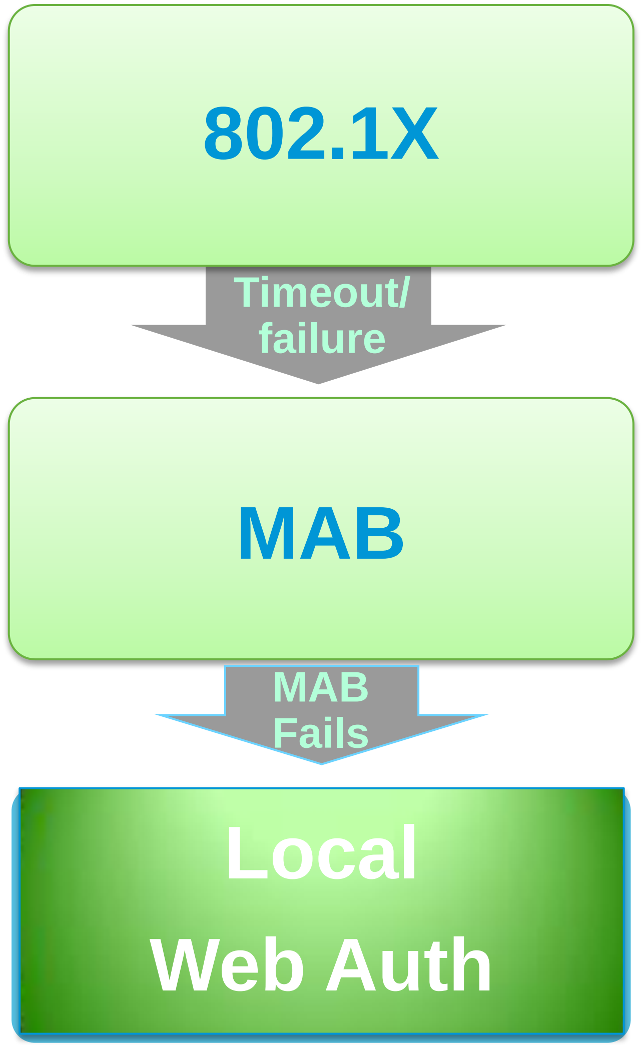
- Web Authentication is only for users (not devices)
  - Browser required
  - Manual entry of username/password

- Network equipment must intercept http/s requests and redirect to guest portal for authentication
- 2 ways to enforce on Cisco network access devices (WLC, switches)

Local Web Auth (LWA)
Web auth done on the network device (web-auth feature on devices)
No CoA support
Authorization only with ACLs

Central Web Auth (CWA)
Web auth configuration pushed centrally
CoA support (for posture, profiling, …)
Authorization can use VLAN or ACLs

LWA – Session Flow



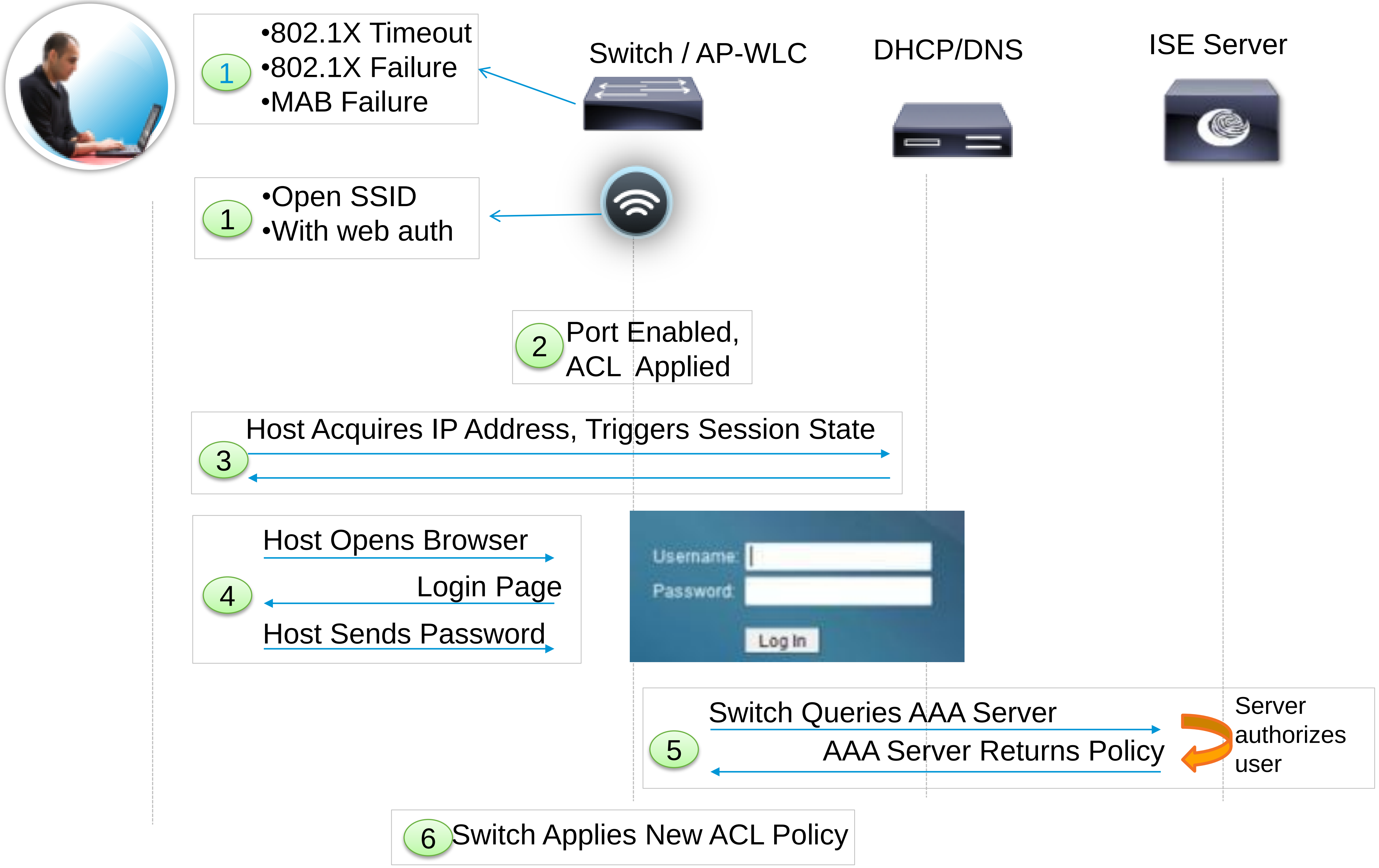
802.1X

Timeout/ failure

MAB

MAB Fails

Local Web Auth



Switch / AP-WLC

DHCP/DNS

ISE Server

1 •802.1X Timeout •802.1X Failure •MAB Failure

1 •Open SSID •With web auth

2 Port Enabled, ACL Applied

3 Host Acquires IP Address, Triggers Session State

4 Host Opens Browser

Login Page

Host Sends Password

5 Switch Queries AAA Server

AAA Server Returns Policy

Server authorizes user

6 Switch Applies New ACL Policy

Flex Auth: After timeout or failure, port automatically tries “next-method” if another method configured.

Wired LWA Config

```
ip admission name WEBAUTH proxy http
ip access-list extended PRE_AUTH_POLICY
   permit udp any any eq bootps
   permit udp any any eq domain
fallback profile WEBAUTH_PROFILE
   ip access-group PRE_AUTH_POLICY in
   ip admission WEBAUTH
interface GigabitEthernet1/0/1
  authentication port-control auto
  authentication fallback WEBAUTH_PROFILE
  dot1x pae-authenticator
  mab
authentication event fail action next-method
```

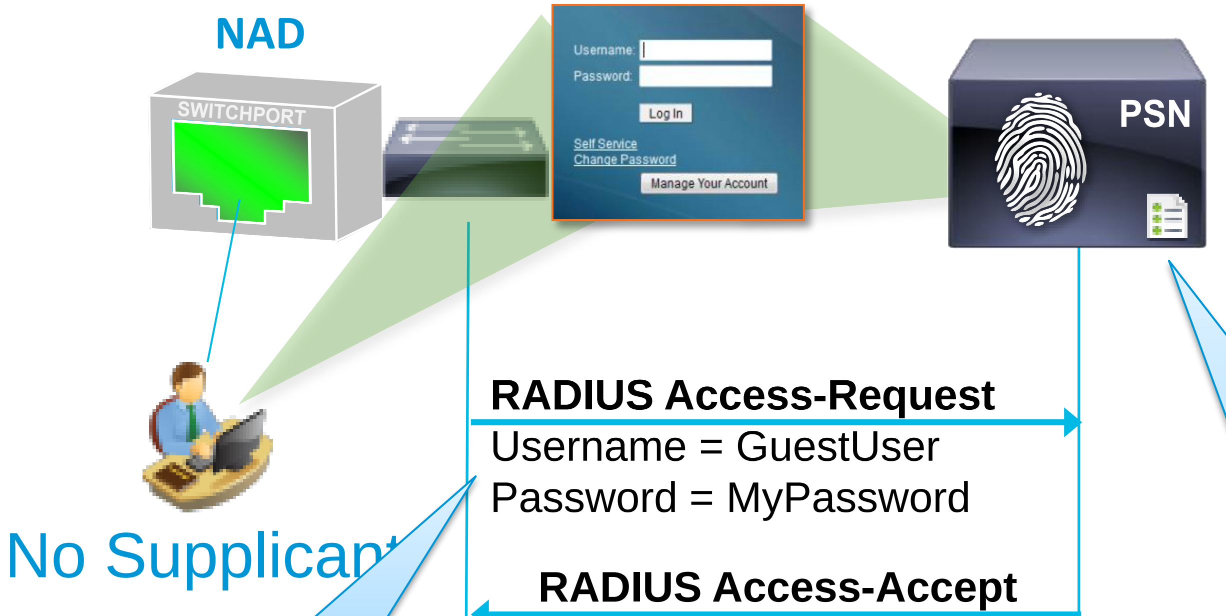
Matched AuthC Rule = LWA

Authentication Policy

Status	Rule		Conditions		Identity Source
✓	MA	if	Wired_MAB	then	Internal Endpoints
✓	Do X	If	Wired_802.1X	then	AD1
✓	LWA	if	RADIUS:Service-Type = Outbound RADIUS:NAS-Port-Type= Ethernet	then	Internal Users
✓	Default	if	<no match>	then	AD1_Internal

Authorization Policy

Status	Rule Name		Conditions		Permissions
✓	IP Phones	if	Cisco-IP-Phone	then	Cisco_IP_Phone
✓	BYOD	if	BYOD and Employee	then	Employee
✓	Guest	if	Guest	then	Guest
✓	Contractor	if	Contractor	then	Contractor
✓	Employee		Employee	then	Employee
✓	Default	If no m		then	WEBAUTH



RADIUS Access-Request
Username = GuestUser
Password = MyPassword

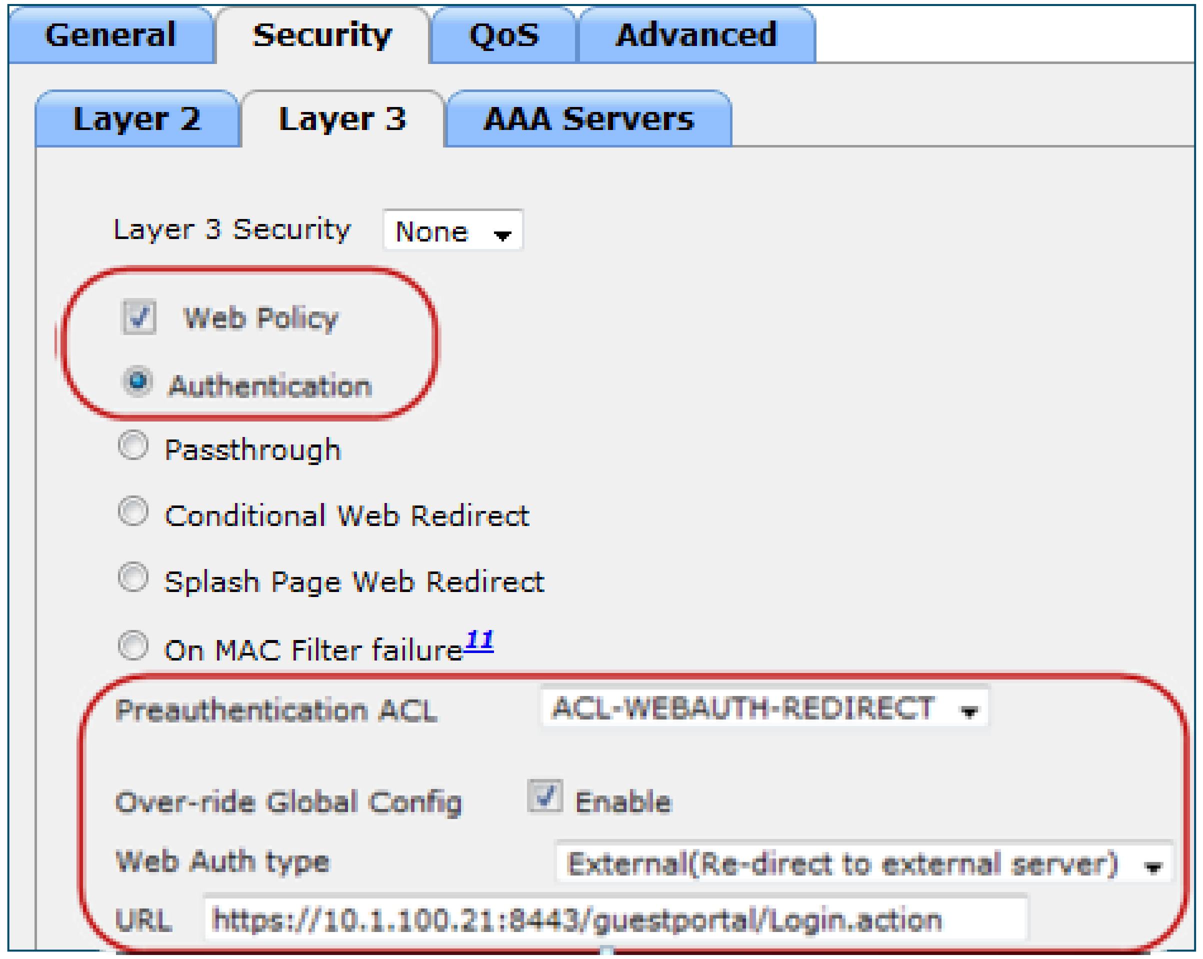
RADIUS Access-Accept
[AVP: dacl = Internet_Only]

PAP Login

Username matches

Matched AuthZ Rule = Guest

Wireless LWA Config



Layer 3 Security: None

☑ Web Policy

● Authentication

○ Passthrough

○ Conditional Web Redirect

○ Splash Page Web Redirect

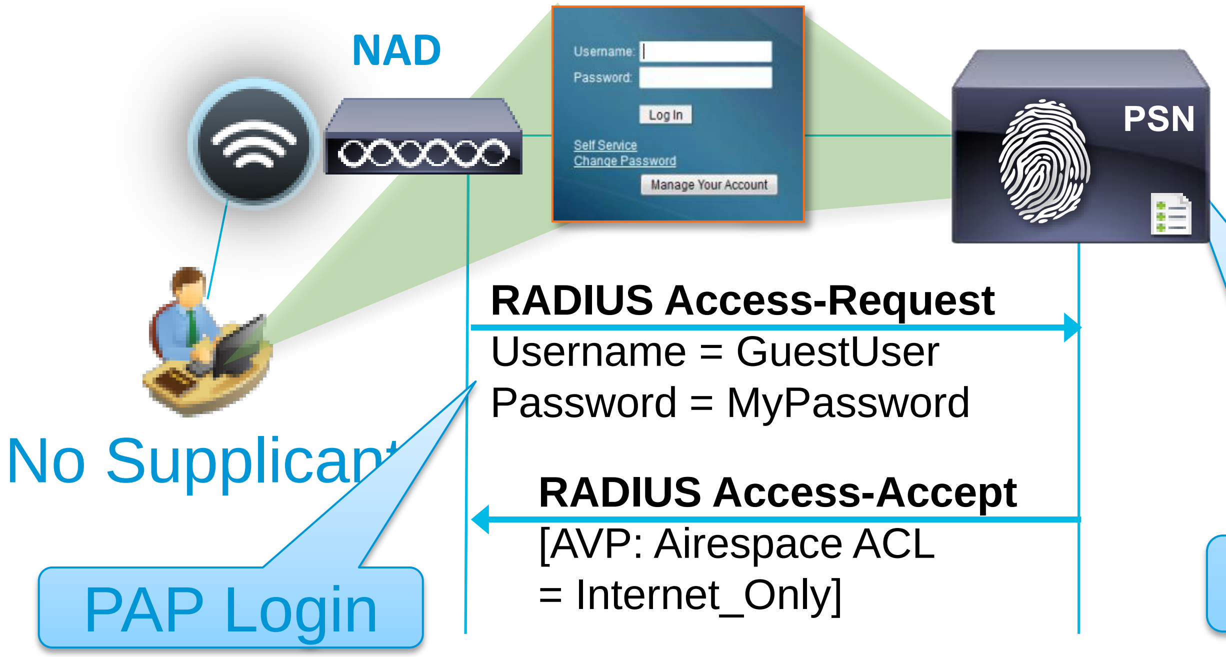
○ On MAC Filter failure[11]

Preauthentication ACL: ACL-WEBAUTH-REDIRECT

Over-ride Global Config: ☑ Enable

Web Auth type: External(Re-direct to external server)

URL: https://10.1.100.21:8443/guestportal/Login.action



RADIUS Access-Request
Username = GuestUser
Password = MyPassword

RADIUS Access-Accept
[AVP: Airespace ACL
= Internet_Only]

PAP Login

Username matches

Matched AuthC Rule = LWA

Authentication Policy

Status	Rule Name		Conditions		Identity Source
✓	MAB	if	Wired_MAB	then	Internal Endpoints
✓	Dot1X	If	Wired_802.1X	then	AD1
✓	LWA	if	RADIUS:Service-Type = Login RADIUS:NAS-Port-Type= Wireless – IEEE 802.11	then	Internal Users
✓	Default	if	<no match>	then	AD1_Internal

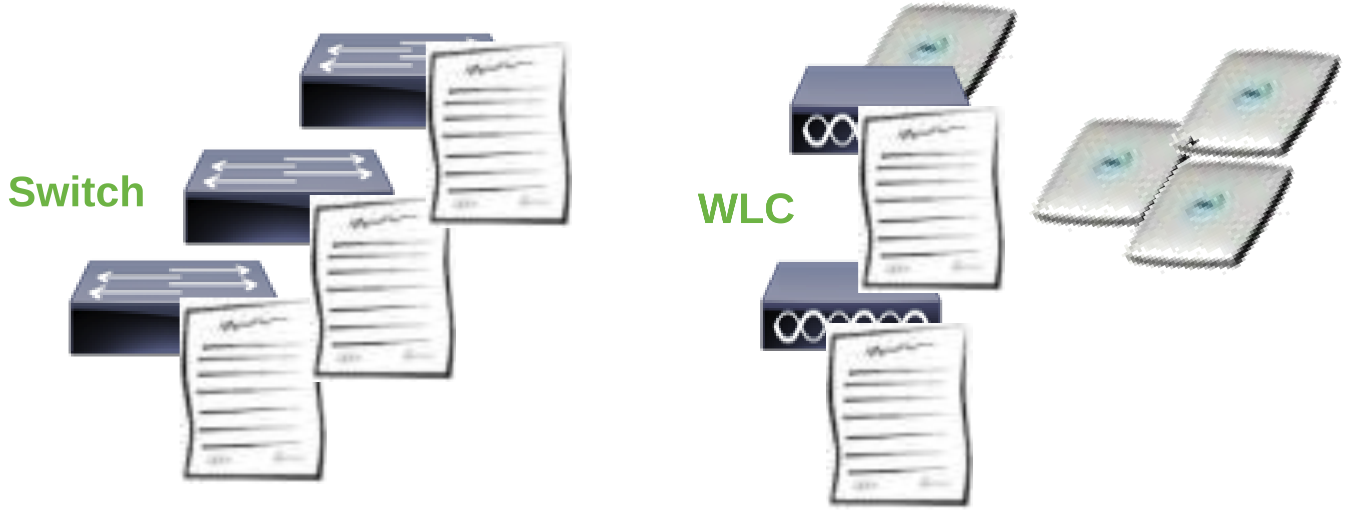
Authorization Policy

Status	Rule Name		Conditions		Permissions
✓	IP Phones	if	Cisco-IP-Phone	then	Cisco_IP_Phone
✓	BYOD	if	BYOD and Employee	then	Employee
✓	Guest	if	Guest	then	Guest
✓	Contractor	if	Contractor	then	Contractor
✓	Employee	if	Employee	then	Employee
✓	Default	If no match then		WEBAUTH	

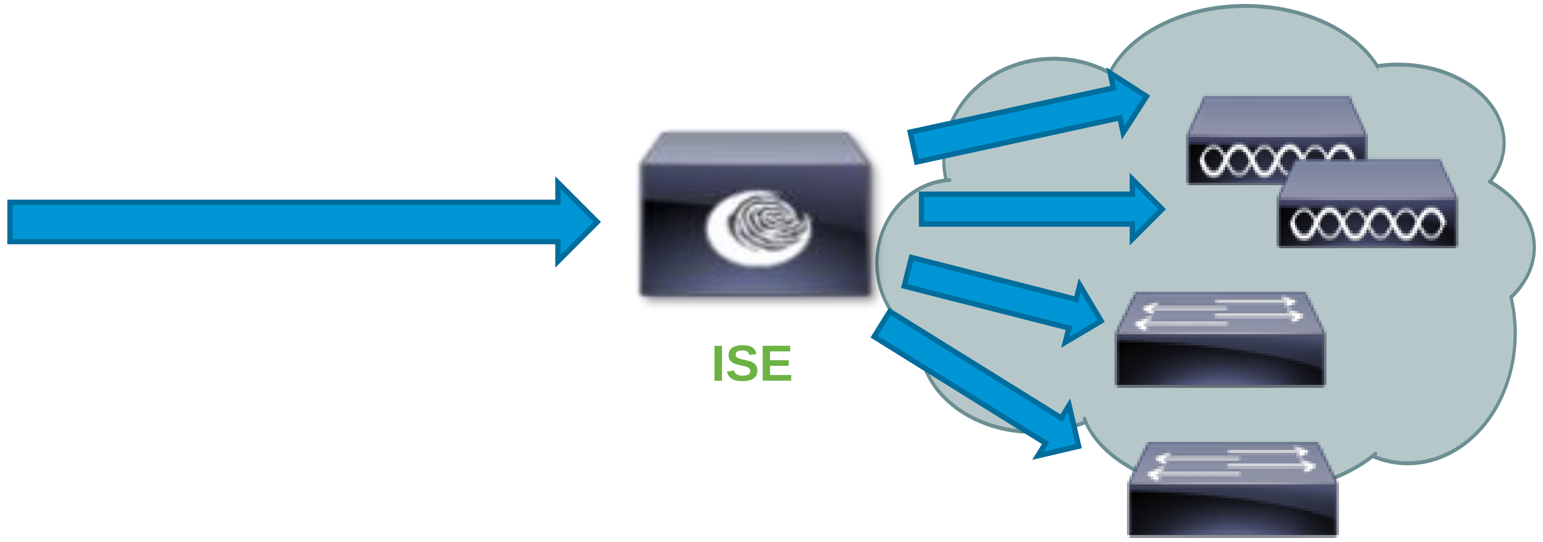
Matched AuthZ Rule = Guest

Need for a Different Web Authentication Method

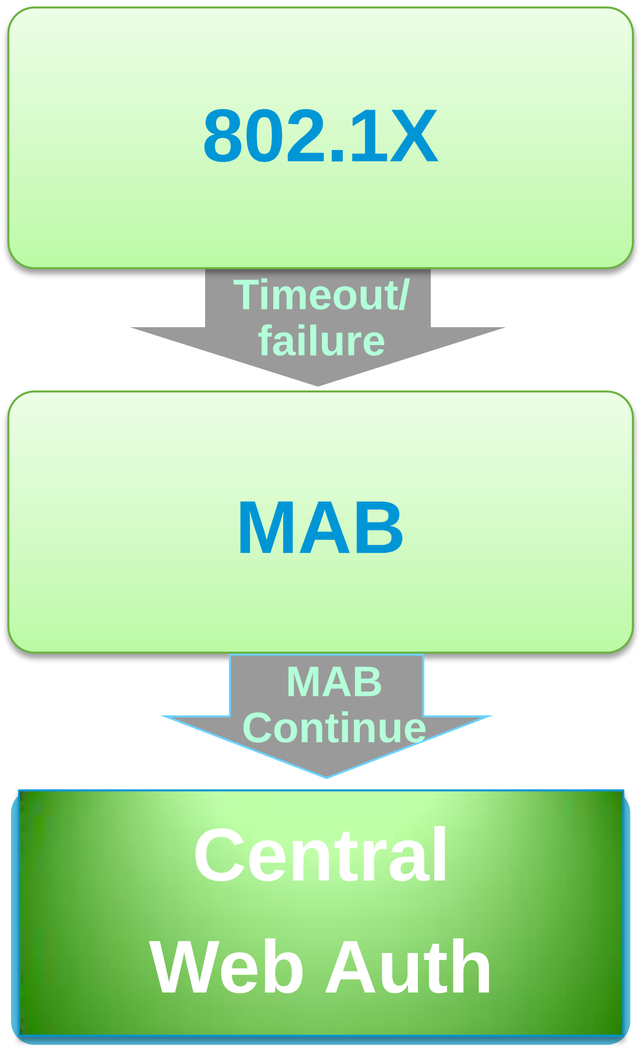
- LWA requires local configuration on each:
  - Switch
  - Wireless LAN controller
- Local portal limited and difficult to manage
- Limited redundancy options for external portals
- No dynamic VLAN support
- No change possible until re-authentication: posture, profiling



Central Web Authentication (CWA) with ISE was created by Cisco to improve deployment



CWA – Session Flow



802.1X

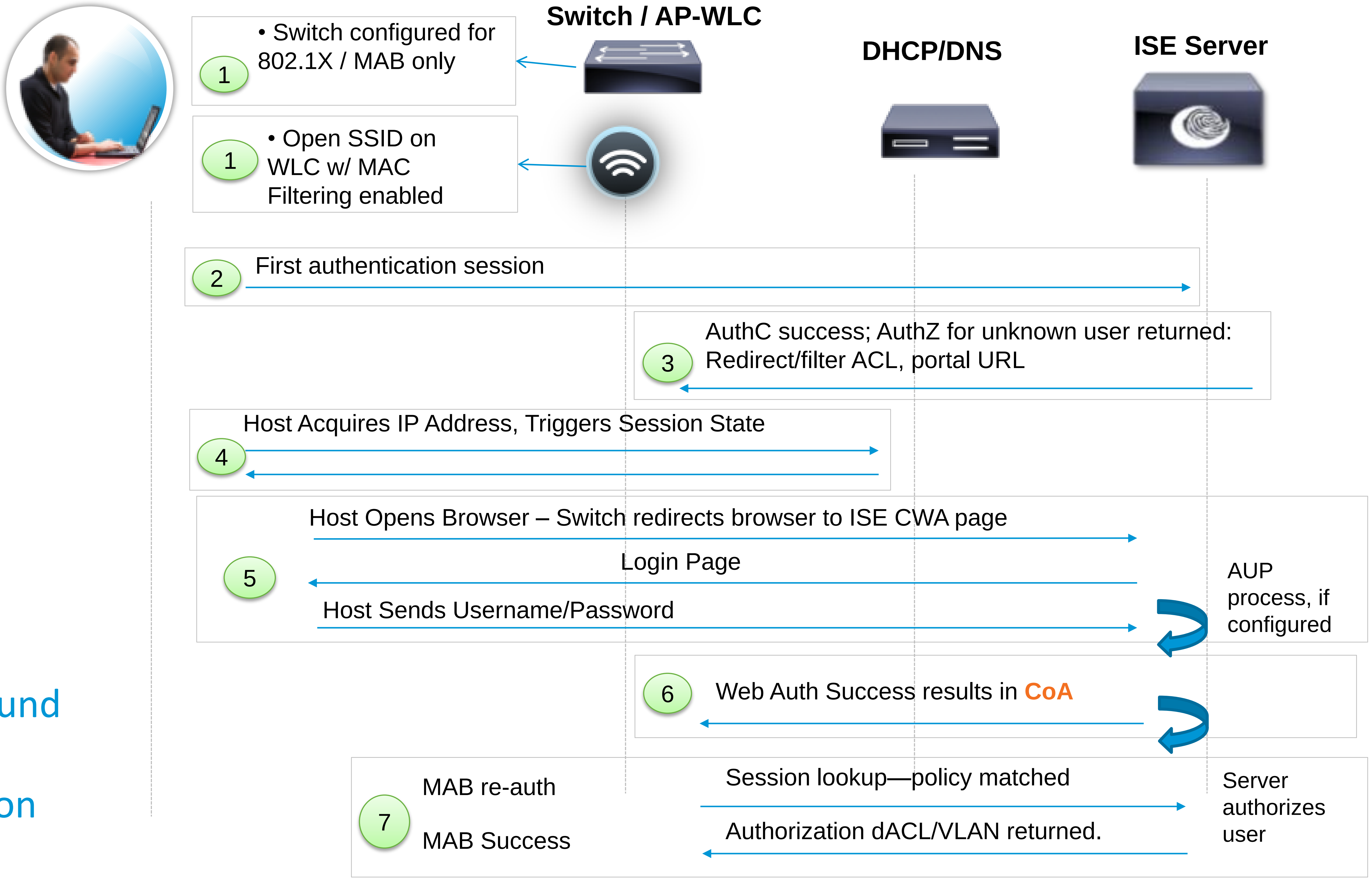
Timeout/ failure

MAB

MAB Continue

Central Web Auth

Flex Auth: If host not found (MAB lookup fails), then **Continue** to Authorization Policy processing



Switch / AP-WLC

DHCP/DNS

ISE Server

1 • Switch configured for 802.1X / MAB only

1 • Open SSID on WLC w/ MAC Filtering enabled

2 First authentication session

3 AuthC success; AuthZ for unknown user returned: Redirect/filter ACL, portal URL

4 Host Acquires IP Address, Triggers Session State

5 Host Opens Browser – Switch redirects browser to ISE CWA page

Login Page

Host Sends Username/Password

AUP process, if configured

6 Web Auth Success results in CoA

7 MAB re-auth

MAB Success

Session lookup—policy matched

Authorization dACL/VLAN returned.

Server authorizes user

Wired CWA Config

```
ip access-list extended PRE-AUTH-ACL
  permit udp any any eq bootps
  permit udp any any eq domain
  permit tcp any any eq http
  permit tcp andy any eq https
ip access-list extended ACL-WEBAUTH-REDIRECT
  deny udp any any eq domain
  deny tcp any host PSN eq 8443
  permit ip any any
interface GigabitEthernet1/0/1
  authentication port-control auto
  dot1x pae-authenticator
  mab
  authentication order dot1x mab
  authentication event fail action next-method
```

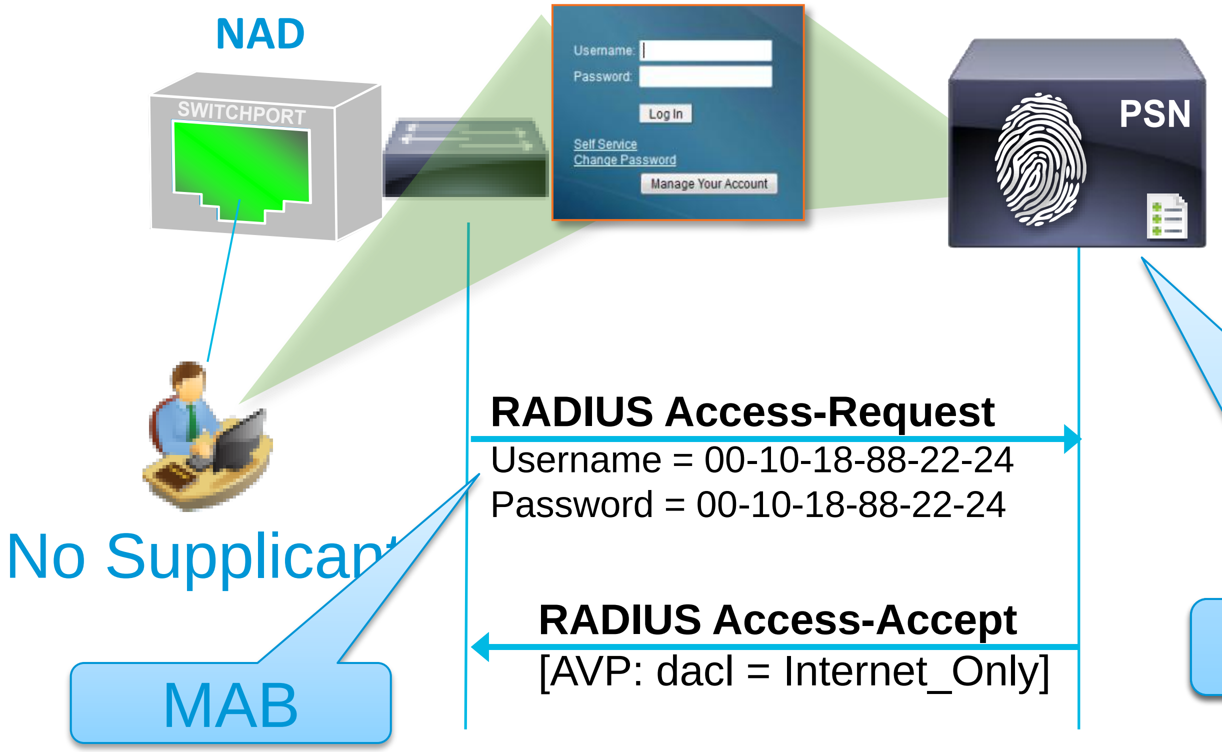
Matched AuthC Rule = MAB

Authentication Policy

Status	Rule Name		Conditions		Identity Source
✓	MAB	if	Wireless_MAB	then	Internal Endpoints
✓	Dot1X	If	Wireless_802.1X	then	AD1
✓	Default	if	<no match>	then	AD1_Internal

Authorization Policy

Status	Rule Name		Conditions		Permissions
✓	IP Phones	if	Cisco-IP-Phone	then	Cisco_IP_Phone
✓	BYOD	if	BYOD and Employee	then	Employee
✓	Guest	if	Guest	then	Guest
✓	Contractor	if	Contractor	then	Contractor
✓	Employee	if	Employee	then	Employee
✓	Default	If no match then	WEBAUTH		



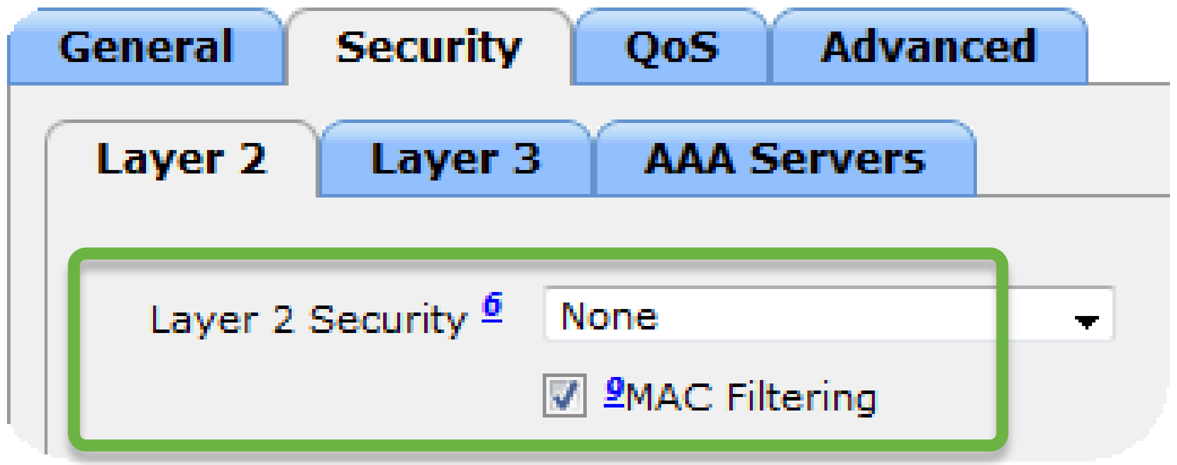
RADIUS Access-Request
Username = 00-10-18-88-22-24
Password = 00-10-18-88-22-24

RADIUS Access-Accept
[AVP: dacl = Internet_Only]

CWA username matches

Matched AuthZ Rule = Guest

Wireless CWA Config

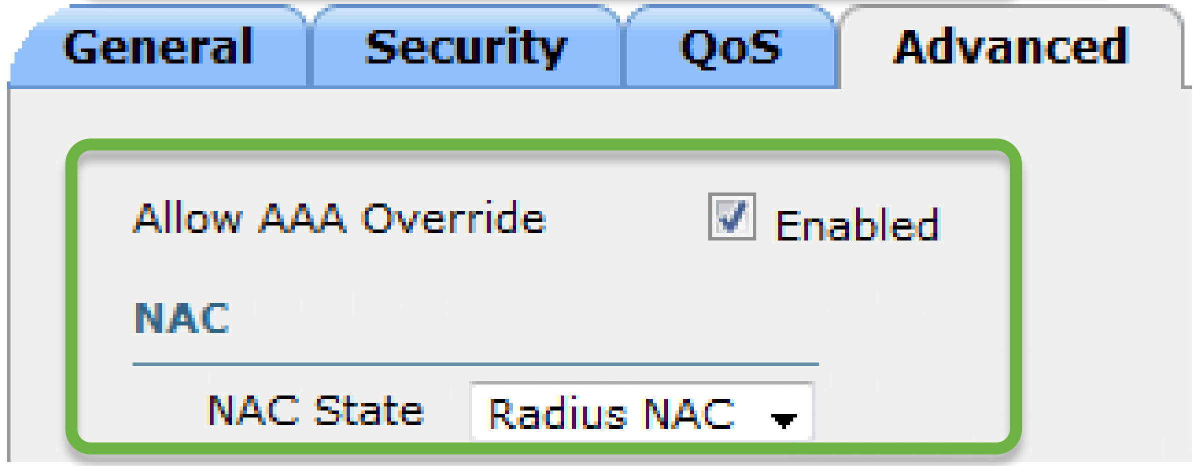


General | Security | QoS | Advanced

Layer 2 | Layer 3 | AAA Servers

Layer 2 Security 6 None

☑ 9MAC Filtering

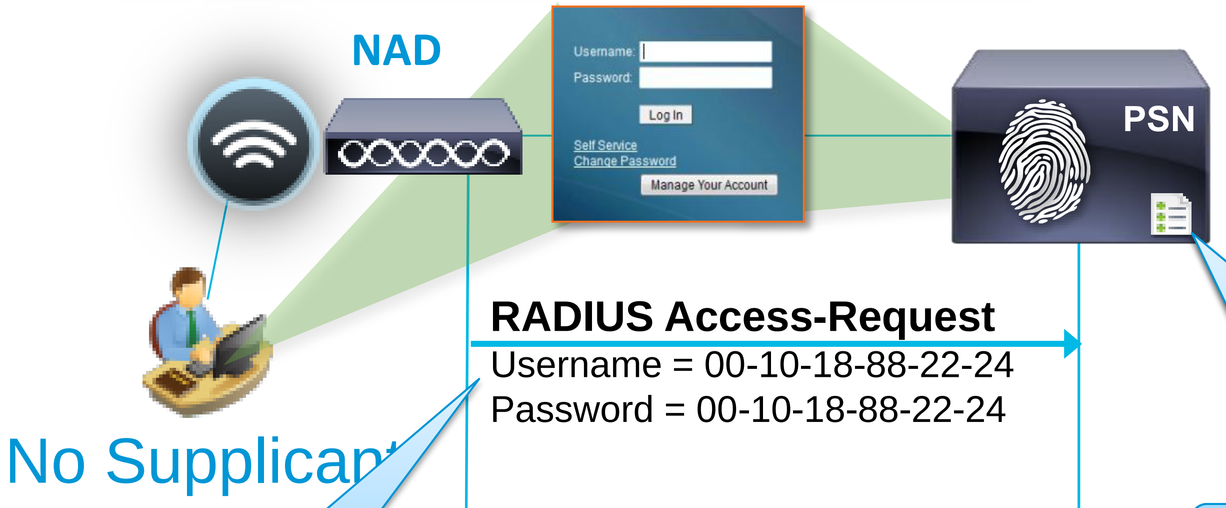


General | Security | QoS | Advanced

Allow AAA Override ☑ Enabled

NAC

NAC State Radius NAC



RADIUS Access-Request
Username = 00-10-18-88-22-24
Password = 00-10-18-88-22-24

RADIUS Access-Accept
[AVP: Airespace ACL
= Internet_Only]

No Supplicant

MAB

Matched AuthC Rule = MAB

Authentication Policy

Status	Rule Name		Conditions		Identity Source
	MAB	if	Wireless_MAB	then	Internal Endpoints
✓	Dot1X	If	Wireless_802.1X	then	AD1
✓	Default	if	<no match>	then	AD1_Internal

Authorization Policy

Status	Rule Name		Conditions		Permissions
✓	IP Phones	if	Cisco-IP-Phone	then	Cisco_IP_Phone
✓	BYOD	if	BYOD and Employee	then	Employee
	Guest	if	Guest	then	Guest
✓	Contractor	if	Contractor	then	Contractor
✓	Employee	if	Employee	then	Employee
✓	Default	If no match then	WEBAUTH		

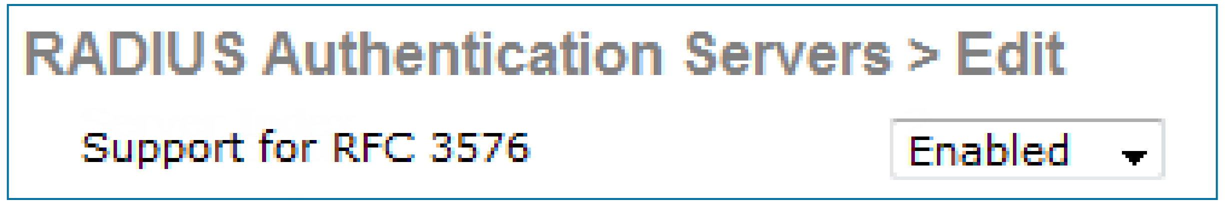
CWA username matches

Matched AuthZ Rule = Guest

For Your Reference

Wireless CWA + RADIUS Server Config

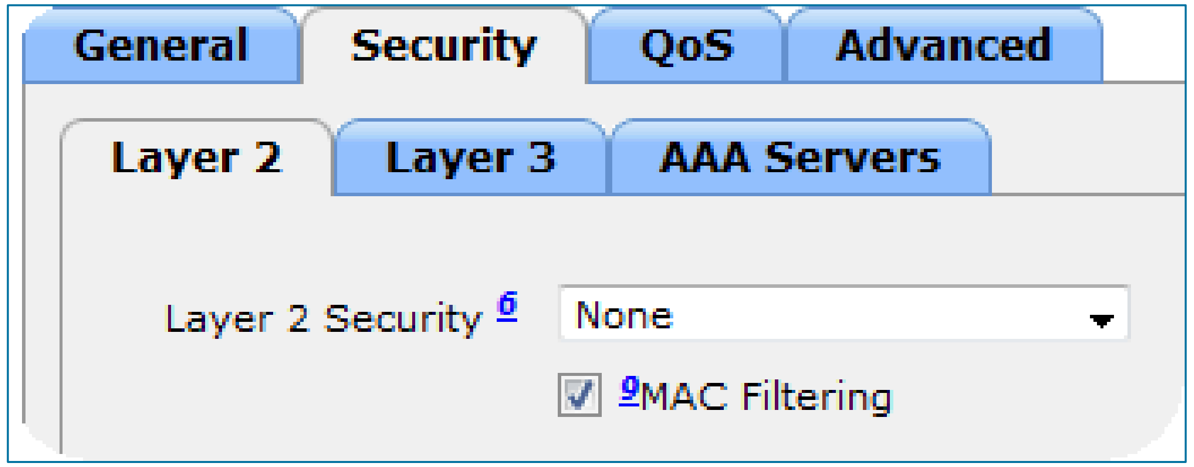
- Enable RADIUS Server for CoA



RADIUS Authentication Servers > Edit

Support for RFC 3576: Enabled

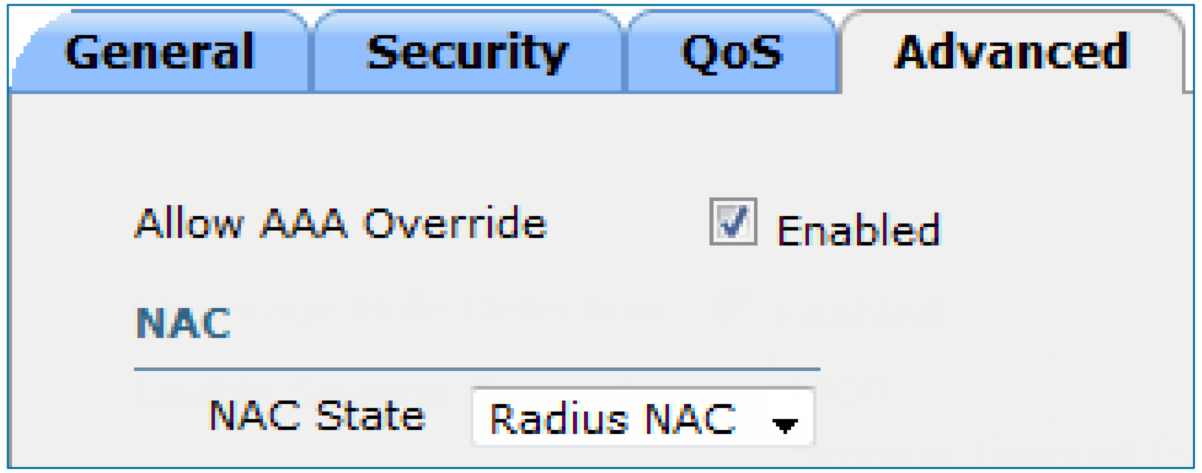
- Enable AAA Override + NAC RADIUS



Layer 2 Security [6]: None

☑ [9]MAC Filtering

- Enable WLAN for MAC Filtering

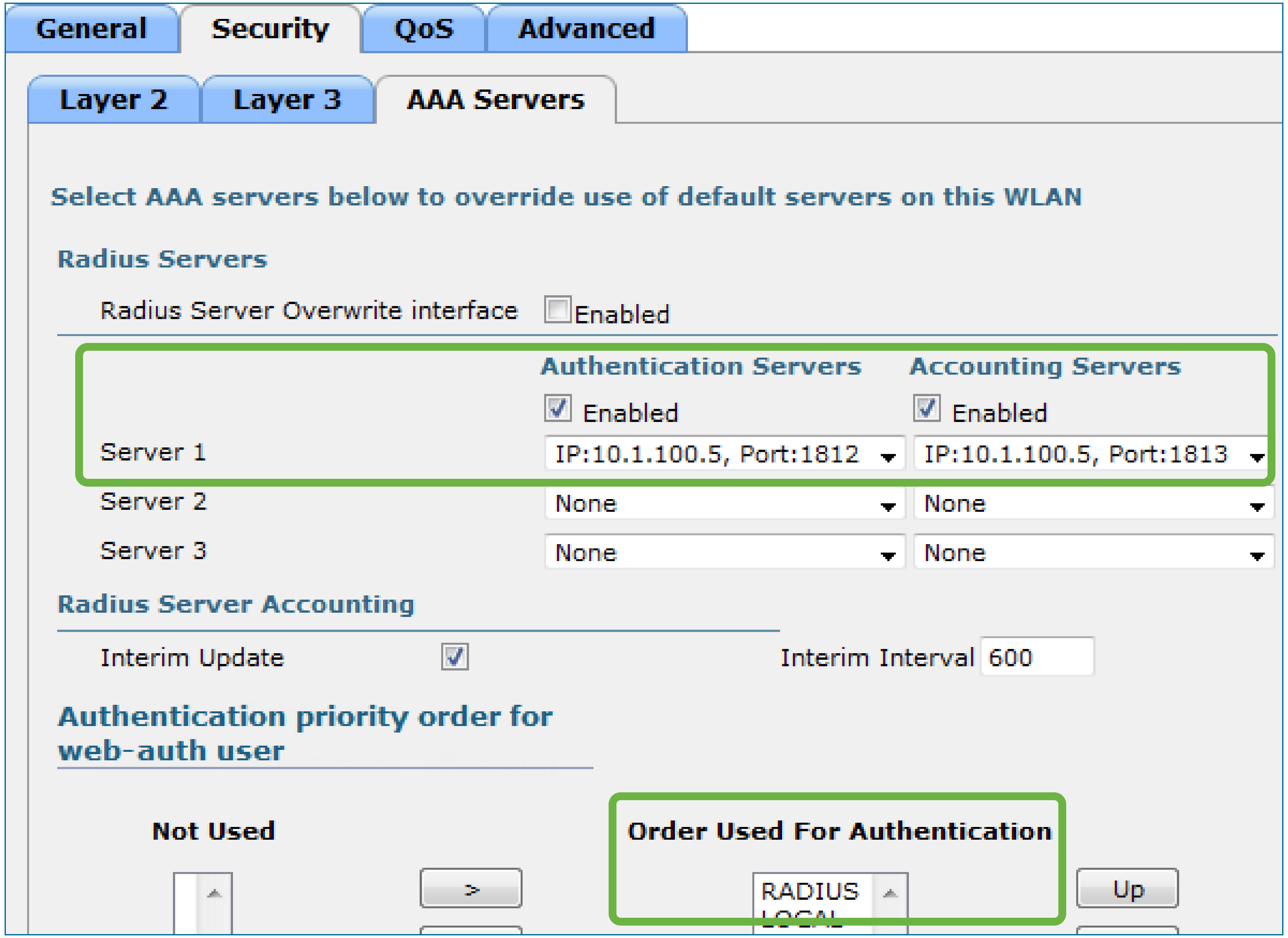


Allow AAA Override ☑ Enabled

NAC

NAC State: Radius NAC

- Configure ISE as RADIUS Server / Set Auth to RADIUS



Select AAA servers below to override use of default servers on this WLAN

Radius Servers

Radius Server Overwrite interface □Enabled

	Authentication Servers	Accounting Servers
	☑ Enabled	☑ Enabled
Server 1	IP:10.1.100.5, Port:1812	IP:10.1.100.5, Port:1813
Server 2	None	None
Server 3	None	None

Radius Server Accounting

Interim Update ☑ Interim Interval 600

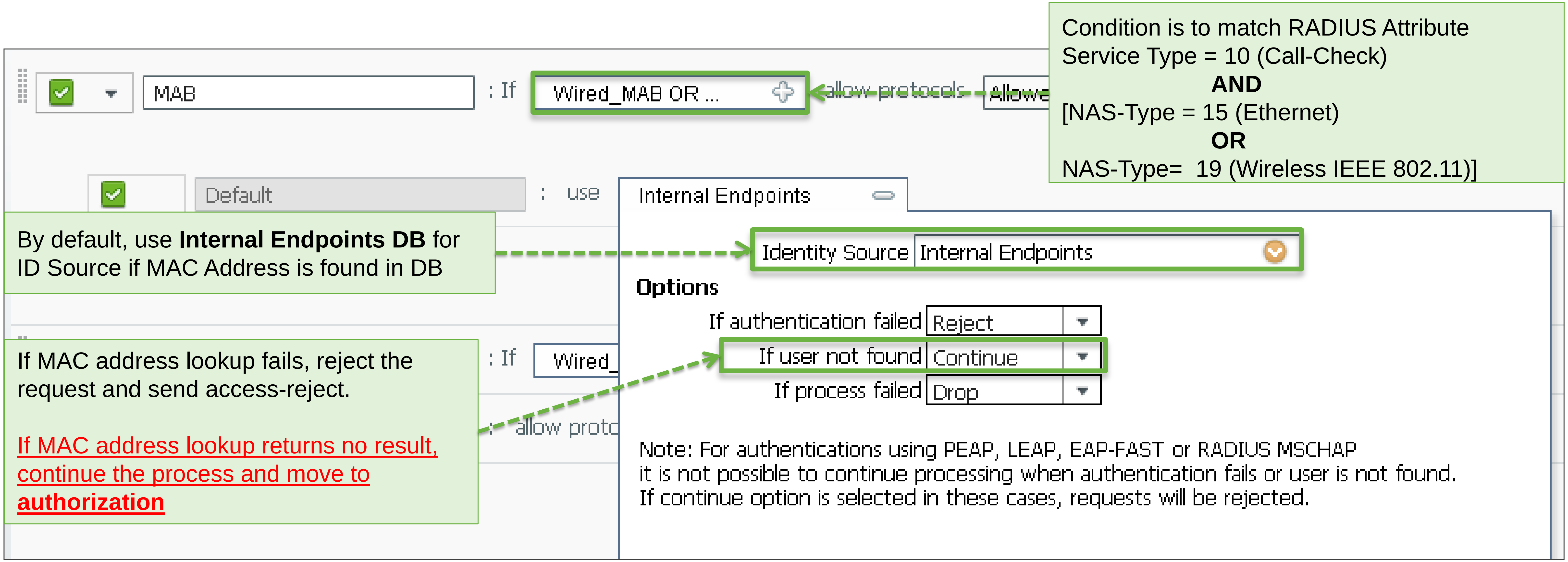
Authentication priority order for web-auth user

Not Used

Order Used For Authentication

RADIUS
LOCAL

ISE Authentication Configuration



☑ MAB : If Wired_MAB OR ... allow protocols Allowe

☑ Default : use Internal Endpoints

Identity Source: Internal Endpoints

Options

If authentication failed: Reject

If user not found: Continue

If process failed: Drop

Note: For authentications using PEAP, LEAP, EAP-FAST or RADIUS MSCHAP
it is not possible to continue processing when authentication fails or user is not found.
If continue option is selected in these cases, requests will be rejected.

: If Wired_

: allow proto

Condition is to match RADIUS Attribute Service Type = 10 (Call-Check)
AND
[NAS-Type = 15 (Ethernet)
OR
NAS-Type= 19 (Wireless IEEE 802.11)]

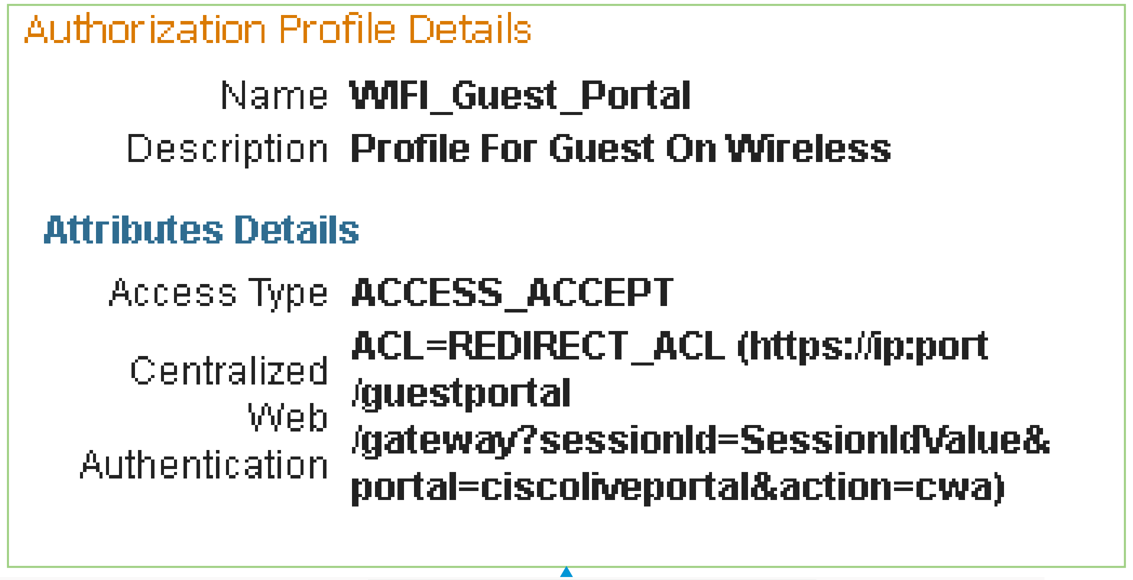
By default, use **Internal Endpoints DB** for ID Source if MAC Address is found in DB

If MAC address lookup fails, reject the request and send access-reject.

If MAC address lookup returns no result, continue the process and move to **authorization**

- MAB Requests from Failed Auth user or Timed out user can still be processed to return specific authorization rule (VLAN, dACL, URL-Redirect, and SGT)
- By default, '**If user not found**' value is set to '**Reject**'

ISE Authorization Configuration



Authorization Profile Details

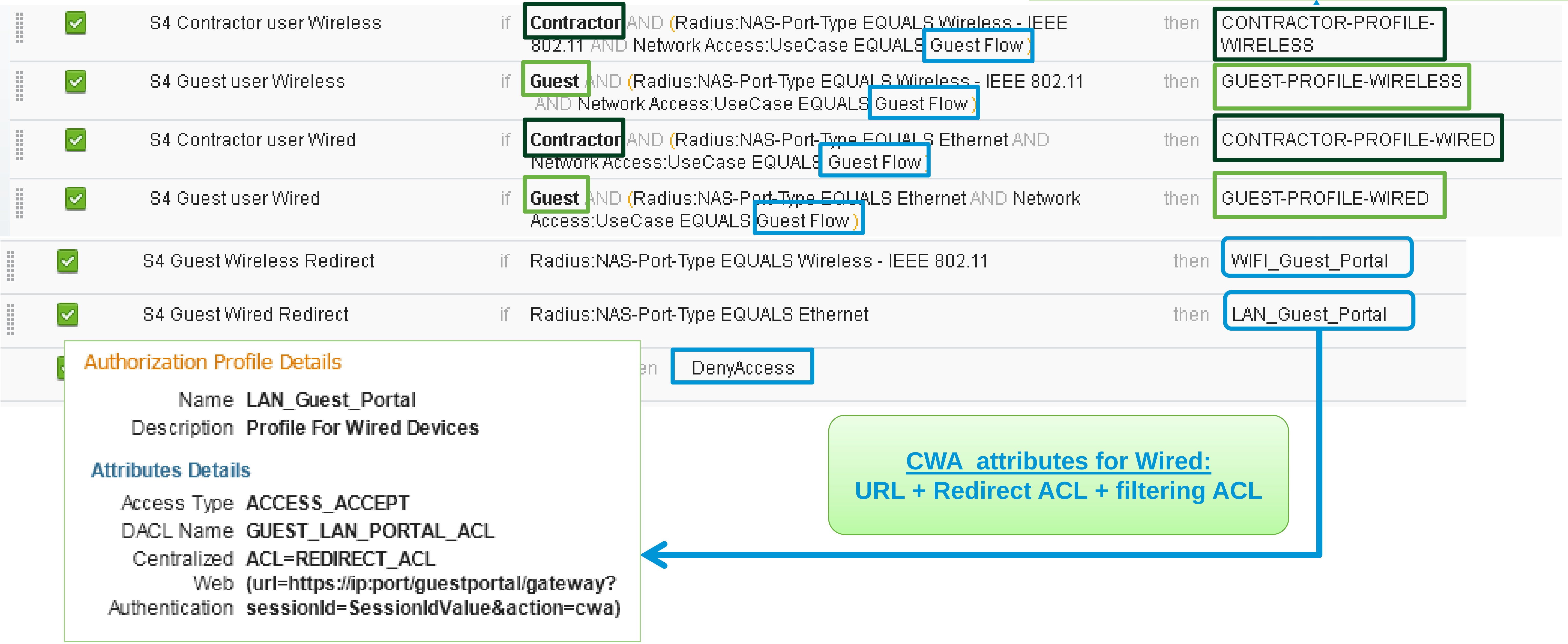
Name	WIFI_Guest_Portal
Description	Profile For Guest On Wireless

Attributes Details

Access Type	ACCESS_ACCEPT
Centralized Web Authentication	ACL=REDIRECT_ACL (https://ip:port /guestportal /gateway?sessionId=SessionIdValue& portal=ciscoliveportal&action=cwa)

CWA attributes for Wireless:
URL + Redirect ACL

Authorization Rule



	Rule		Conditions		Result
☑	S4 Contractor user Wireless	if	Contractor AND (Radius:NAS-Port-Type EQUALS Wireless - IEEE 802.11 AND Network Access:UseCase EQUALS Guest Flow)	then	CONTRACTOR-PROFILE-WIRELESS
☑	S4 Guest user Wireless	if	Guest AND (Radius:NAS-Port-Type EQUALS Wireless - IEEE 802.11 AND Network Access:UseCase EQUALS Guest Flow)	then	GUEST-PROFILE-WIRELESS
☑	S4 Contractor user Wired	if	Contractor AND (Radius:NAS-Port-Type EQUALS Ethernet AND Network Access:UseCase EQUALS Guest Flow)	then	CONTRACTOR-PROFILE-WIRED
☑	S4 Guest user Wired	if	Guest AND (Radius:NAS-Port-Type EQUALS Ethernet AND Network Access:UseCase EQUALS Guest Flow)	then	GUEST-PROFILE-WIRED
☑	S4 Guest Wireless Redirect	if	Radius:NAS-Port-Type EQUALS Wireless - IEEE 802.11	then	WIFI_Guest_Portal
☑	S4 Guest Wired Redirect	if	Radius:NAS-Port-Type EQUALS Ethernet	then	LAN_Guest_Portal
				en	DenyAccess

Authorization Profile Details

Name	LAN_Guest_Portal
Description	Profile For Wired Devices

Attributes Details

Access Type	ACCESS_ACCEPT
DACL Name	GUEST_LAN_PORTAL_ACL
Centralized Web Authentication	ACL=REDIRECT_ACL (url=https://ip:port/guestportal/gateway? sessionId=SessionIdValue&action=cwa)

CWA attributes for Wired:
URL + Redirect ACL + filtering ACL

CWA Benefits & Support

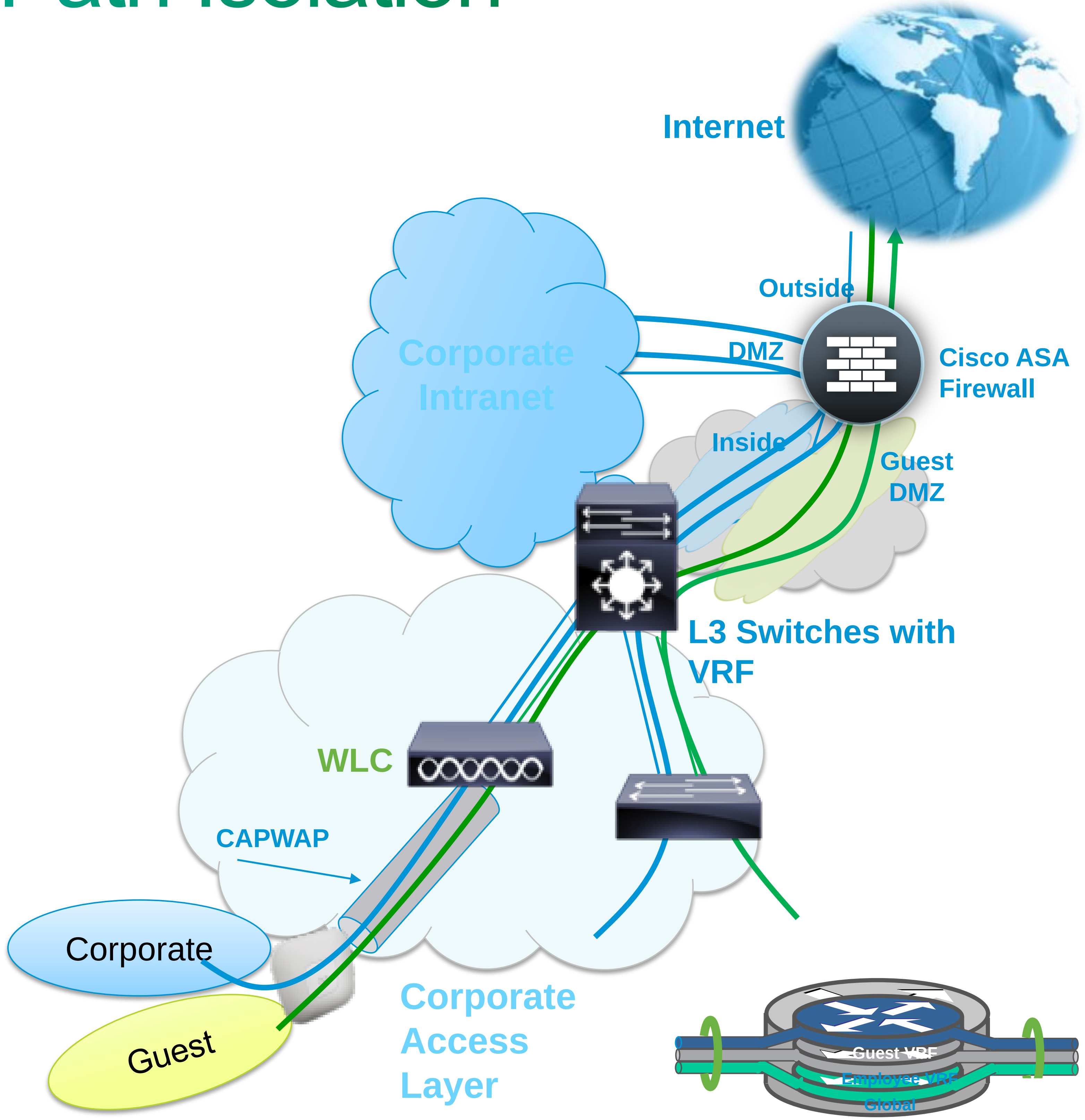
- No extra local method like webauth
- dVLAN assignment support
- Centralization and dynamic push of configuration
  - Portal URL
  - Filtering ACL until guest authentication occurs
- Support for CoA
  - Posture
  - Profiling
  - Native Supplicant Provisioning

- **Catalyst 2960** (LAN Base) **& 3560/3750:**
  12.2(55)SE3
- **Catalyst 4500 Series** :
  Sup 6E: 15.0(2)SG1
  Sup 7E: IOS-XE 3.3.0SG
- **Catalyst 6500 Series**:
  12.2(33)SXI7

Wireless LAN Controller (WLC/WiSM):
7.0.116.0 (CoA on 802.1X SSID only)
7.2.103.0 (CoA on Open SSID)

Guest Deployment and Path Isolation

- Isolation at access layer (port, SSID)
- Layer 2 path isolation:
  - CAPWAP & VLANs for wireless
  - L2 VLANs for wired
- Layer 3 path isolation:
  - VRF (Virtual Routing and Forwarding) to Firewall guest interface
  - Various tunnel methods
    - GRE
    - VPN
    - MPLS

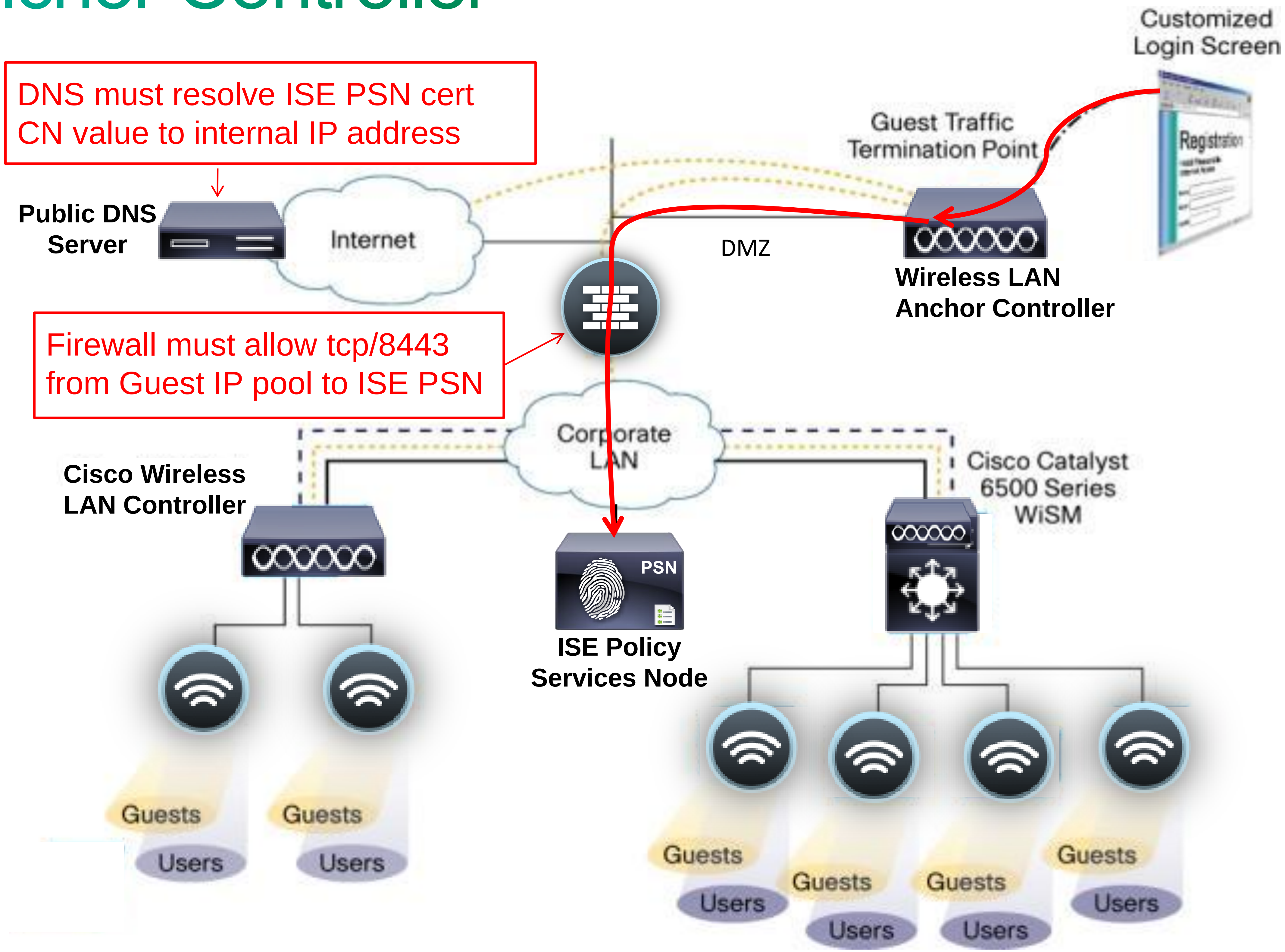


Guest Access w/ Anchor Controller

- Anchor Controller provides path isolation via CAPWAP tunnel.
- Guest traffic terminates in DMZ.
- If use CWA (or LWA with ISE as web portal), then pinhole required in firewall from DMZ to ISE PSN:

```
permit tcp <Guest_IPs>
host <PSN> eq 8443
```

- If CWA used w/ public DNS, then server must resolve PSN certificate CN value to its IP:



Customized Login Screen
Registration
Guest Traffic Termination Point
Public DNS Server
Internet
DMZ
Wireless LAN Anchor Controller
Corporate LAN
Cisco Wireless LAN Controller
PSN
ISE Policy Services Node
Cisco Catalyst 6500 Series WiSM
Guests
Users

DNS must resolve ISE PSN cert CN value to internal IP address

Firewall must allow tcp/8443 from Guest IP pool to ISE PSN

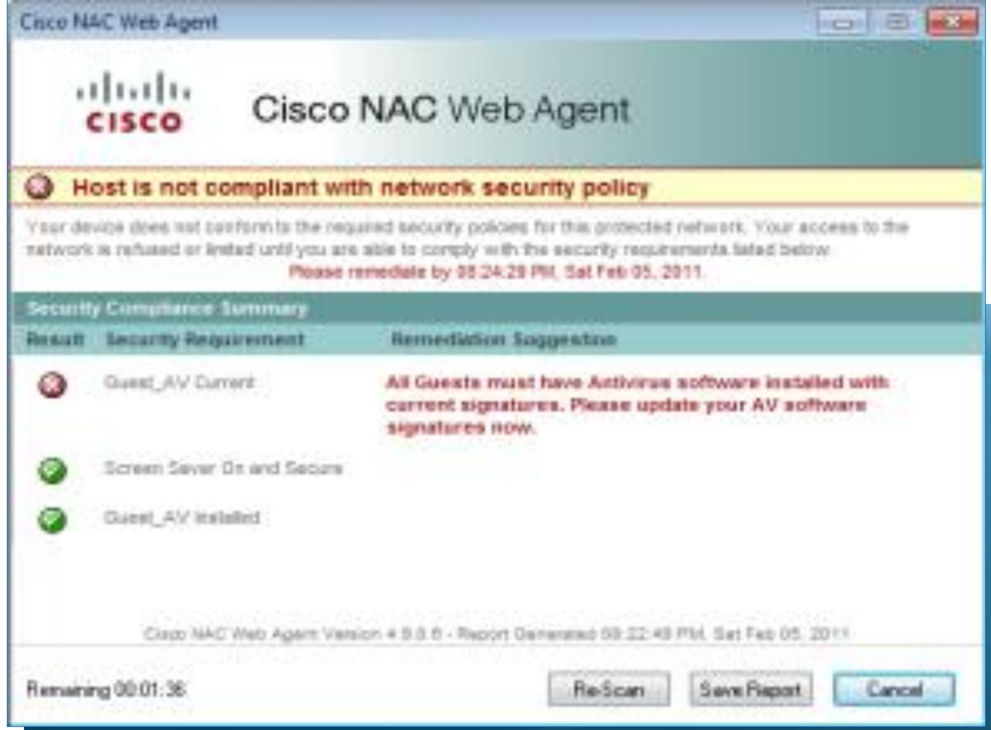
```
url-redirect=https://<PSN_CN>:8443/guestportal/gateway?sessionId=SessionIdValue&action=cwa
```

URL Redirection

URL Redirection

ISE uses URL Redirection for:

- Central Web Auth
- Client Software Provisioning
- Posture Discovery / Assessment
- Device Registration WebAuth
- BYOD On-Boarding
  - Certificate Provisioning
  - Supplicant Configuration
- External Web Pages



Host is not compliant with network security policy

Your device does not conform to the required security policies for this protected network. Your access to the network is refused or limited until you are able to comply with the security requirements listed below.

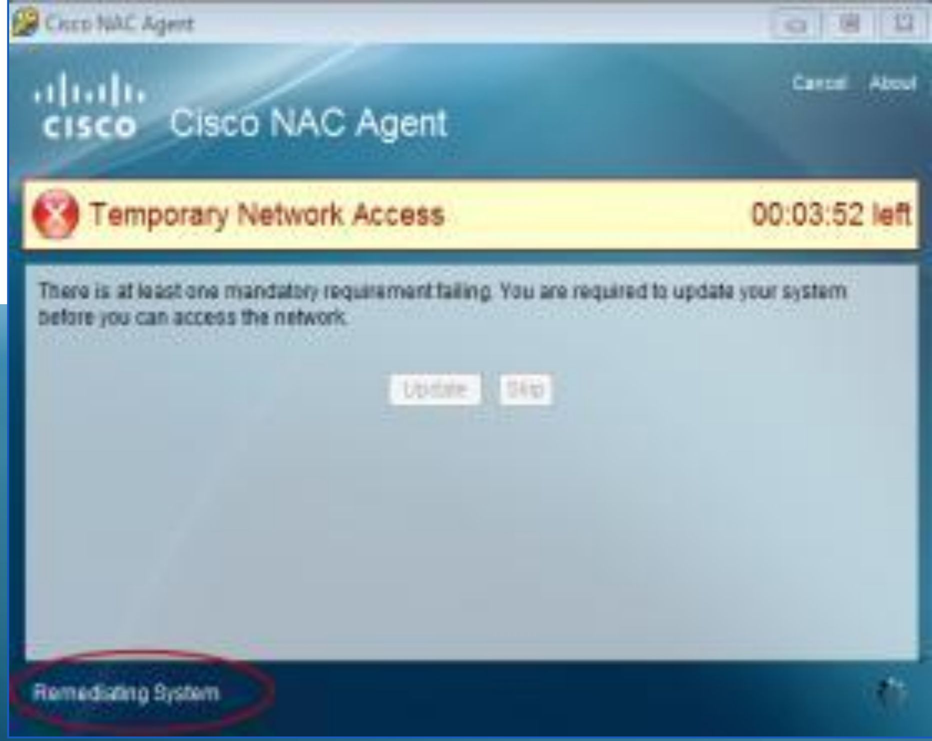
Please remediate by 08:24:28 PM, Sat Feb 05, 2011.

Security Compliance Summary

Result	Security Requirement	Remediation Suggestion
✗	Guest_AV Current	All Guests must have Antivirus software installed with current signatures. Please update your AV software signatures now.
✓	Screen Saver On and Secure	
✓	Guest_AV Installed	

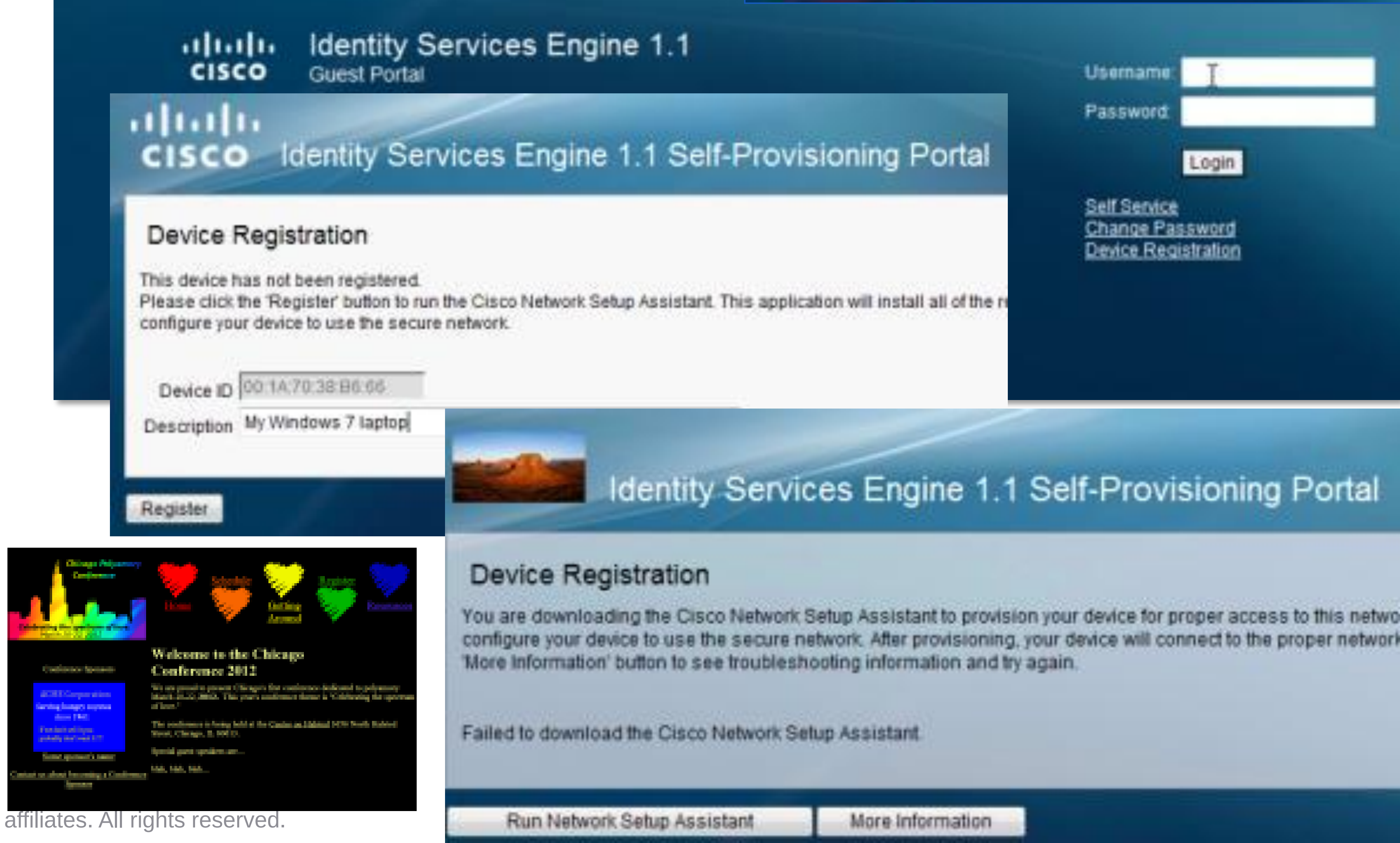
Cisco NAC Web Agent Version 4.9.0.6 - Report Generated 08:22:48 PM, Sat Feb 05, 2011

Remaining 00:01:36



Temporary Network Access 00:03:52 left

There is at least one mandatory requirement failing. You are required to update your system before you can access the network.



CISCO
Identity Services Engine 1.1
Guest Portal
Username
Password
Login
Self Service
Change Password
Device Registration
CISCO
Identity Services Engine 1.1 Self-Provisioning Portal

Device Registration

This device has not been registered.
Please click the 'Register' button to run the Cisco Network Setup Assistant. This application will install all of the r
configure your device to use the secure network.

Device ID 00:1A:70:38:B6:66

Description My Windows 7 laptop

Register
Home
Schedule
Register
Welcome to the Chicago Conference 2012
Identity Services Engine 1.1 Self-Provisioning Portal

Device Registration

You are downloading the Cisco Network Setup Assistant to provision your device for proper access to this netwo
configure your device to use the secure network. After provisioning, your device will connect to the proper network
'More Information' button to see troubleshooting information and try again.

Failed to download the Cisco Network Setup Assistant.

URL Redirection Components

- **Redirect URL:** For CWA, Client Provisioning, and Posture, URL value returned as a Cisco AV-pair RADIUS attribute.

  Example: cisco:cisco-av-pair=url-redirect=
  https://ip:port/guestportal/gateway?sessionId=SessionIdValue&action=cwa

- **Redirect ACL:** Access devices must be locally configured with ACL that specifies traffic to be permitted or to bypass redirection.

  ACL value returned as a named ACL on NAD

  Example: cisco:cisco-av-pair=url-redirect-acl=ACL-POSTURE-REDIRECT

  IOS Redirect ACL Conventions:

  Permit ACL entries define the traffic subject to redirection

  Deny ACL entries define the traffic to bypass redirection

- **Port ACL (IOS Only):** ACL applied to the port that defines traffic allowed through port prior to redirection

  Can be default port ACL or ACL returned as RADIUS authorization (dACL or named ACL).

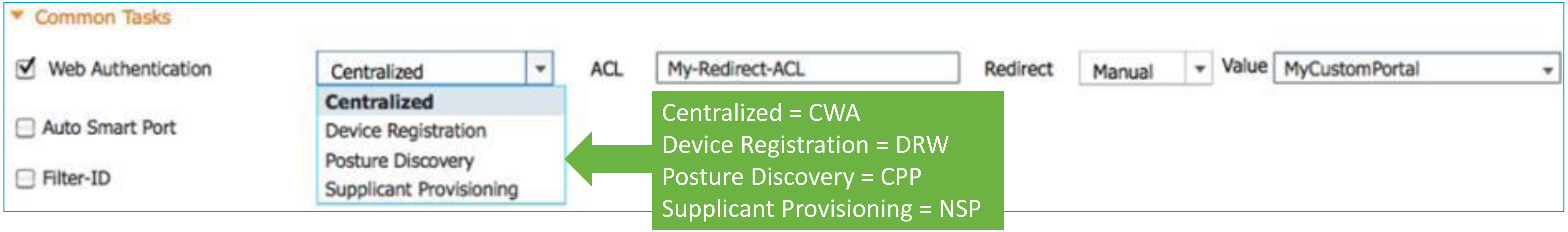
Common Redirect URLs

- **Central Web Auth (Default Portal)**
  Cisco:cisco-av-pair=url-redirect= https://ip:port/guestportal/gateway?sessionId=SessionIdValue&action=cwa

- **CWA (Custom Portal):**
  Cisco:cisco-av-pair=url-redirect= https://ip:port/guestportal/gateway?portal=ClientPortalName&sessionId =SessionIdValue&action=cwa

- **Device Registration WebAuth (Default Portal):**
  Cisco:cisco-av-pair=url-redirect= https://ip:port/guestportal/gateway?sessionId=SessionIdValue&action=drw

- **Client Provisioning and Posture**
  Cisco:cisco-av-pair=url-redirect= https://ip:port/guestportal/gateway?sessionId=SessionIdValue&action=cpp



Common Tasks

☑ Web Authentication — Centralized — ACL: My-Redirect-ACL — Redirect: Manual — Value: MyCustomPortal

□ Auto Smart Port

□ Filter-ID

Centralized = CWA
Device Registration = DRW
Posture Discovery = CPP
Supplicant Provisioning = NSP

CWA: Simple URL/ACL selection using Common Tasks in Authorization Profile

Sample Redirect ACLs for CWA

- ISE URL Redirect ACL: Cisco:cisco-av-pair=url-redirect-acl=ACL-WEBAUTH-REDIRECT
- 2k/3k/4k Example:

```
ip access-list extended ACL-WEBAUTH-REDIRECT
  deny udp any eq bootpc any eq bootpc
  deny udp any any eq domain
  deny tcp any host <PSN1> eq 8443
  permit ip any any
```

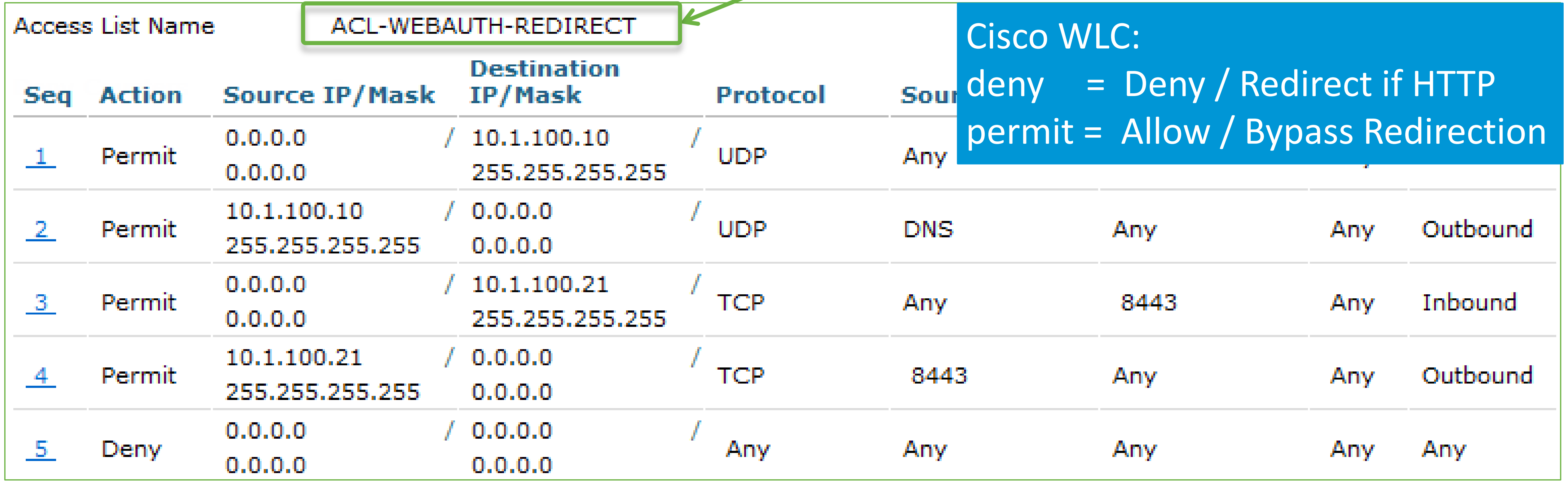
Catalyst Switch:
deny = Bypass Redirection
permit = Allow Redirection

Redirect ACL must be preconfigured and exist on the Catalyst switch or WLC.

HTTP and HTTPS Redirection

Catalyst Switch

- WLC Example:



Access List Name ACL-WEBAUTH-REDIRECT

Seq	Action	Source IP/Mask	Destination IP/Mask	Protocol	Sour			
1	Permit	0.0.0.0 / 0.0.0.0	10.1.100.10 / 255.255.255.255	UDP	Any			
2	Permit	10.1.100.10 / 255.255.255.255	0.0.0.0 / 0.0.0.0	UDP	DNS	Any	Any	Outbound
3	Permit	0.0.0.0 / 0.0.0.0	10.1.100.21 / 255.255.255.255	TCP	Any	8443	Any	Inbound
4	Permit	10.1.100.21 / 255.255.255.255	0.0.0.0 / 0.0.0.0	TCP	8443	Any	Any	Outbound
5	Deny	0.0.0.0 / 0.0.0.0	0.0.0.0 / 0.0.0.0	Any	Any	Any	Any	Any

Cisco WLC:
deny = Deny / Redirect if HTTP
permit = Allow / Bypass Redirection

HTTP Only Redirection

Cisco WLC

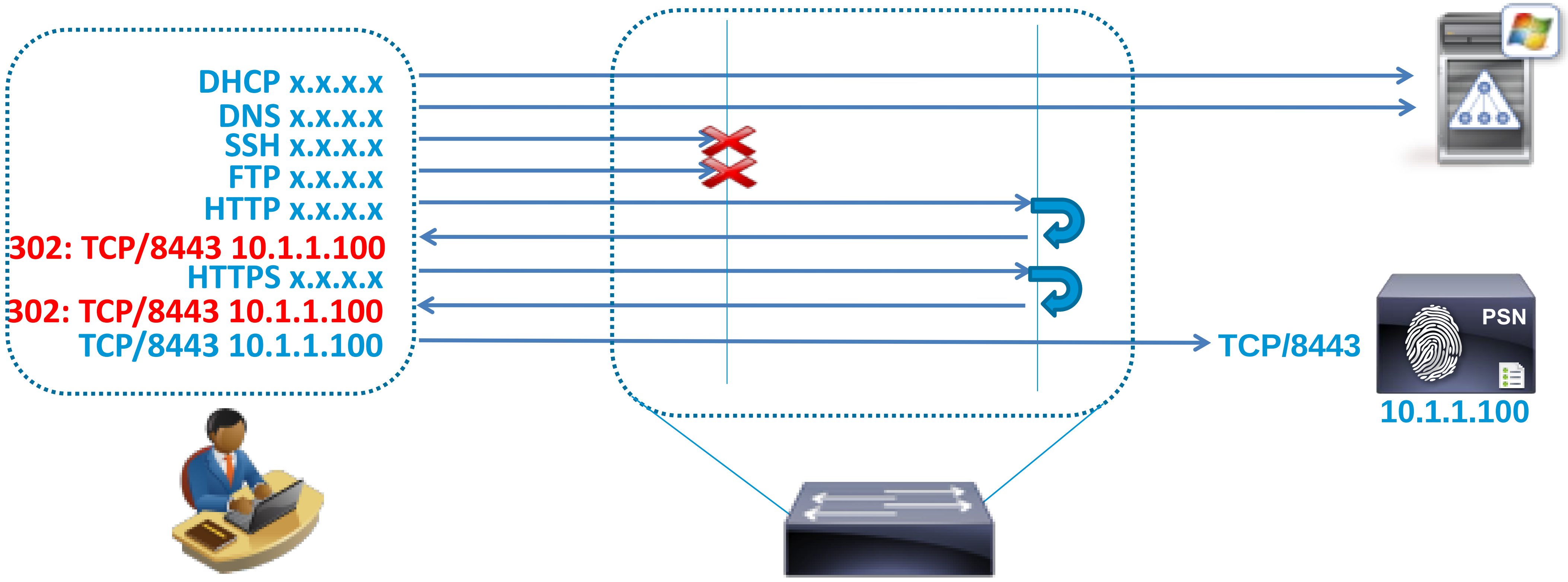
Sample ACLs for CWA Redirection

```
ip access-list extended ACL-DEFAULT
 permit udp any eq bootpc any eq bootps
 permit udp any any eq domain
 permit tcp any any eq http
 permit tcp any any eq https
 permit tcp any host 10.1.1.100 eq 8080
 permit tcp any host 10.1.1.100 eq 8443
 (deny ip any any)
```

Port ACL or dACL

```
ip access-list extended ACL-WEBAUTH-REDIRECT
 deny   udp any eq bootpc any eq bootps
 deny   udp any any eq domain
 deny   tcp any host 10.1.1.100 eq 8080
 deny   tcp any host 10.1.1.100 eq 8443
 permit ip any any
```

Redirect ACL



Wired URL Redirection Considerations

- Access switch configuration to enable redirection:

  HTTP Redirection Support: **`ip http server`**

  HTTPS Redirection Support: **`ip http secure-server`**

  ▪For HTTPS, expect certificate warning as client browser will not trust switch cert for initial redirect

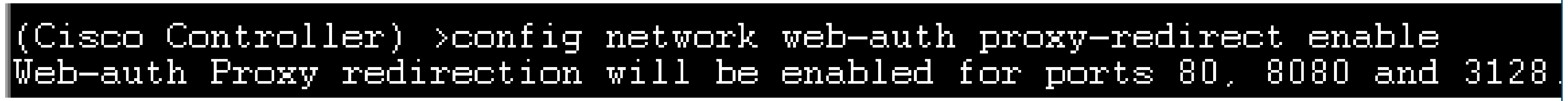
- Optionally decouple redirection from switch management:

  Deactivate HTTP session modules: **`ip http active-session-modules none`**

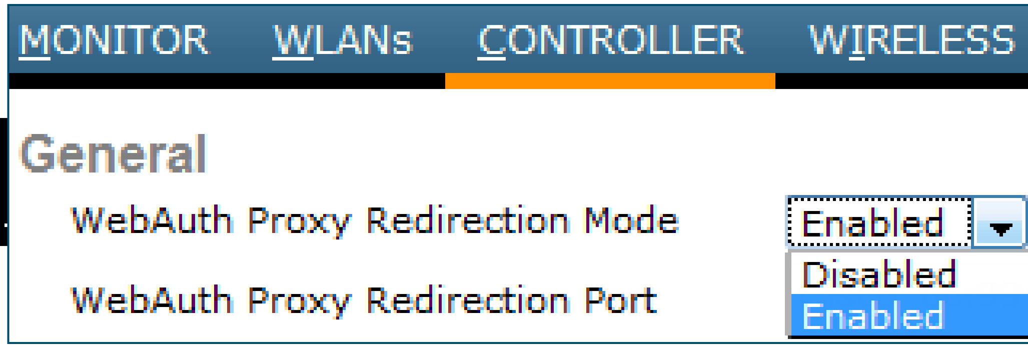
  Deactivate HTTPS session modules: **`ip http secure-active-session-modules none`**

- Web Proxies: Consider Proxy/PAC config to allow access to ISE PSN

  Wireless Option (Command available in WLC 7.0.116.0):



```
(Cisco Controller) >config network web-auth proxy-redirect enable
Web-auth Proxy redirection will be enabled for ports 80, 8080 and 3128.
```



General

WebAuth Proxy Redirection Mode: Enabled

WebAuth Proxy Redirection Port

Disabled
Enabled

Config Example: http://www.cisco.com/en/US/products/ps10315/products_configuration_example09186a0080b8a909.shtml

For Your Reference

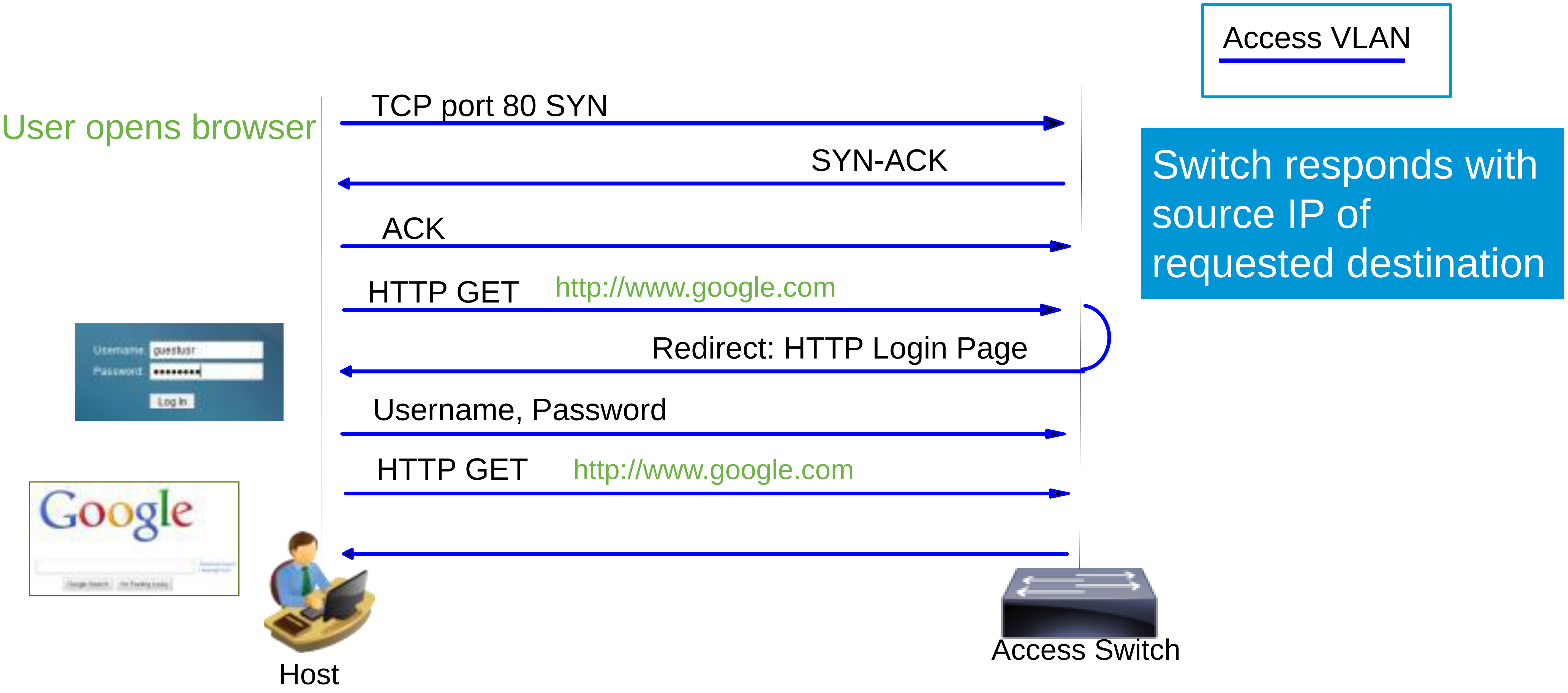
Wired URL Redirection Considerations

L2 Access Switch without SVI for Access VLAN

- Require route from switch management IP to host IP (via upstream gateways)
- ACLs/Firewalls, VRFs, or other traffic isolation from management network will cause redirect traffic from switch to host to be dropped and redirect fails.
- dACLs time out due to ip device tracking not getting ARP response from host.
  - If SVI configured, tracking probe ‘use-svi’ option may help [12.2(55)SE]
  - If SVI for access VLAN not configured, then ARP sent with source IP 0.0.0.0
    - Some devices will not respond to ARP source 0.0.0.0.
    - Windows 7 users may report duplicate IP address error

URL Redirection – Access VLAN SVI

TCP Traffic Flow for Login Page When L3 SVI for Host VLAN on Access Switch

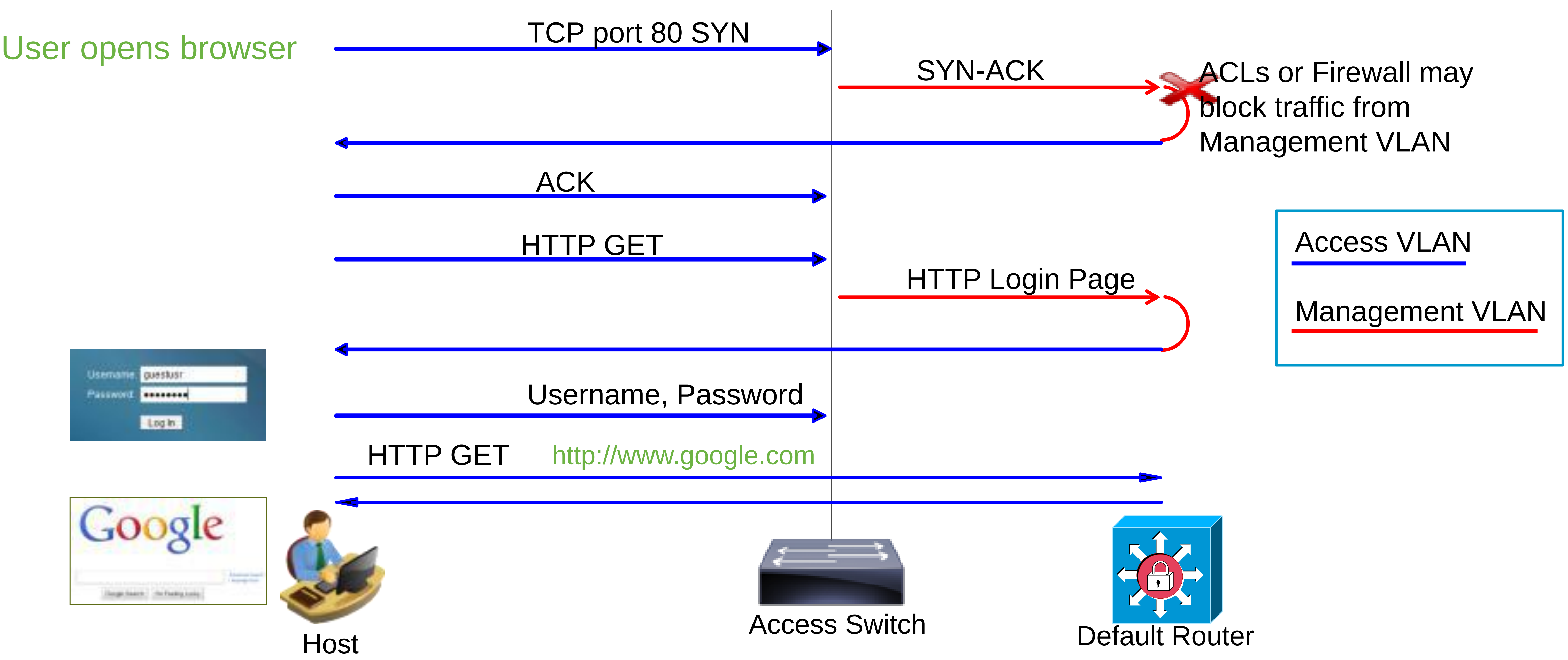


Username: guestusr
Password: ••••••••
Log In

Switch responds with source IP of requested destination

URL Redirection - No Access VLAN SVI

TCP Traffic Flow for Login Page When No L3 SVI for Host VLAN on Access Switch



User opens browser

TCP port 80 SYN

SYN-ACK

ACLs or Firewall may block traffic from Management VLAN

ACK

HTTP GET

HTTP Login Page

Username, Password

HTTP GET http://www.google.com

Access VLAN

Management VLAN

Username: guestusr
Password: •••••••••
Log In

Troubleshooting Redirection

For Your Reference

- Verify IOS code release and feature set!
- **`# show authentication session interface <int>`**
  - Does the IP address display? Verify device tracking table entry.
  - Is the session ID matching?
  - Is the dACL downloaded, if applicable?
  - Is the Redirect ACL applied? If so, verify contents on local switch
- **`# show ip access-list interface <int>`**
  - Is the access list properly applied to the client IP address per above? If not…
    - Verify that endpoint has an IP address – If not, is "ip device tracking" and/or DHCP Snooping enabled?
    - Verify dACL contents in ISE—ISE may show dACL authorization applied but switch rejects if ANY syntax error
- Access switch without SVIs for local access VLANs (common L2 case)
  - Is there a route from Management VLAN to client VLAN?
  - Is firewall dropping redirects sourced from Management VLAN?
  - Are dACLs disappearing? If so, does host respond to ARP probes from 0.0.0.0?
    - `Switch(config-if)#` **`ip device tracking probe use-svi`**

Troubleshooting Redirection

For Your Reference

```
3k-access(config-if)# do sh auth sess int gi0/1
            Interface:  GigabitEthernet0/1
          MAC Address:  0050.56b4.0169
           IP Address:  10.1.10.101
            User-Name:  00-50-56-b4-01-69
               Status:  Authz Success
               Domain:  DATA
      Security Policy:  Should Secure
      Security Status:  Unsecure
       Oper host mode:  multi-auth
     Oper control dir:  both
        Authorized By:  Authentication Server
           Vlan Group:  N/A
              ACS ACL:  xACSACLx-IP-POSTURE_REMEDIATION-4d816c3a
     URL Redirect ACL:  ACL-POSTURE-REDIRECT
         URL Redirect:  https://ise-1.demo.local:8443/guestportal/gateway?
           sessionId=0A0164010000000090728C037&action=cwa
      Session timeout:  N/A
         Idle timeout:  N/A
    Common Session ID:  0A0164010000000090728C037
      Acct Session
               Han
Runnable methods l
       Method    St
       mab       Au
       dot1x     No
```

```
3k-access(config-if)# do sh ip access-list int gi0/1
     permit ip host 10.1.40.100 any
     permit udp host 10.1.10.101 any eq domain
     permit tcp host 10.1.10.101 any eq www
     permit tcp host 10.1.10.101 any eq 443
     permit tcp host 10.1.10.101 host 10.1.100.21 eq 8443
     permit tcp host 10.1.10.101 host 10.1.100.21 eq 8905
     permit udp host 10.1.10.101 host 10.1.100.21 eq 8905
     permit tcp host 10.1.10.101 host 10.1.100.21 eq 8909
     permit udp host 10.1.10.101 host 10.1.100.21 eq 8909
     permit tcp host 10.1.10.101 host 10.1.252.21 eq www
```

Separate Voice Authorization

URL Redirection Considerations

Apple Captive Network Assistant (CNA)

- **Problem Statement:** URL redirection on Apple devices may fail due to Apple CAN.
- Background on CNA:

  Apple iOS feature to facilitate network access when captive portals present that requires login by automatically opening web browser in a controlled window. Feature attempts to detect the presence of captive portal by sending a web request upon WiFi connectivity to http://www.apple.com/library/test/success.html

  If response received, then Internet access assumed and no further interaction

  If no response received, Internet access is assumed to be blocked by captive portal and CNA auto-launches browser to requests portal login in a controlled window.

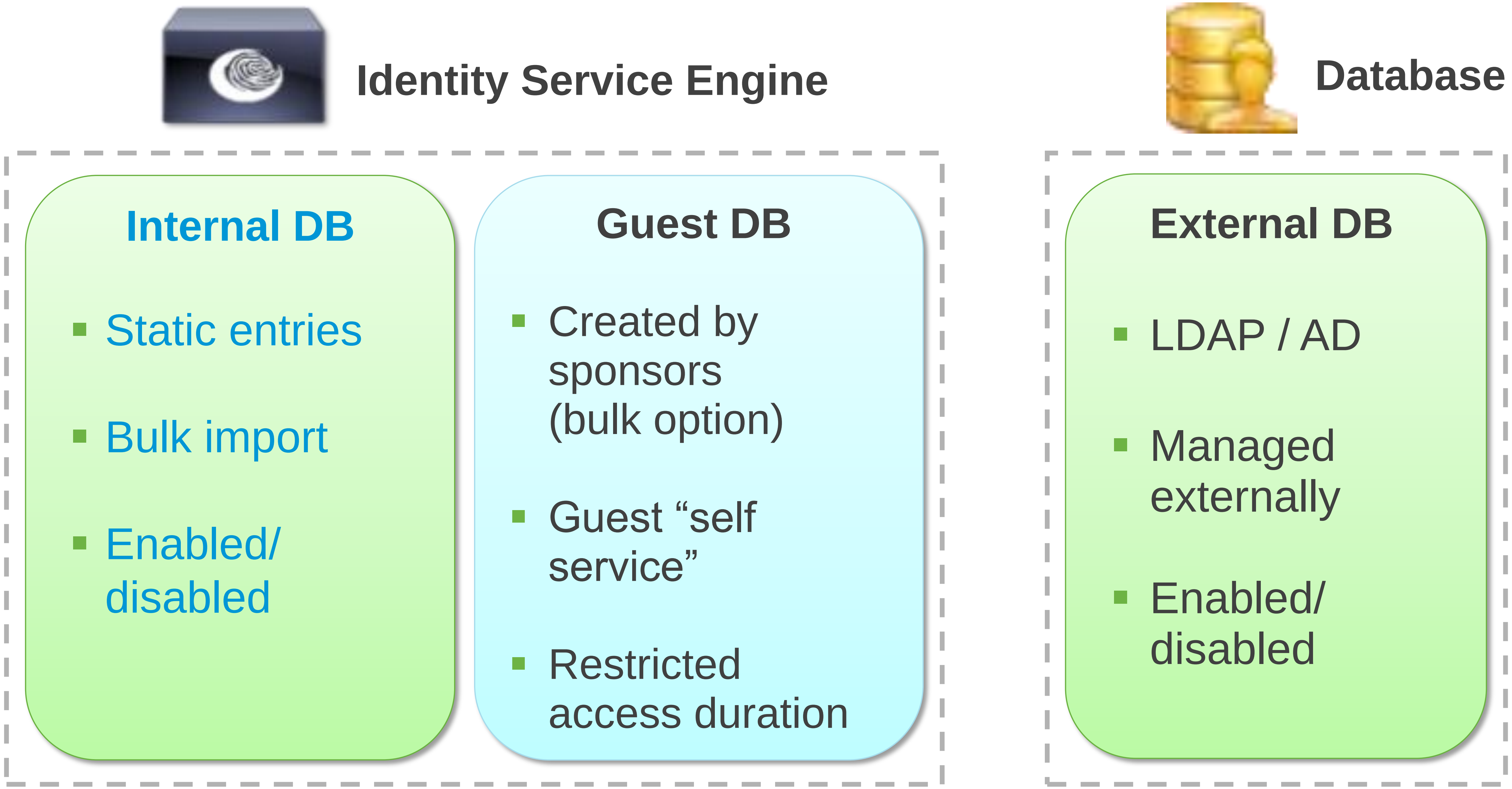
- **Solutions:**
  1. Disable Auto-Login under WLAN settings (requires user knowledge and interaction)
  2. Configure WLC to bypass CNA:

```
> config network web-auth captive-bypass enable
```

Command available in WLC 7.2:
http://www.cisco.com/en/US/docs/wireless/controller/7.2/command/reference/cli72commands.html#wp15129591

Provisioning Guest Accounts

Guest User Databases



Identity Service Engine

Internal DB

- Static entries
- Bulk import
- Enabled/ disabled

Guest DB

- Created by sponsors (bulk option)
- Guest “self service”
- Restricted access duration

Database

External DB

- LDAP / AD
- Managed externally
- Enabled/ disabled

Guest User Roles

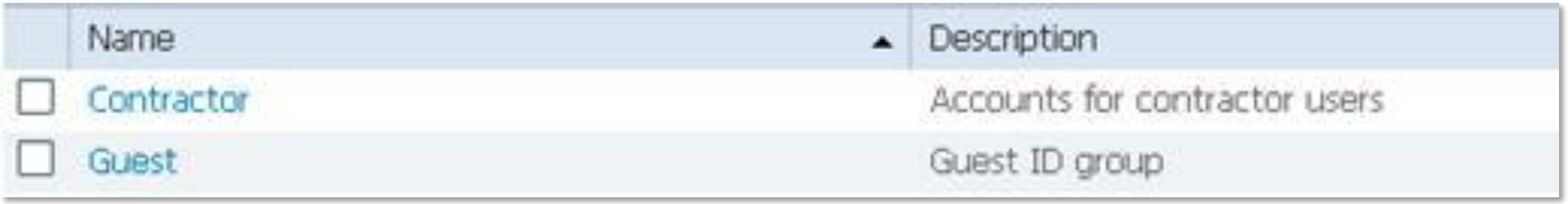
Different Policies Based on User Role

Guest

- Internet access only
- Created by any user
- Limited connection time: 2 hours, ½ day, one day
- Wireless access only
- No access during non-business hours or weekends.

Contractor

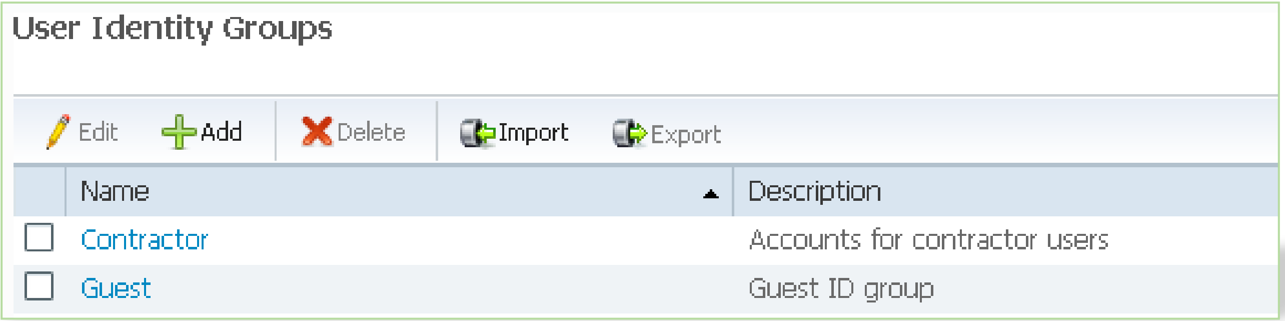
- Internet access
- Restricted access to specific internal resources
- Created by select users
- Longer connection time: one week, one month
- Access allowed only from specific networks
- Off-hours access allowed.



	Name ▲	Description
□	Contractor	Accounts for contractor users
□	Guest	Guest ID group

Differentiating Guest Access via User Groups

Identity Service Engine



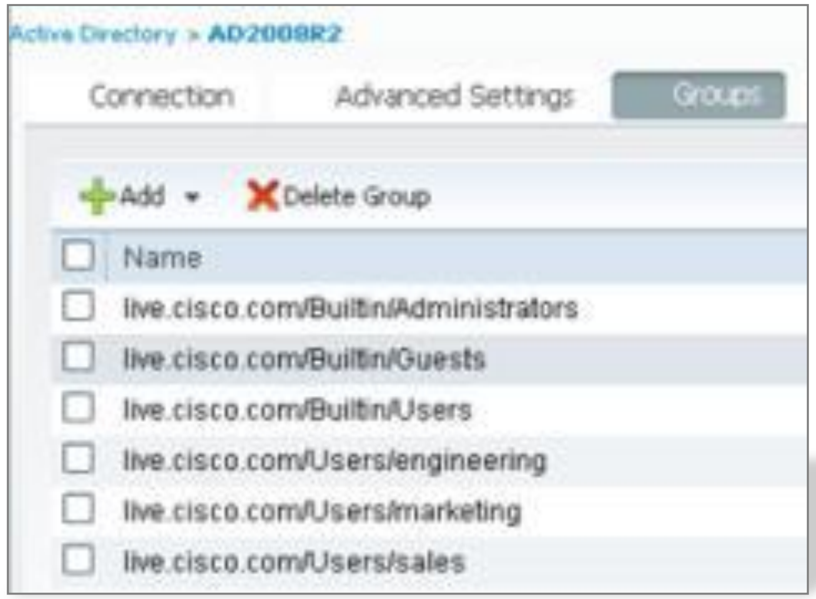
User Identity Groups

□	Name	Description
□	Contractor	Accounts for contractor users
□	Guest	Guest ID group

- Multiple groups can be created in ISE
- Each group can contain:
  - Guest users (created by Sponsor and Self-service)
  - Internal users (created by Administrators)

External Database

- External groups mapped in ISE



□	Name
□	live.cisco.com/Builtin/Administrators
□	live.cisco.com/Builtin/Guests
□	live.cisco.com/Builtin/Users
□	live.cisco.com/Users/engineering
□	live.cisco.com/Users/marketing
□	live.cisco.com/Users/sales

Mapping example for AD

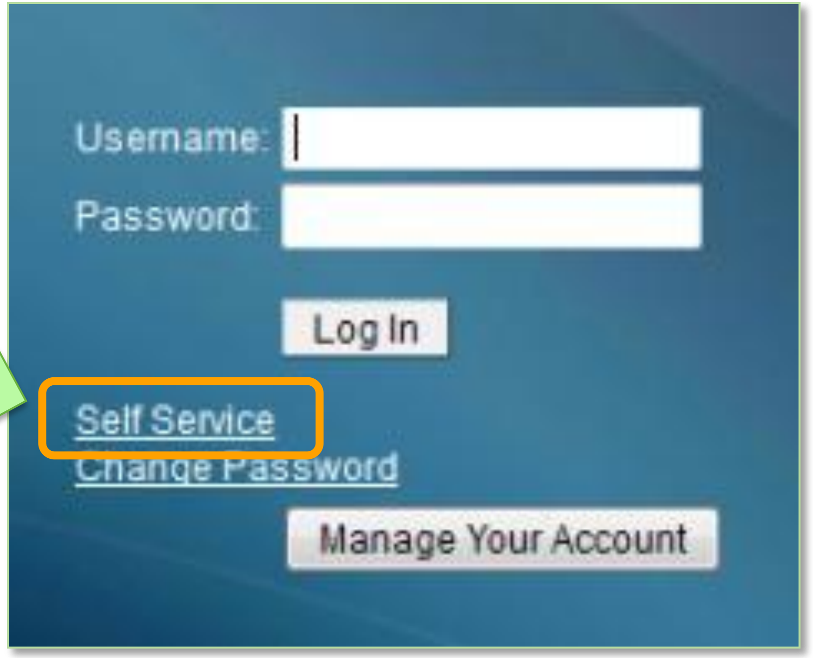
Those groups can be used in different authorization rules to differentiate network access

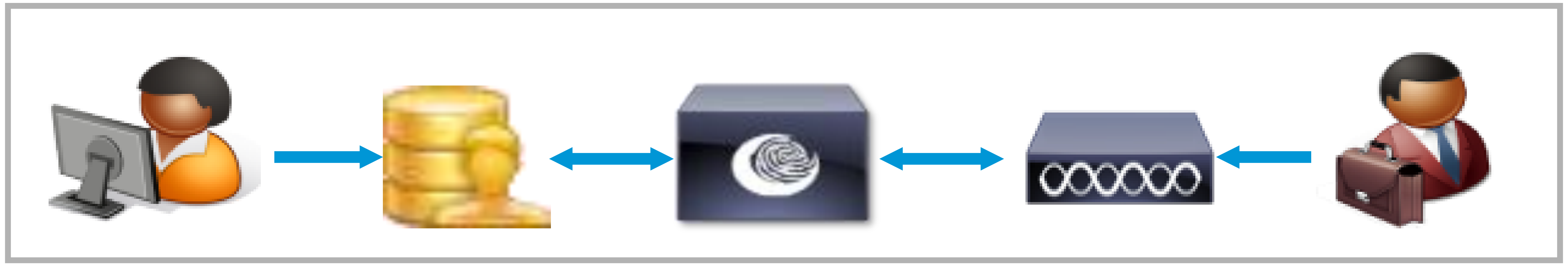
Guest Users DB – Account Creation Methods

- Two ways to populate ISE Internal guest DB:

Self-Service
Option on ISE ‘Guest Portal’

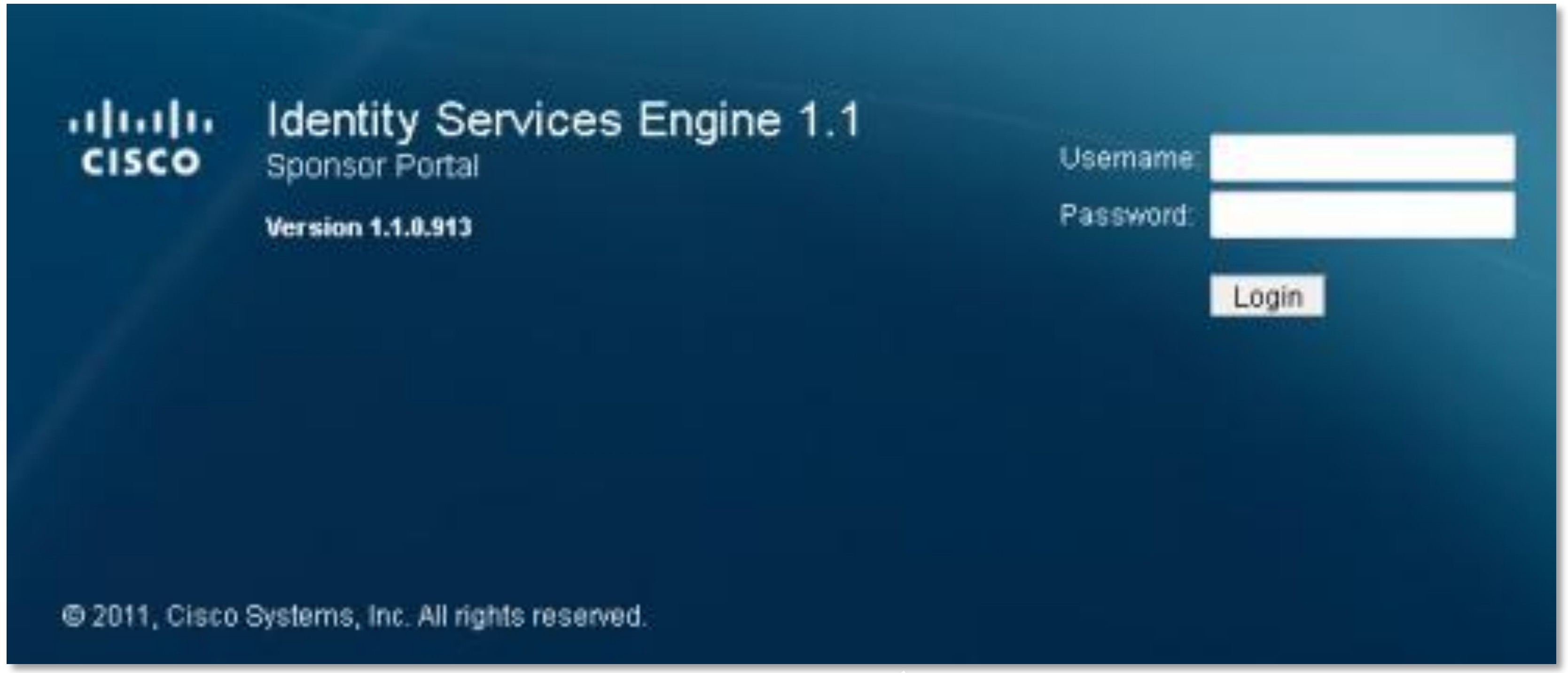
Sponsoring
via ISE ‘Sponsor Portal’





Sponsor Groups and Privileges

For Your Reference



Identity Services Engine 1.1

Sponsor Portal

Version 1.1.0.913

Username:

Password:

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Sponsor 'AllAccounts'

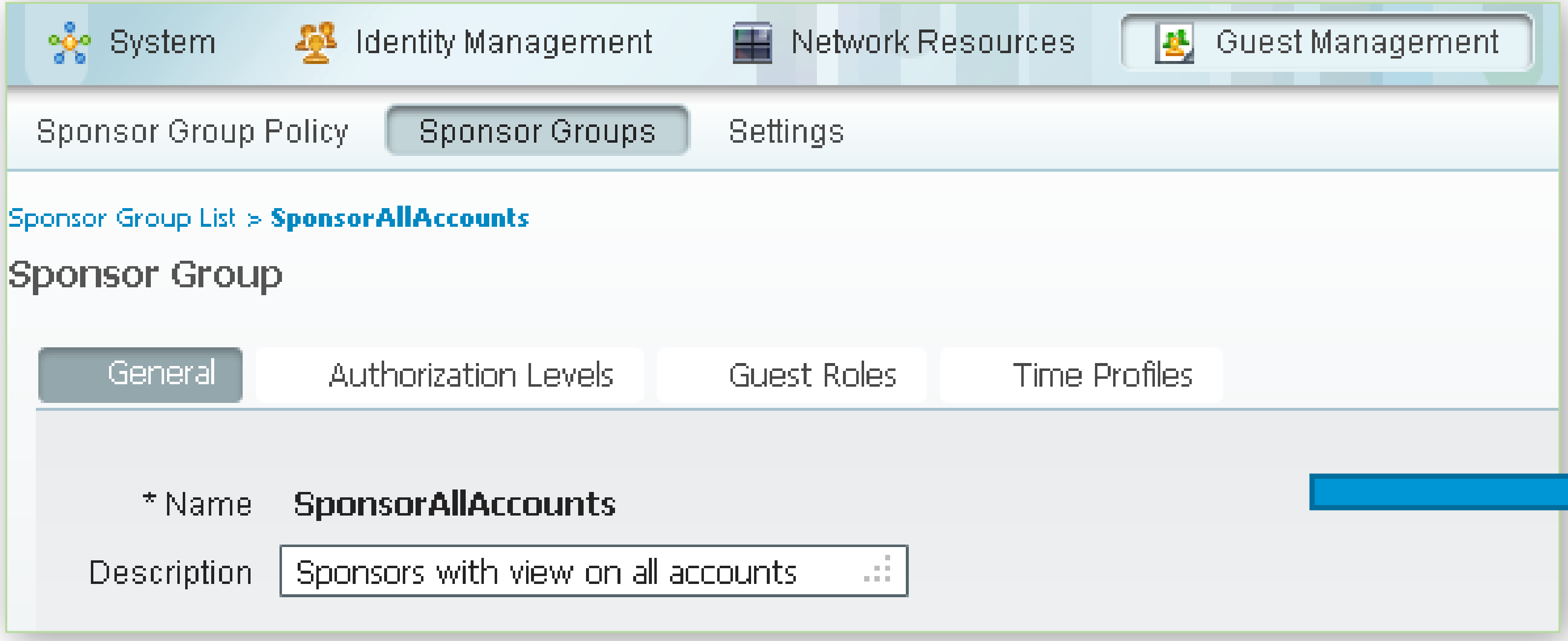
- Can create user in groups 'contractor' and 'guest'
- Can use time profiles up to one week
- Can see all accounts in group

Sponsor 'OwnAccounts'

- Can create user in group 'guest' only
- Can use time profiles up to one day
- Cannot do bulk creation

Sponsor Privileges

For Your Reference



System | Identity Management | Network Resources | Guest Management

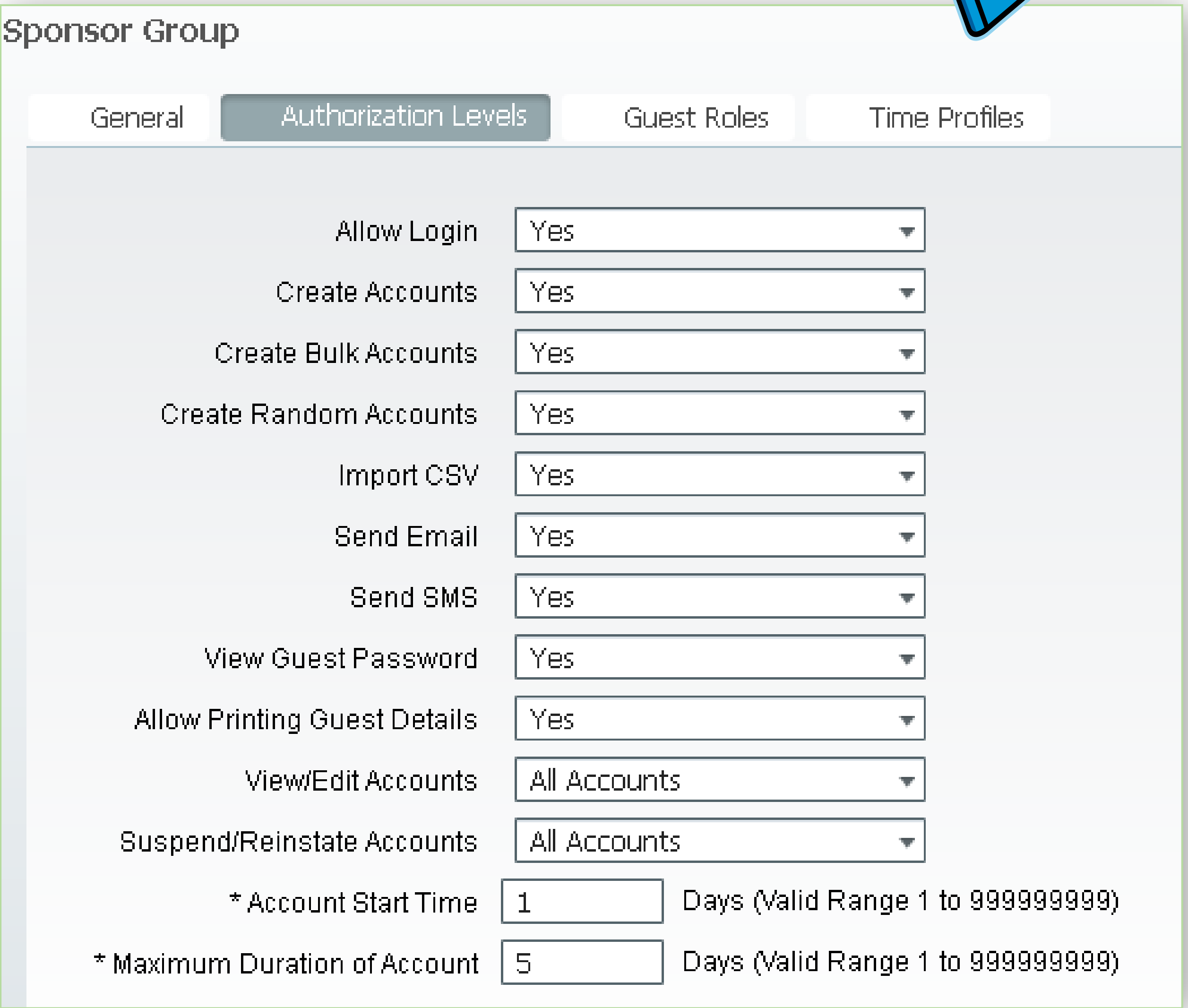
Sponsor Group Policy | Sponsor Groups | Settings

Sponsor Group List > **SponsorAllAccounts**

Sponsor Group

General | Authorization Levels | Guest Roles | Time Profiles

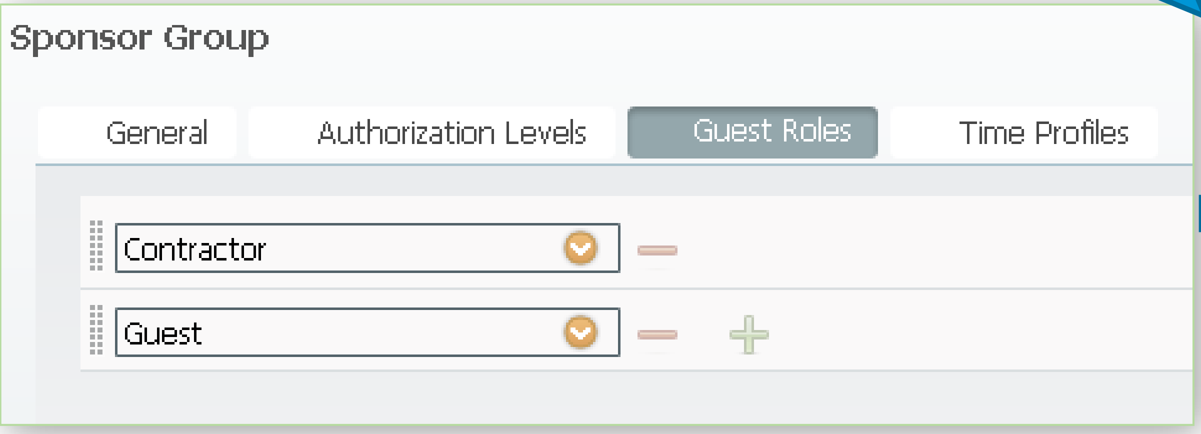
* Name	**SponsorAllAccounts**
Description	Sponsors with view on all accounts



Sponsor Group

General | Authorization Levels | Guest Roles | Time Profiles

Allow Login	Yes
Create Accounts	Yes
Create Bulk Accounts	Yes
Create Random Accounts	Yes
Import CSV	Yes
Send Email	Yes
Send SMS	Yes
View Guest Password	Yes
Allow Printing Guest Details	Yes
View/Edit Accounts	All Accounts
Suspend/Reinstate Accounts	All Accounts
* Account Start Time	1 Days (Valid Range 1 to 999999999)
* Maximum Duration of Account	5 Days (Valid Range 1 to 999999999)

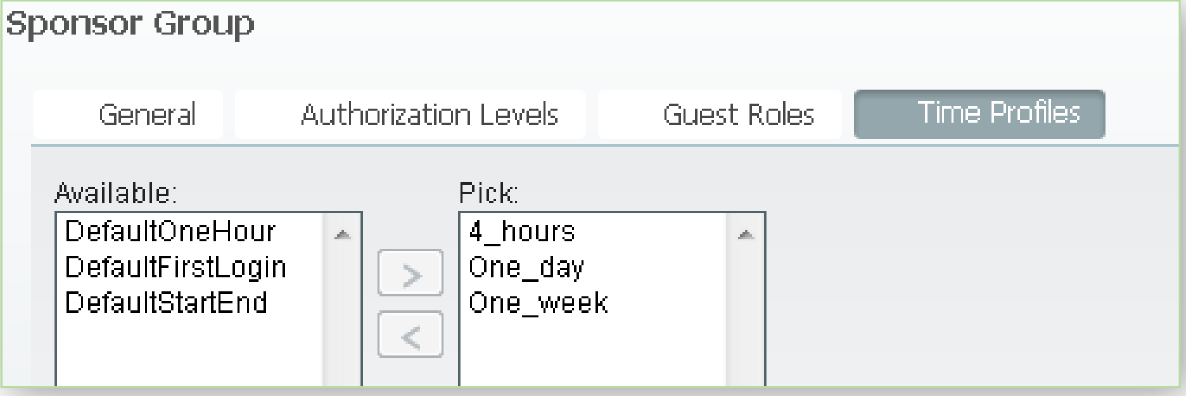


Sponsor Group

General | Authorization Levels | Guest Roles | Time Profiles

Contractor

Guest



Sponsor Group

General | Authorization Levels | Guest Roles | Time Profiles

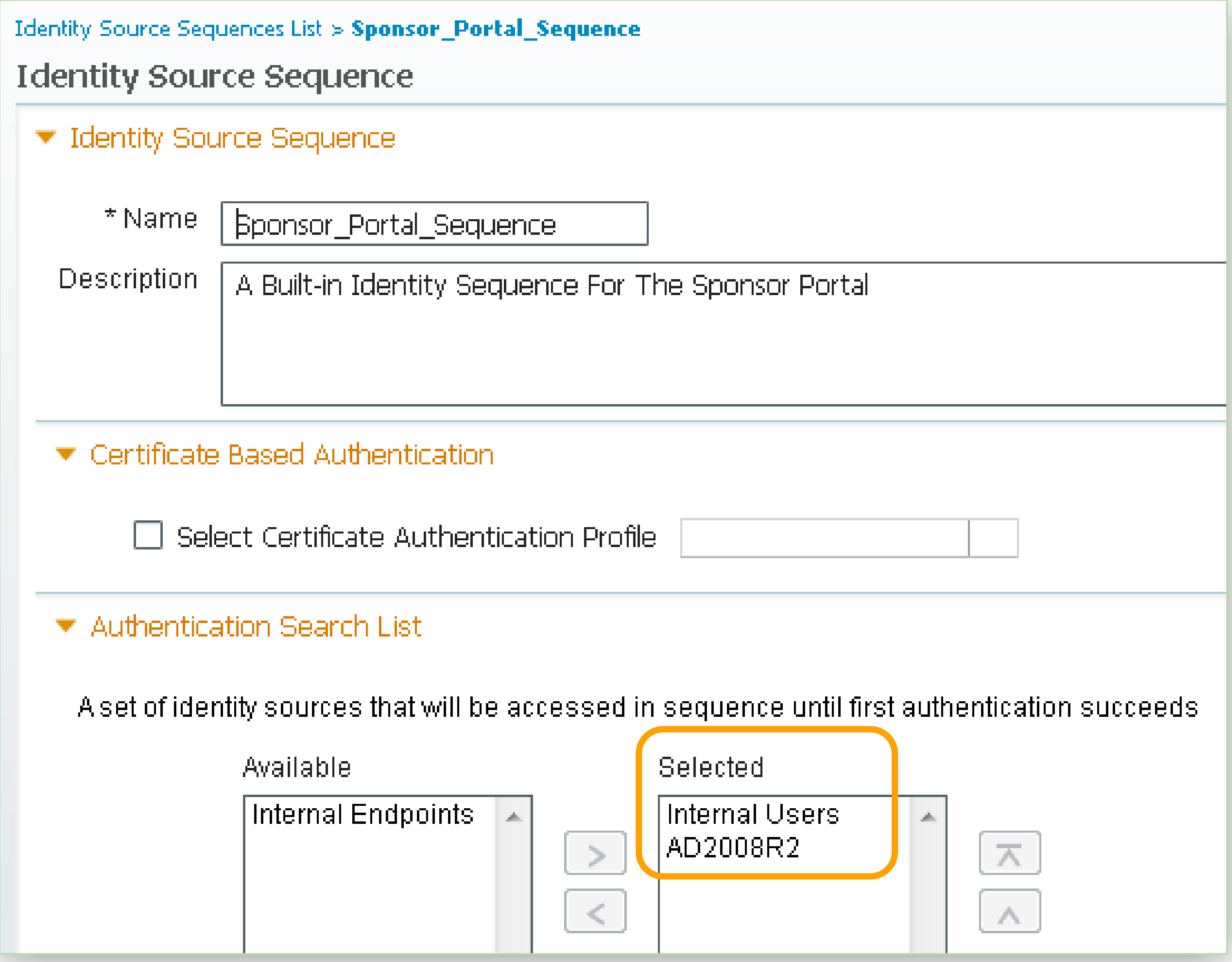
Available:
DefaultOneHour
DefaultFirstLogin
DefaultStartEnd

Pick:
4_hours
One_day
One_week

Sponsor Authentication

For Your Reference

- The sponsor account can be a
  - Local ISE user
  - LDAP user
  - Active Directory user
- DB checking order can be configured via ‘Identity Source Sequence’ in ISE



Identity Source Sequences List > Sponsor_Portal_Sequence

Identity Source Sequence

Identity Source Sequence

* Name: Sponsor_Portal_Sequence

Description: A Built-in Identity Sequence For The Sponsor Portal

Certificate Based Authentication

□ Select Certificate Authentication Profile

Authentication Search List

A set of identity sources that will be accessed in sequence until first authentication succeeds

Available: Internal Endpoints

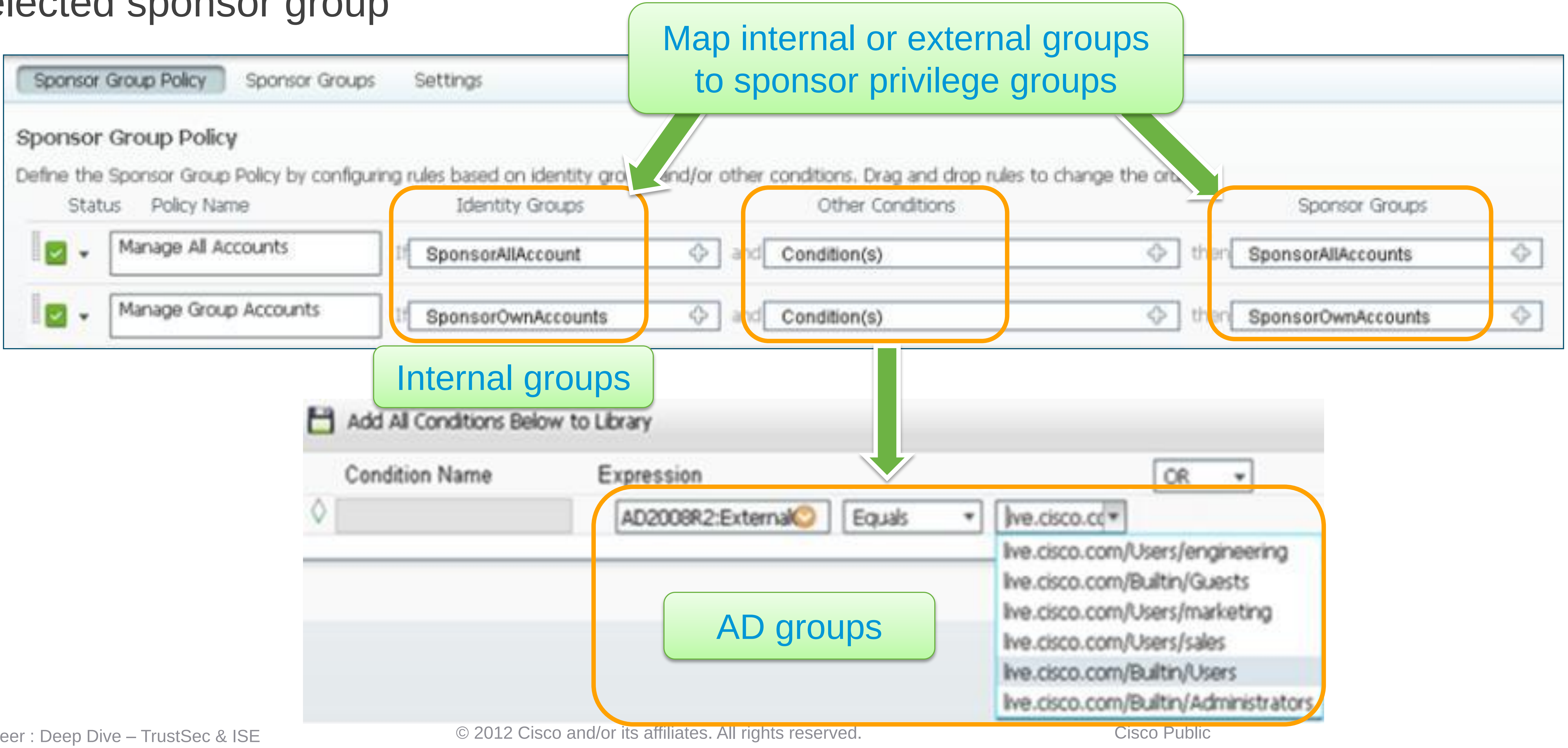
Selected: Internal Users, AD2008R2

In above example we interrogate the ISE DB first and then the AD

Map Groups to Sponsor Privileges

For Your Reference

- You can map any group: internal, AD, LDAP to a sponsor privilege group
- All users mapped to that group will log in with similar sponsor privileges as defined in the selected sponsor group



Map internal or external groups to sponsor privilege groups

Sponsor Group Policy | Sponsor Groups | Settings

Sponsor Group Policy

Define the Sponsor Group Policy by configuring rules based on identity gro and/or other conditions. Drag and drop rules to change the or

Status	Policy Name		Identity Groups		Other Conditions		Sponsor Groups
☑	Manage All Accounts	if	SponsorAllAccount	and	Condition(s)	then	SponsorAllAccounts
☑	Manage Group Accounts	if	SponsorOwnAccounts	and	Condition(s)	then	SponsorOwnAccounts

Internal groups

Add All Conditions Below to Library

Condition Name	Expression			OR
	AD2008R2:External	Equals	lve.cisco.cc	

lve.cisco.com/Users/engineering
lve.cisco.com/Builtin/Guests
lve.cisco.com/Users/marketing
lve.cisco.com/Users/sales
lve.cisco.com/Builtin/Users
lve.cisco.com/Builtin/Administrators

AD groups

Simple URL for Sponsor / My Devices Portal

Problem Statement: Default Sponsor / MDP URL difficult for users to remember or enter.

Examples:

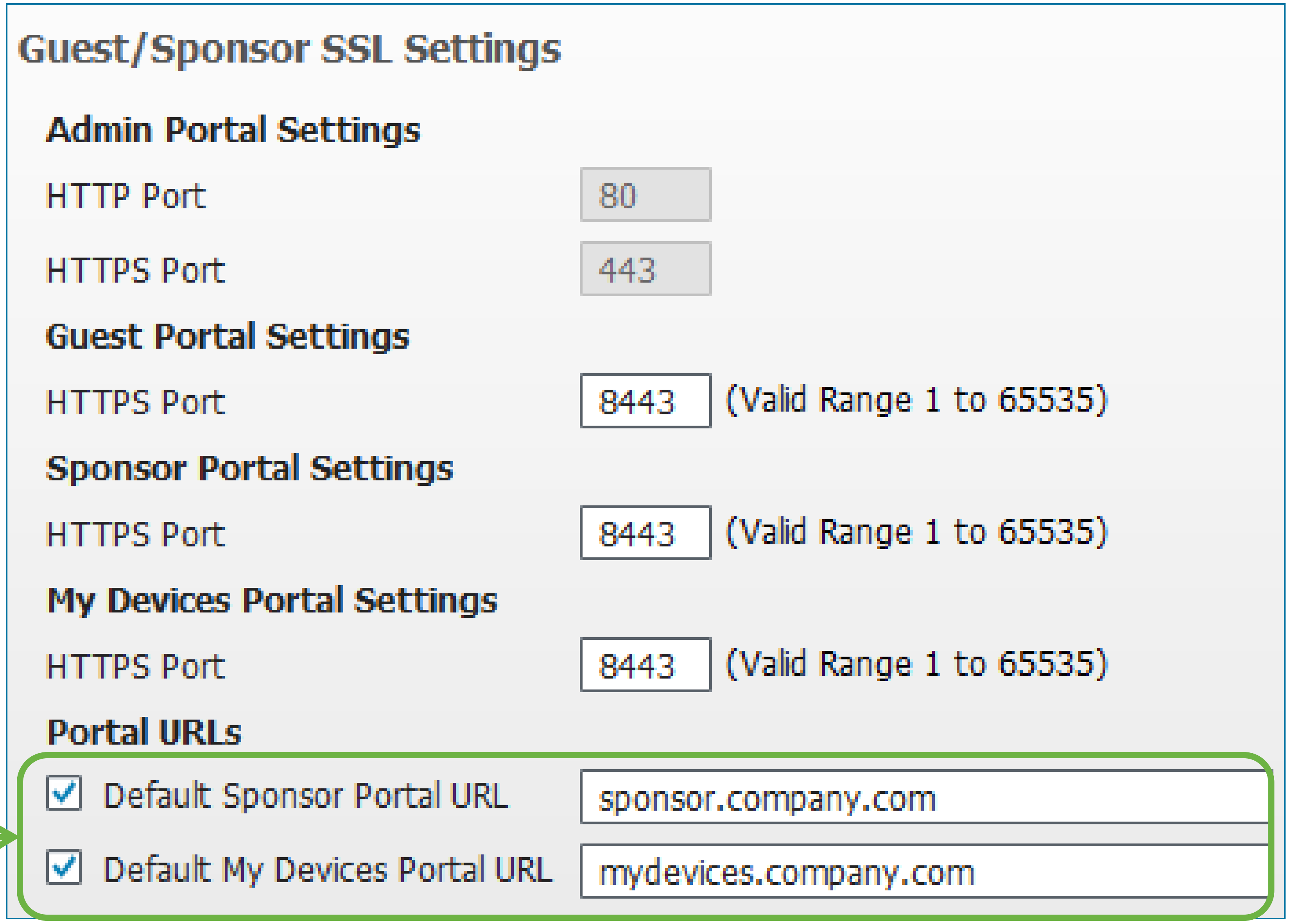
https://ise-psn-1.company.com:8443/sponsorportal
https://ise-psn-3.company.com:8443/mydevices

Solution: Simplified URL for Sponsor / MDP.

- Sponsor Portal and My Devices Portal can be accessed via a user-friendly URL.

  Example: http://sponsor.company.com

  Automatic redirect to https://fqdn:port
- FQDN for URL must be added to DNS and resolve to the Policy Service node(s) used for Guest Services.
- Recommend populating Subject Alternative Name (SAN) field of PSN local cert with this alternative FQDN to avoid SSL cert warnings due to name mismatch. name mismatch.



Guest/Sponsor SSL Settings

Admin Portal Settings

HTTP Port: 80

HTTPS Port: 443

Guest Portal Settings

HTTPS Port: 8443 (Valid Range 1 to 65535)

Sponsor Portal Settings

HTTPS Port: 8443 (Valid Range 1 to 65535)

My Devices Portal Settings

HTTPS Port: 8443 (Valid Range 1 to 65535)

Portal URLs

☑ Default Sponsor Portal URL: sponsor.company.com

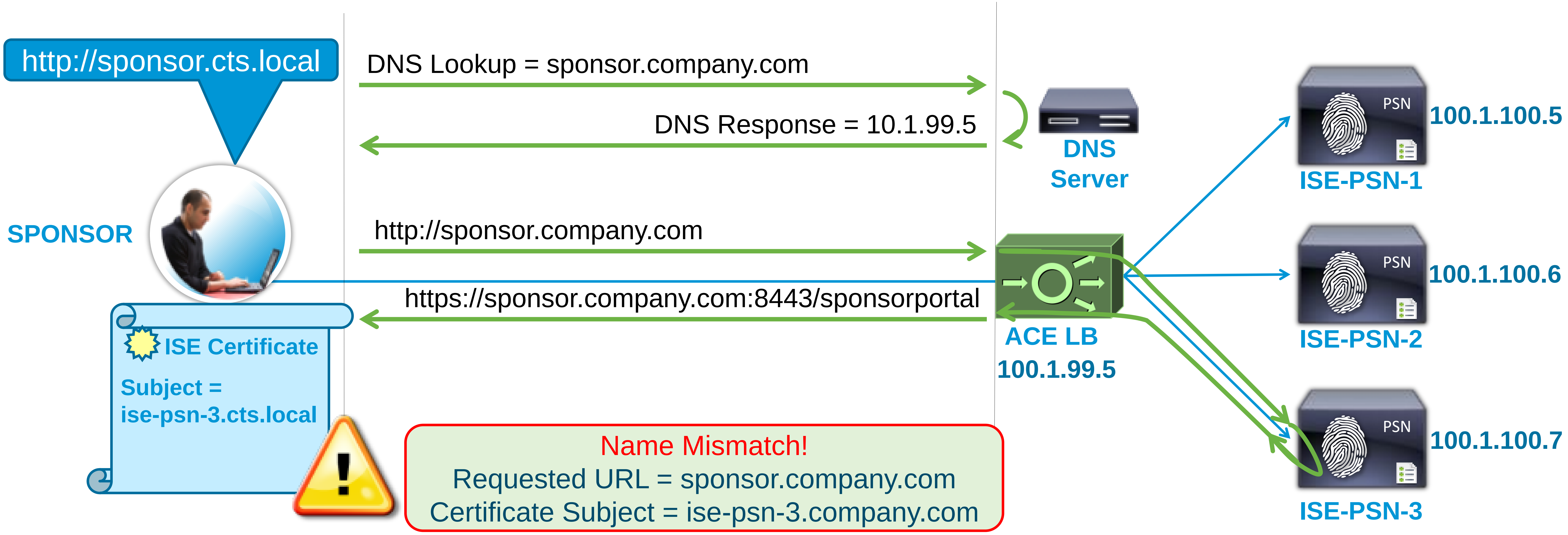
☑ Default My Devices Portal URL: mydevices.company.com

Note: This will restart ALL PAP/PSN nodes!

ISE Certificate without SAN

Certificate Warning - Name Mismatch

For Your Reference

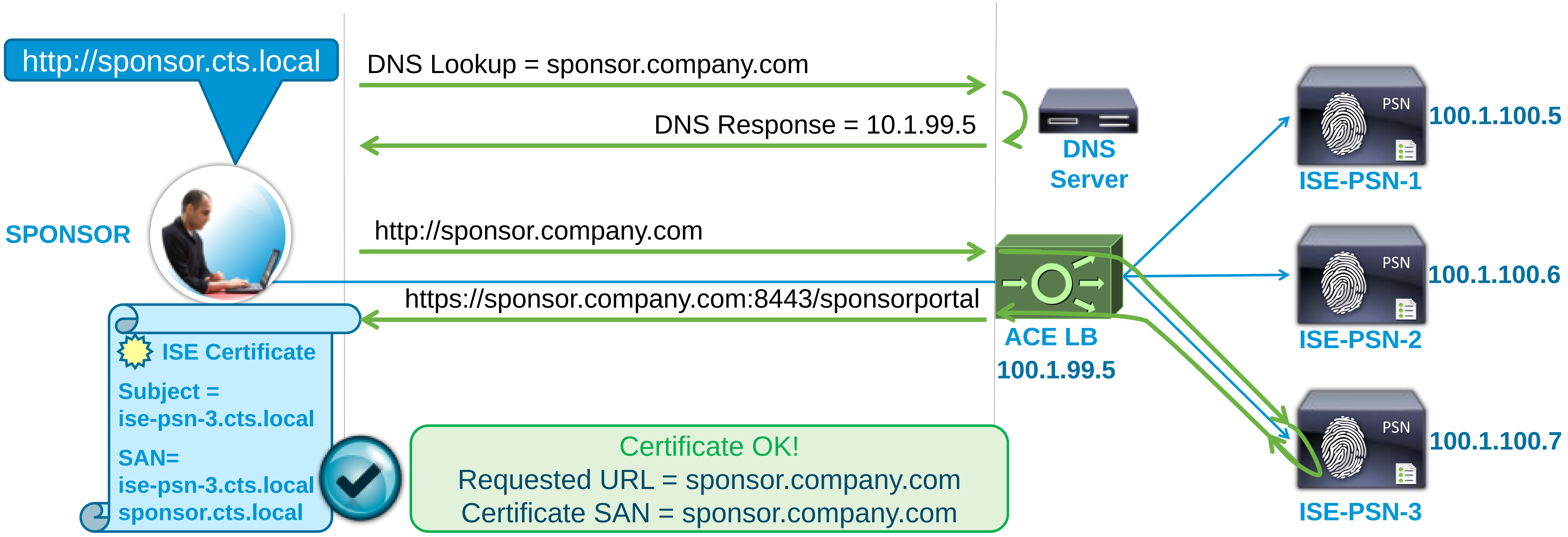


Name Mismatch!
Requested URL = sponsor.company.com
Certificate Subject = ise-psn-3.company.com

ISE Certificate with SAN

No Certificate Warning

For Your Reference



ISE Certificate

Subject = ise-psn-3.cts.local

SAN= ise-psn-3.cts.local sponsor.cts.local

Certificate OK!
Requested URL = sponsor.company.com
Certificate SAN = sponsor.company.com

Identity Services Engine 1.1
Sponsor Portal
Version 1.1.0.913

Username:
Password:

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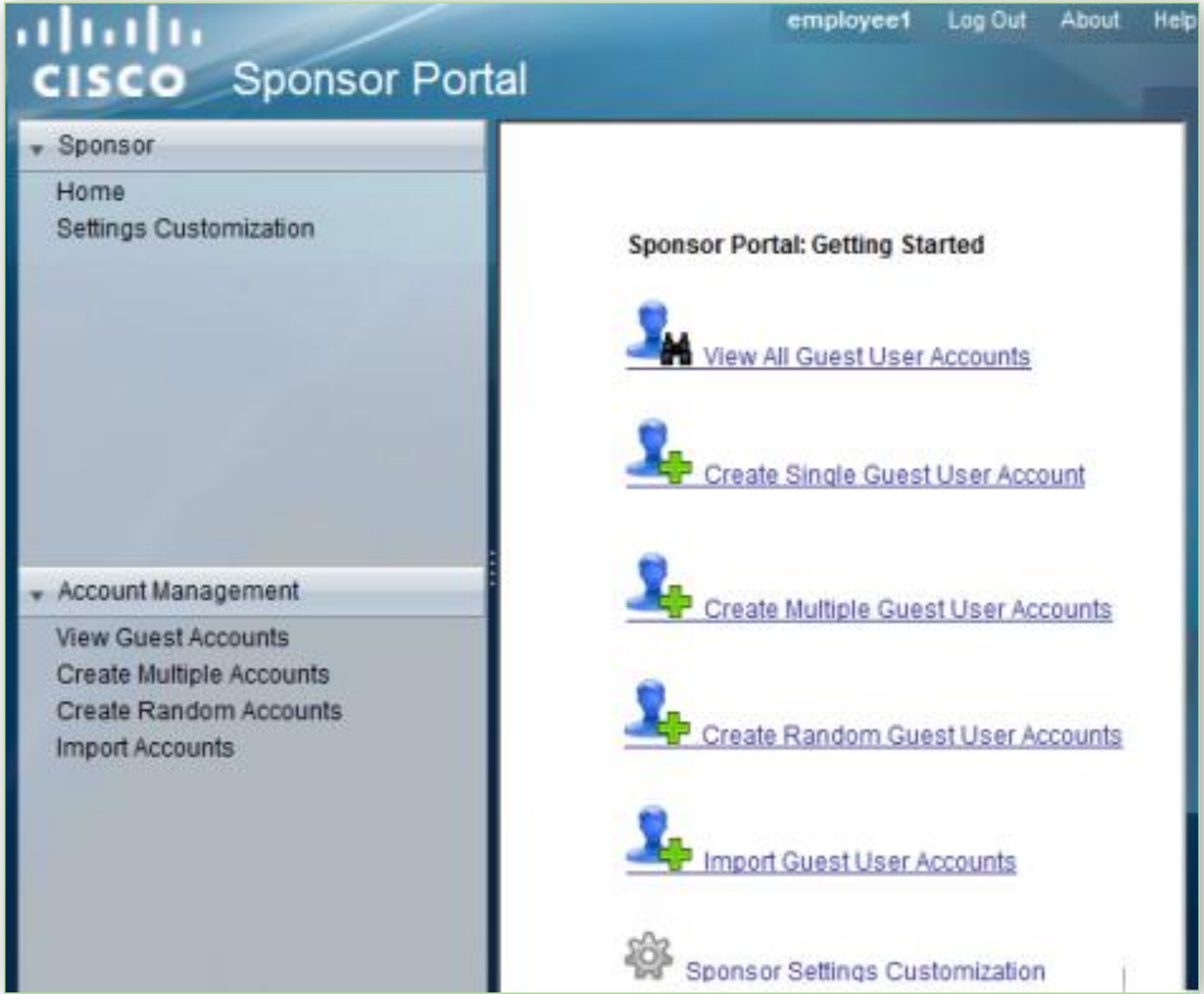
ISE – Sponsor Portal

For Your Reference

- Customizable sponsor pages
- Sponsor privileges tied to defined sponsor policy
  - Roles sponsor can create
  - Time profiles can be assigned
  - Management of other guest accounts
  - Single or bulk account creation

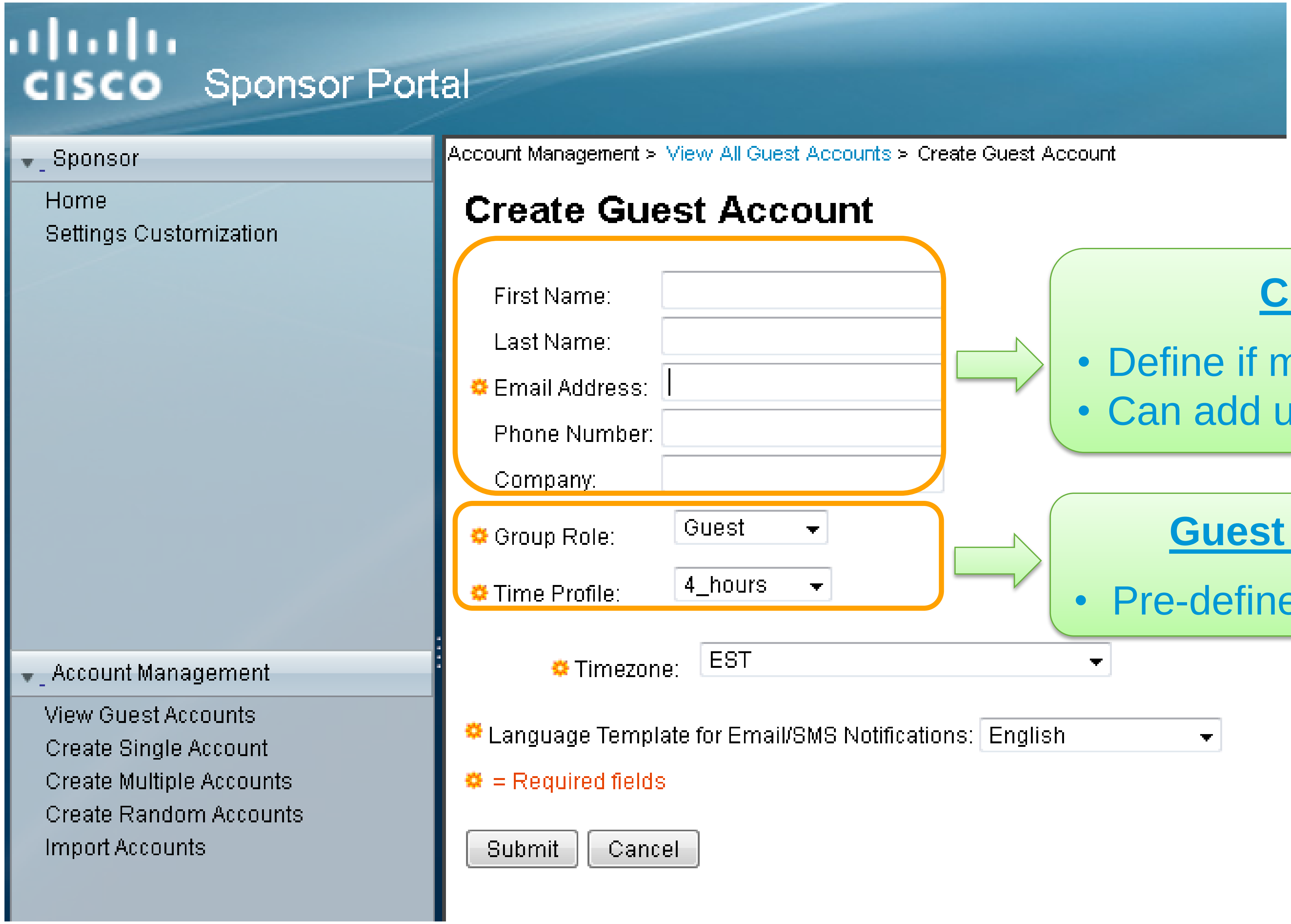

cisco Sponsor Portal
employee1
Log Out
About
Help
Sponsor
Home
Settings Customization
Account Management
View Guest Accounts
Create Multiple Accounts
Create Random Accounts
Import Accounts

Sponsor Portal: Getting Started

View All Guest User Accounts
Create Single Guest User Account
Create Multiple Guest User Accounts
Create Random Guest User Accounts
Import Guest User Accounts
Sponsor Settings Customization

Sponsor Portal – Create Guest Account User

For Your Reference



Account Management > View All Guest Accounts > Create Guest Account

Create Guest Account

First Name:

Last Name:

✱ Email Address:

Phone Number:

Company:

✱ Group Role: Guest

✱ Time Profile: 4_hours

✱ Timezone: EST

✱ Language Template for Email/SMS Notifications: English

✱ = Required fields

Customizable Fields

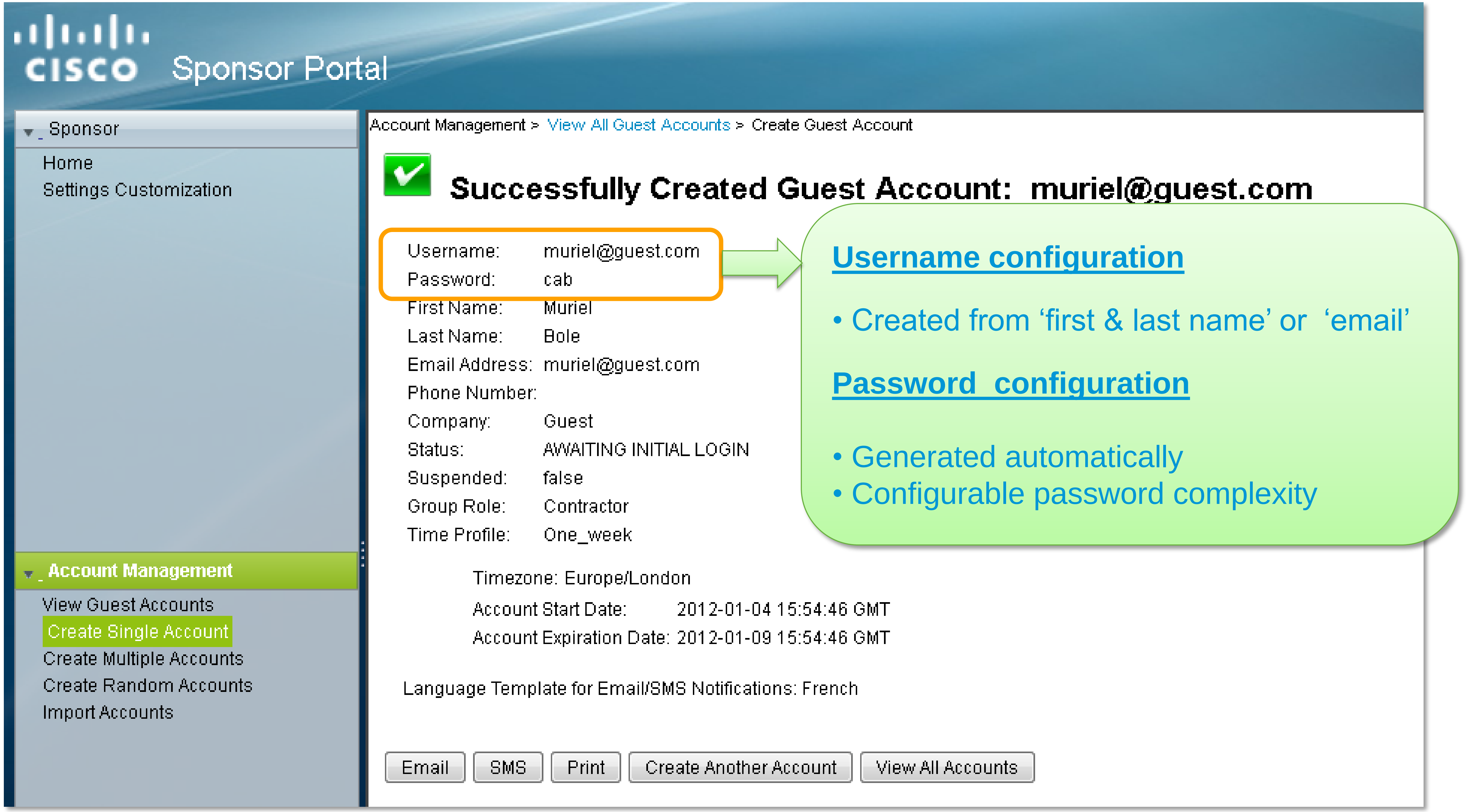
- Define if mandatory or optional
- Can add up to 5 other custom attributes

Guest roles and Time Profiles

- Pre-defined by admin

Guest Account Information

For Your Reference



Successfully Created Guest Account: muriel@guest.com

Username:	muriel@guest.com
Password:	cab
First Name:	Muriel
Last Name:	Bole
Email Address:	muriel@guest.com
Phone Number:	
Company:	Guest
Status:	AWAITING INITIAL LOGIN
Suspended:	false
Group Role:	Contractor
Time Profile:	One_week

Timezone:	Europe/London
Account Start Date:	2012-01-04 15:54:46 GMT
Account Expiration Date:	2012-01-09 15:54:46 GMT

Language Template for Email/SMS Notifications: French

Username configuration

- Created from 'first & last name' or 'email'

Password configuration

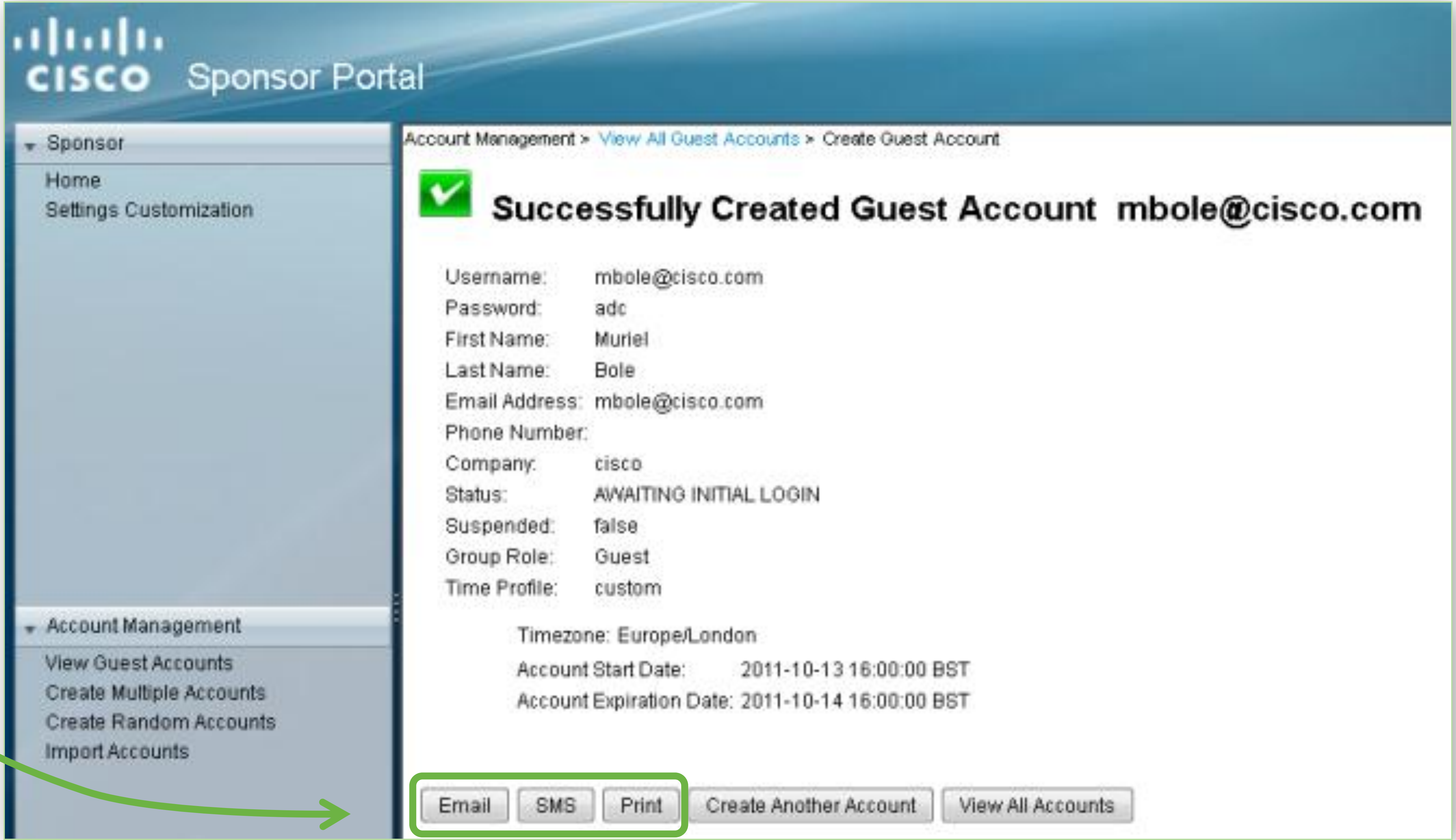
- Generated automatically
- Configurable password complexity

Sponsor Portal: Informing Guests

For Your Reference

- Multiple ways to notify Guest with their credentials and other access info

1. Print the details
2. Send via e-mail
3. Send via SMS



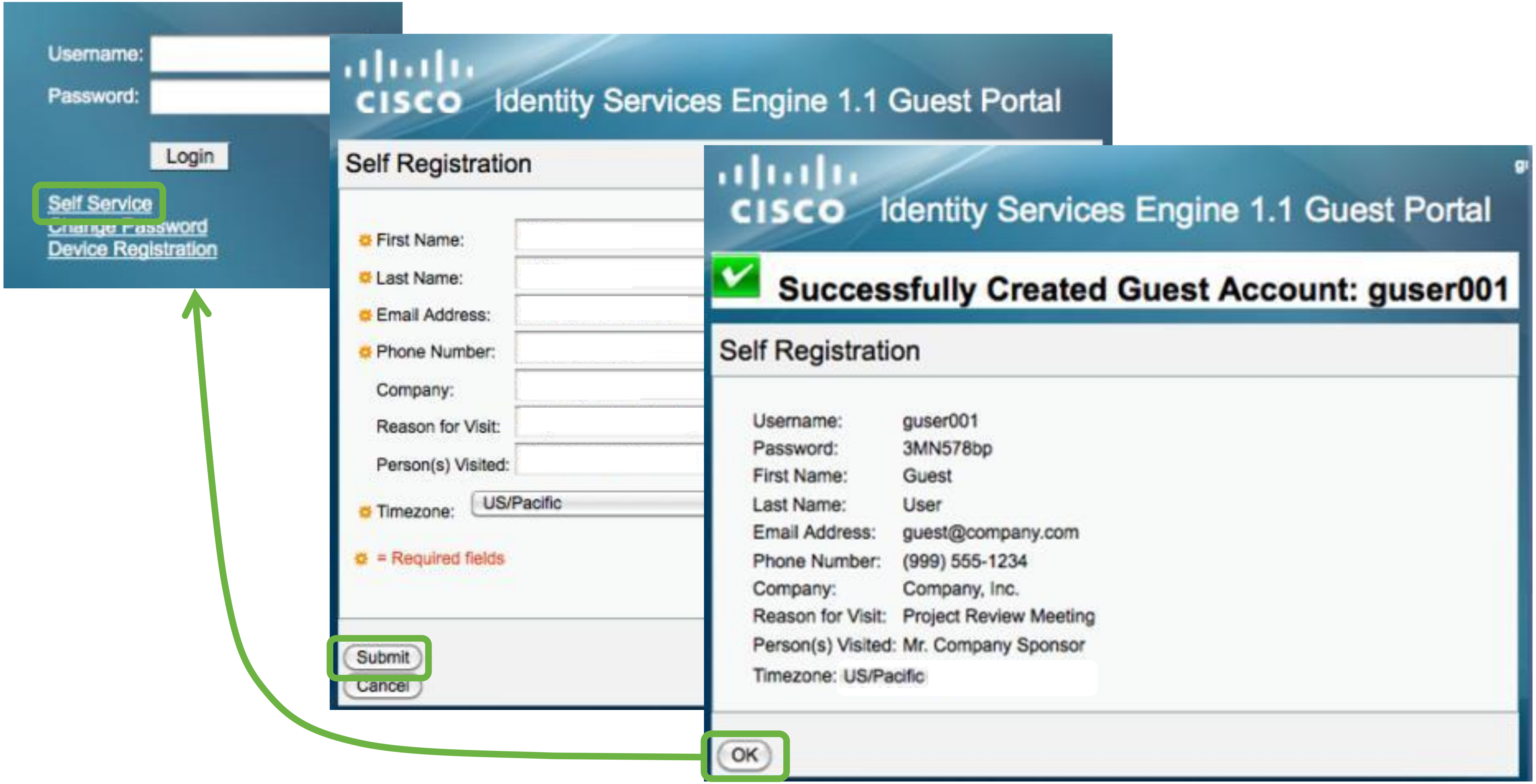
Successfully Created Guest Account mbole@cisco.com

Username: mbole@cisco.com
Password: adc
First Name: Muriel
Last Name: Bole
Email Address: mbole@cisco.com
Phone Number:
Company: cisco
Status: AWAITING INITIAL LOGIN
Suspended: false
Group Role: Guest
Time Profile: custom

Timezone: Europe/London
Account Start Date: 2011-10-13 16:00:00 BST
Account Expiration Date: 2011-10-14 16:00:00 BST

Guest Portals

Guest Self-Service



✓ Successfully Created Guest Account: guser001

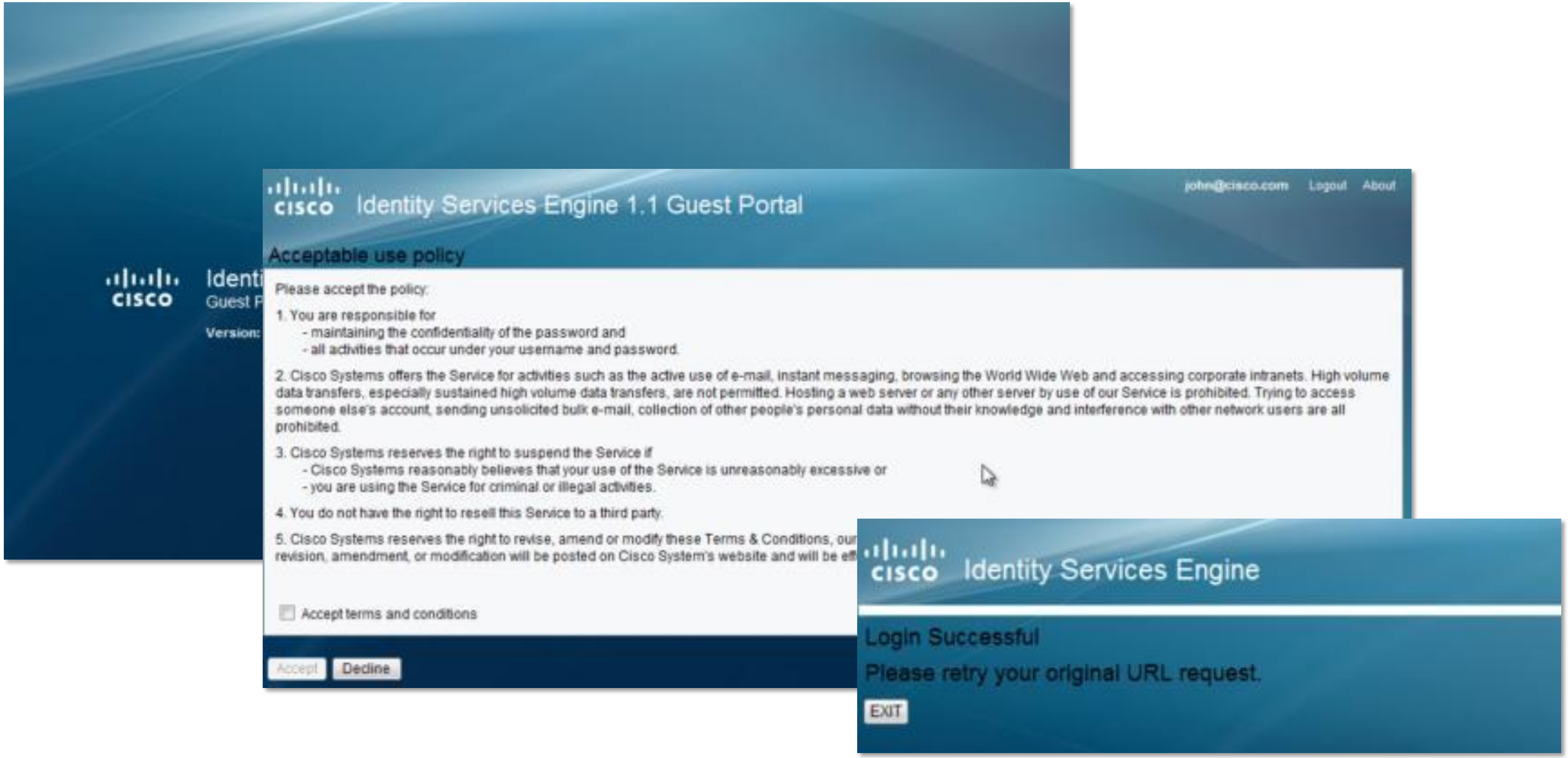
Self Registration

Timezone: US/Pacific

Username: guser001
Password: 3MN578bp
First Name: Guest
Last Name: User
Email Address: guest@company.com
Phone Number: (999) 555-1234
Company: Company, Inc.
Reason for Visit: Project Review Meeting
Person(s) Visited: Mr. Company Sponsor
Timezone: US/Pacific

Guest User Experience

For Your Reference



Identity Services Engine 1.1 Guest Portal

Acceptable use policy

Please accept the policy:

1. You are responsible for
   - maintaining the confidentiality of the password and
   - all activities that occur under your username and password.

2. Cisco Systems offers the Service for activities such as the active use of e-mail, instant messaging, browsing the World Wide Web and accessing corporate intranets. High volume data transfers, especially sustained high volume data transfers, are not permitted. Hosting a web server or any other server by use of our Service is prohibited. Trying to access someone else's account, sending unsolicited bulk e-mail, collection of other people's personal data without their knowledge and interference with other network users are all prohibited.

3. Cisco Systems reserves the right to suspend the Service if
   - Cisco Systems reasonably believes that your use of the Service is unreasonably excessive or
   - you are using the Service for criminal or illegal activities.

4. You do not have the right to resell this Service to a third party.

5. Cisco Systems reserves the right to revise, amend or modify these Terms & Conditions, our
revision, amendment, or modification will be posted on Cisco System's website and will be eff

☐ Accept terms and conditions

Identity Services Engine

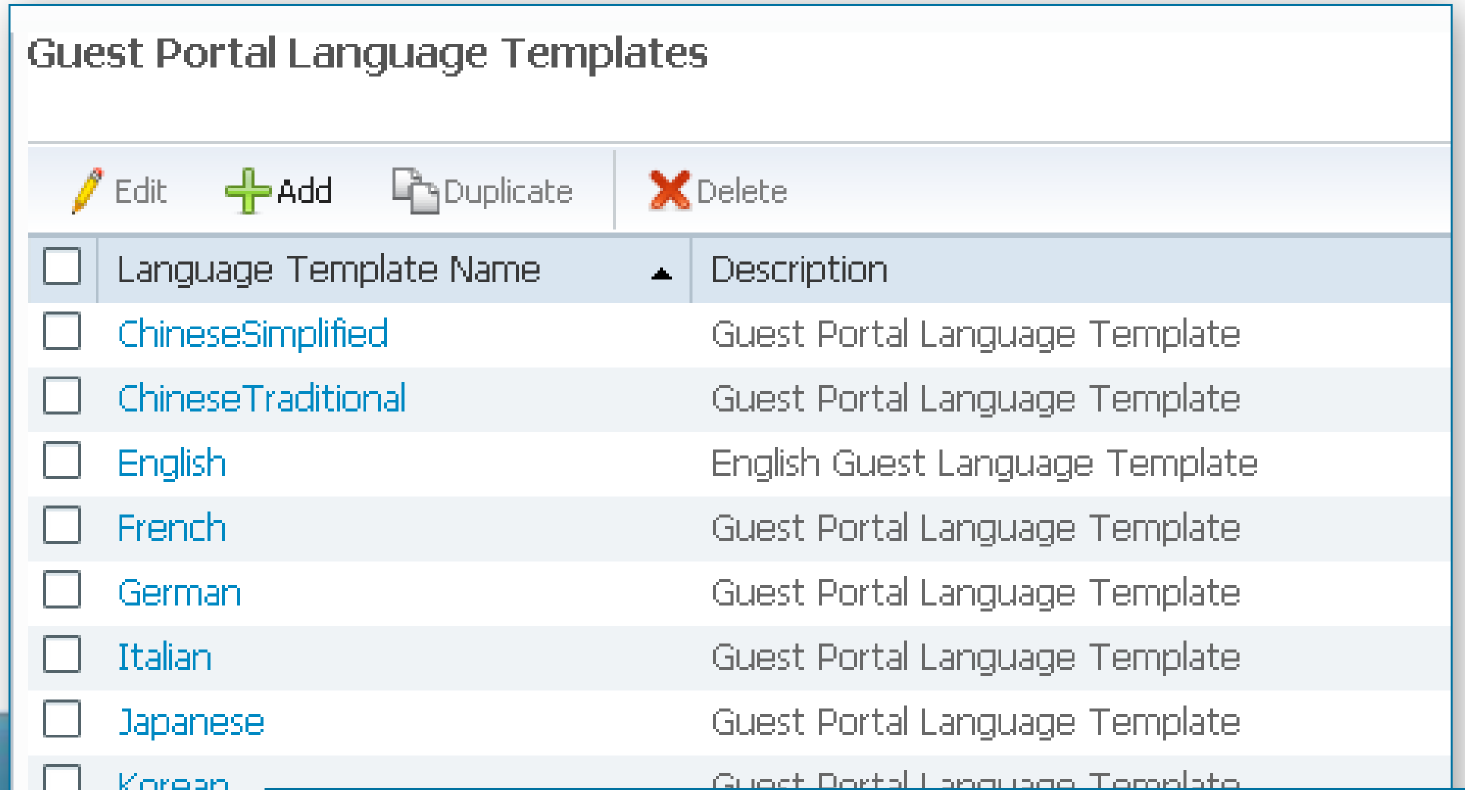
Login Successful

Please retry your original URL request.

Portal Localization / Customization

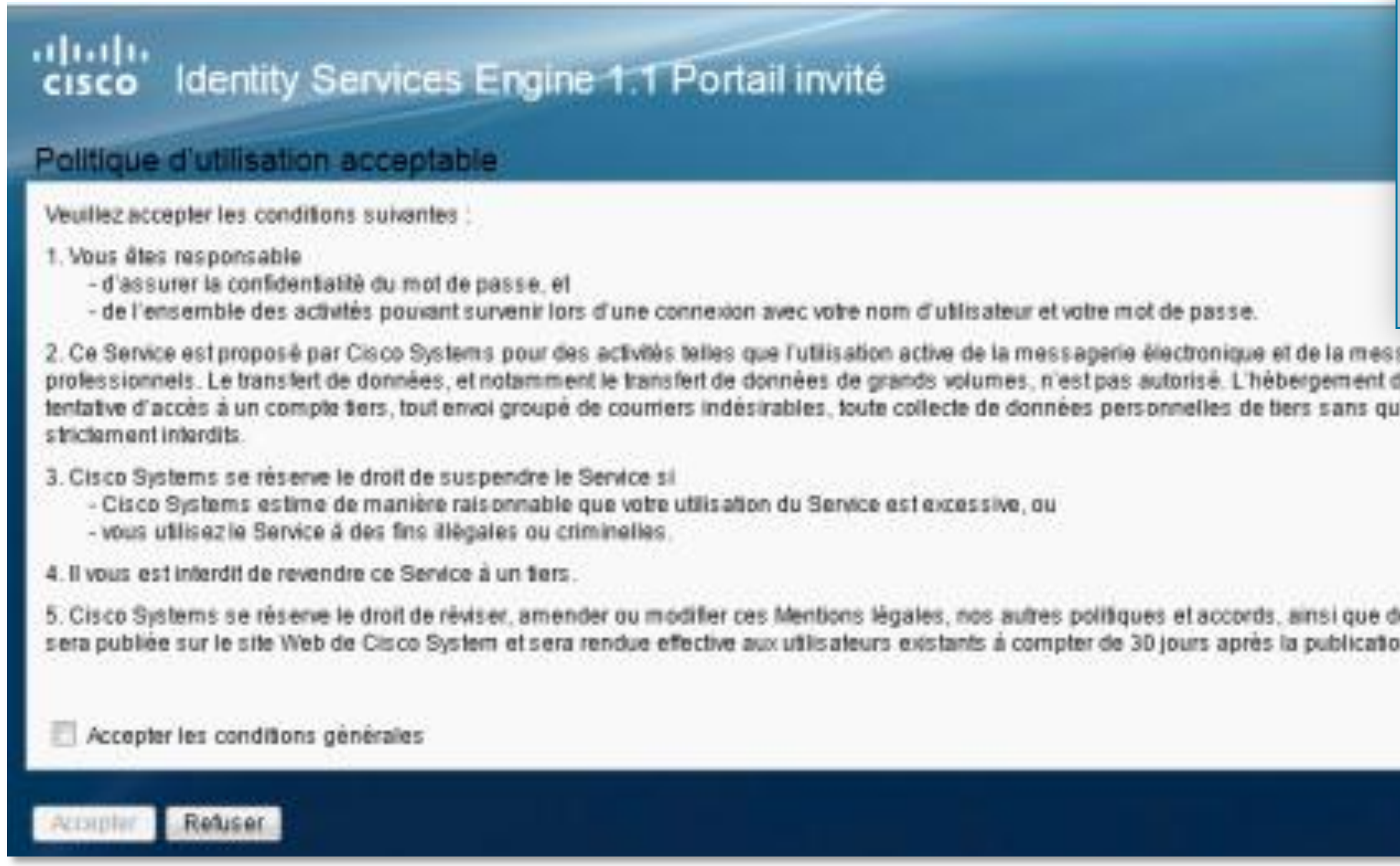
For Your Reference

- Several Languages are Supported Natively in ISE 1.1
- All guest user pages are translated:
  - Authentication page
  - Acceptable usage policy
  - Success/failure page
  - …



Guest Portal Language Templates

□	Language Template Name ▲	Description
□	ChineseSimplified	Guest Portal Language Template
□	ChineseTraditional	Guest Portal Language Template
□	English	English Guest Language Template
□	French	Guest Portal Language Template
□	German	Guest Portal Language Template
□	Italian	Guest Portal Language Template
□	Japanese	Guest Portal Language Template
□	Korean	Guest Portal Language Template
□	Portugue	
□	Russian	
□	Spanish	



Identity Services Engine 1.1 Portail invité

Politique d'utilisation acceptable

Veuillez accepter les conditions suivantes :

1. Vous êtes responsable
   - d'assurer la confidentialité du mot de passe, et
   - de l'ensemble des activités pouvant survenir lors d'une connexion avec votre nom d'utilisateur et votre mot de passe.

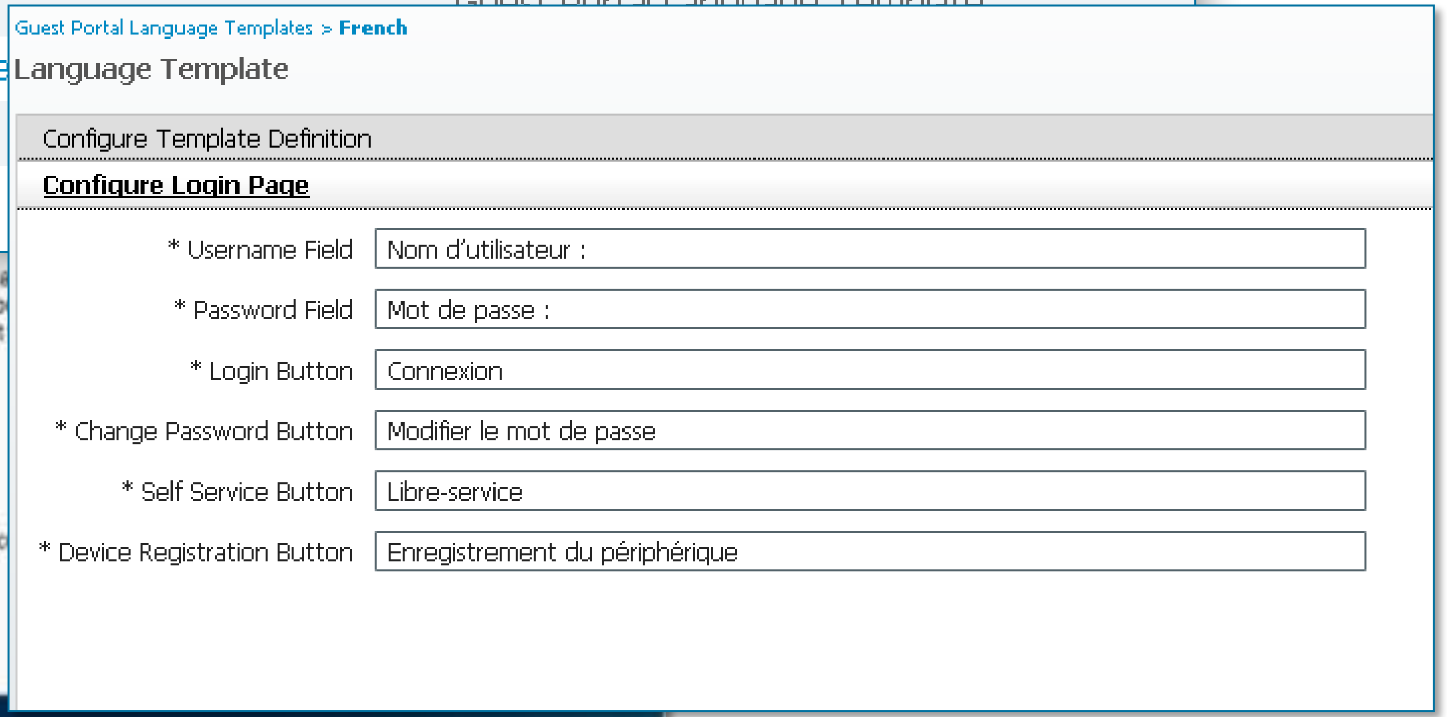
2. Ce Service est proposé par Cisco Systems pour des activités telles que l'utilisation active de la messagerie électronique et de la messagerie instantanée, la na professionnels. Le transfert de données, et notamment le transfert de données de grands volumes, n'est pas autorisé. L'hébergement d'un serveur Web ou de to tentative d'accès à un compte tiers, tout envoi groupé de courriers indésirables, toute collecte de données personnelles de tiers sans qu'ils en soient informés et strictement interdits.

3. Cisco Systems se réserve le droit de suspendre le Service si
   - Cisco Systems estime de manière raisonnable que votre utilisation du Service est excessive, ou
   - vous utilisez le Service à des fins illégales ou criminelles.

4. Il vous est interdit de revendre ce Service à un tiers.

5. Cisco Systems se réserve le droit de réviser, amender ou modifier ces Mentions légales, nos autres politiques et accords, ainsi que des éléments de ce Servic sera publiée sur le site Web de Cisco System et sera rendue effective aux utilisateurs existants à compter de 30 jours après la publication.

□ Accepter les conditions générales



Guest Portal Language Templates > French

Language Template

Configure Template Definition

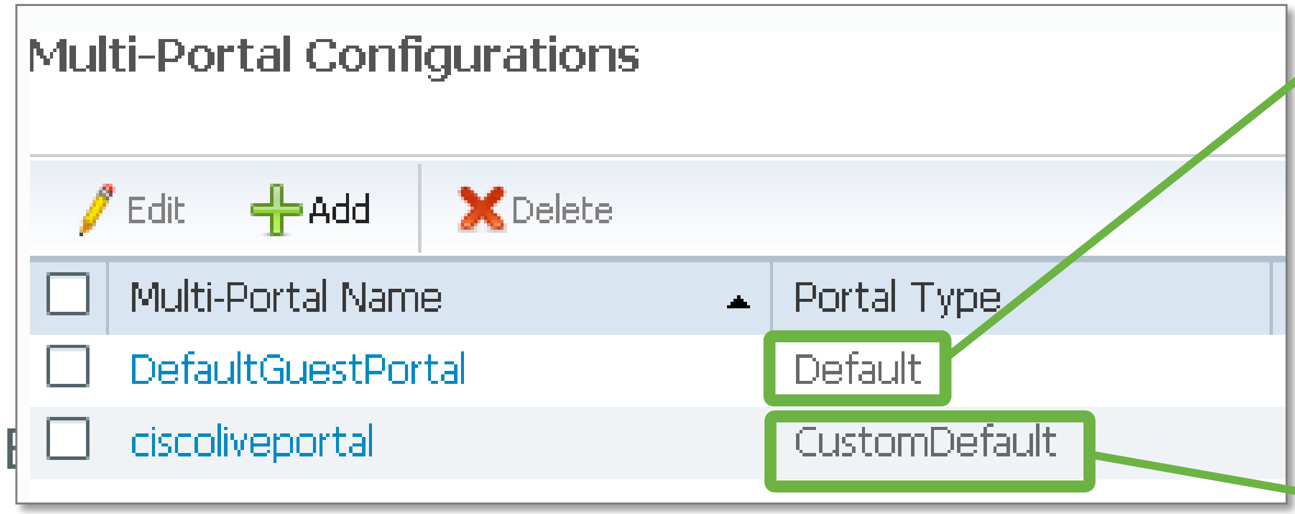
Configure Login Page

* Username Field	Nom d'utilisateur :
* Password Field	Mot de passe :
* Login Button	Connexion
* Change Password Button	Modifier le mot de passe
* Self Service Button	Libre-service
* Device Registration Button	Enregistrement du périphérique

Multiple Portals

Multiple portal might be needed based on:

- Location / country
- When several organizational entities merge
- Type of device: WLC, switches
- For local language support



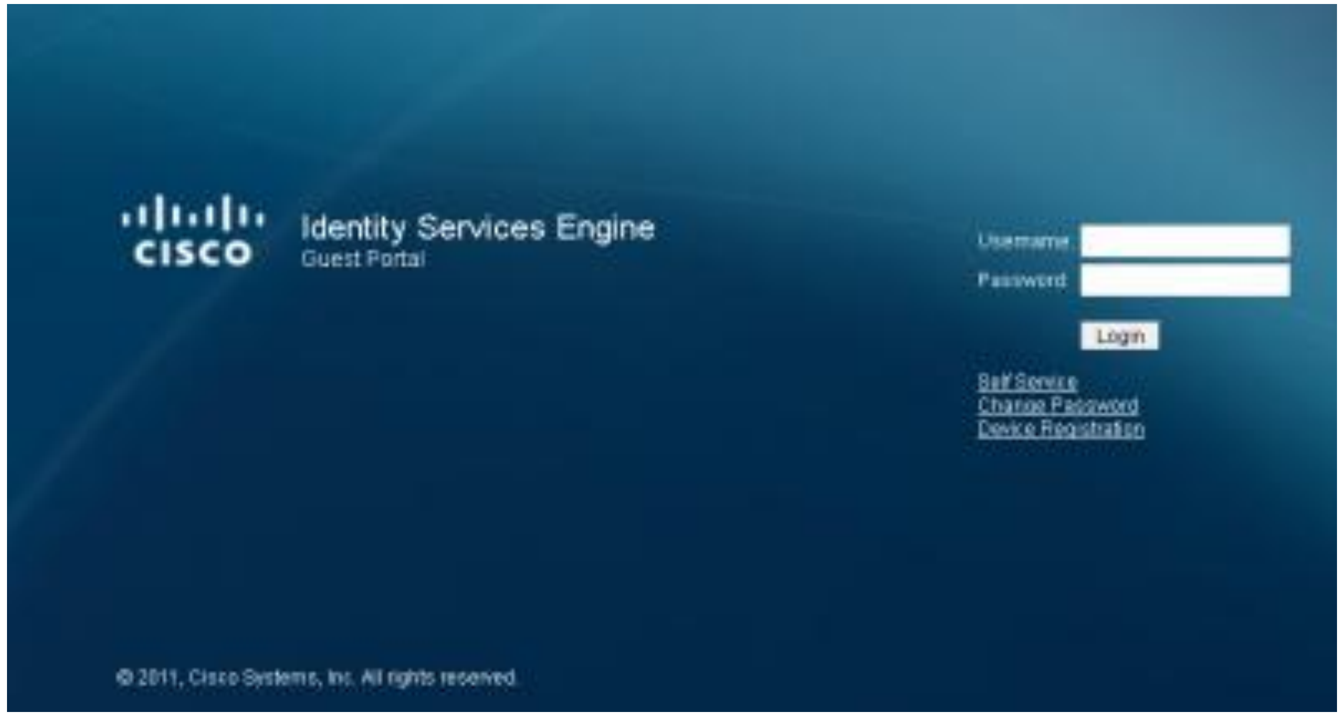
Multi-Portal Configurations

Edit Add Delete

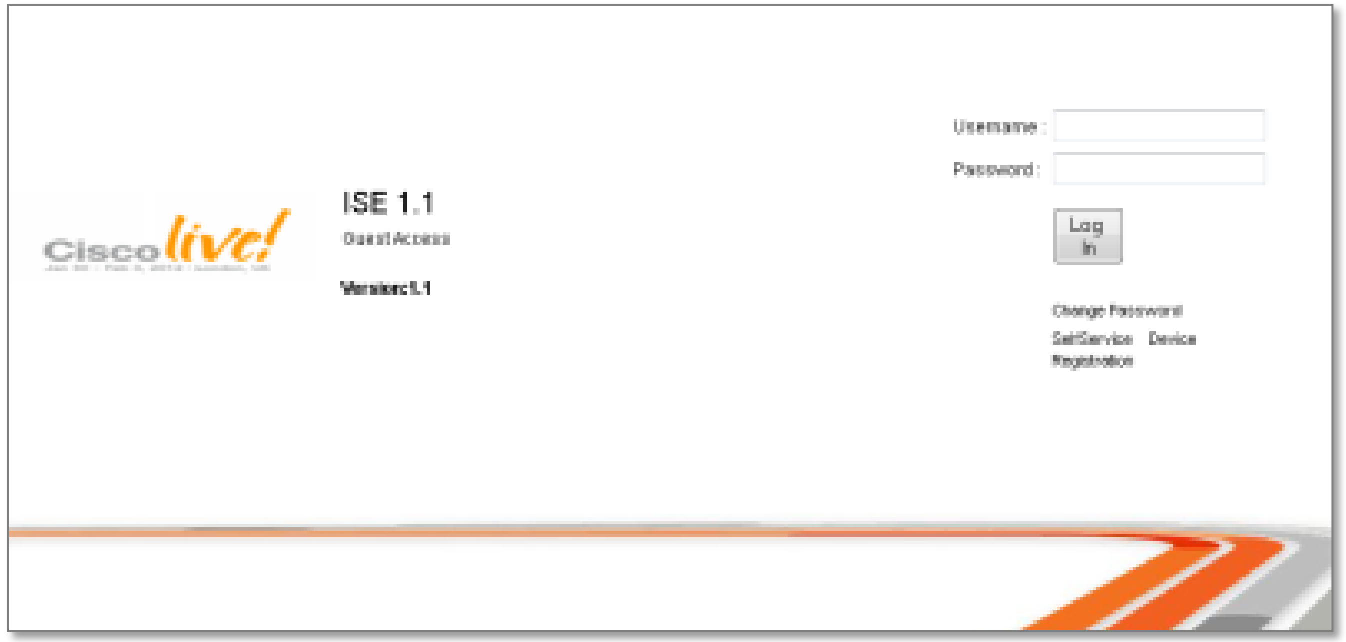
□	Multi-Portal Name	Portal Type
□	DefaultGuestPortal	Default
□	ciscoliveportal	CustomDefault

ISE

- Full portal customization or Default w/ selectable theme
- Simultaneous use of several portals for user and device registration



Default portal



Sample customized portal theme

Device Registration

For Your Reference

Device Registration Methods

How Do I Register and Manage MAC Addresses in the Identity Stores?

Admin driven

- External Data Stores:

  Populate external directory (AD / LDAP) with devices to be allowed via MAB or Group lookup.

- Internal Data Stores:

  Manual entry or file import of accounts into Internal DB via Admin UI: Simple method to add few entries or import large list of preconfigured accounts into ISE Internal Endpoint store. Allows specification of ID group for single entries, but requires admin to perform operation manually.

Self-Service (User driven)

  Device Registration Web Auth (DRW): Self-registration for current endpoint via special web portal. Does not require user credentials—only optional acceptance of AUP. MAC address of registering endpoint is entered into a predefined ID group. Once registered, access can be granted based on ID Group policy match.

  Web Auth Portal > Device Registration: If enabled for web portal, option allows guest user accounts to self-register a predefined number of endpoints by MAC address. Registration results in static population of Internal Endpoint store **without** a default ID group assignment. User requires valid credentials (as defined under portal config) to register devices.

  My Devices Portal: Employee portal for self-registration of personal devices by MAC Address with optional description up to a predefined number of endpoints. Static entry created in Internal Endpoint store with static ID group assignment to RegisteredDevices. Portal access is available via direct URL or Native Supplicant Provisioning (NSP) flow. Network Access User requires valid credentials as defined under My Devices portal configuration to register devices.

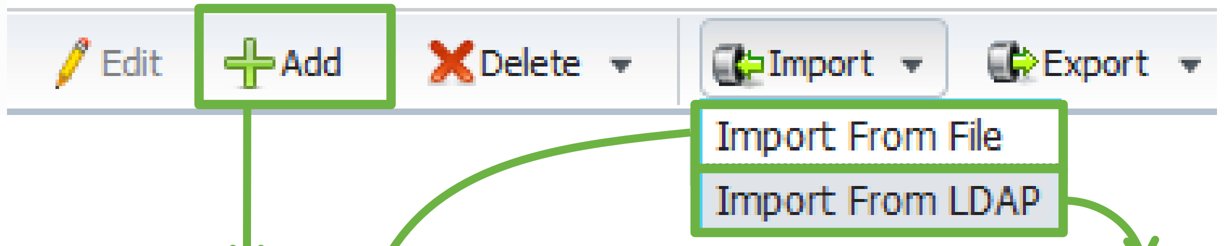
* Currently no API support for create/update/delete operations for ISE endpoints

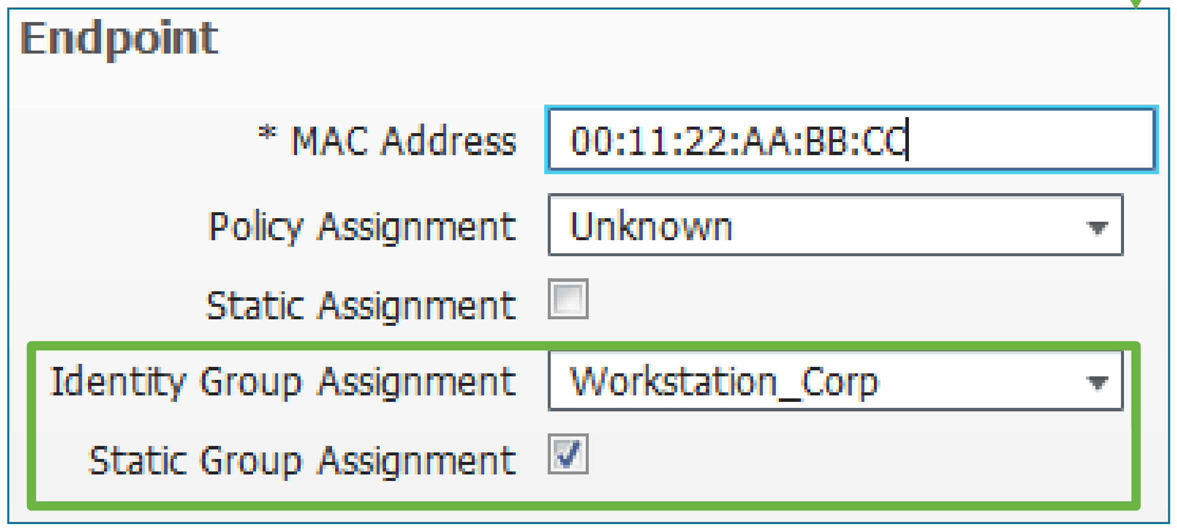
Manual MAC Add/Import via Admin UI

Admin Registration—Static ID Groups of Known/Trusted Corporate MAC Addresses

- Administration > Identity Management > Identities > Endpoints

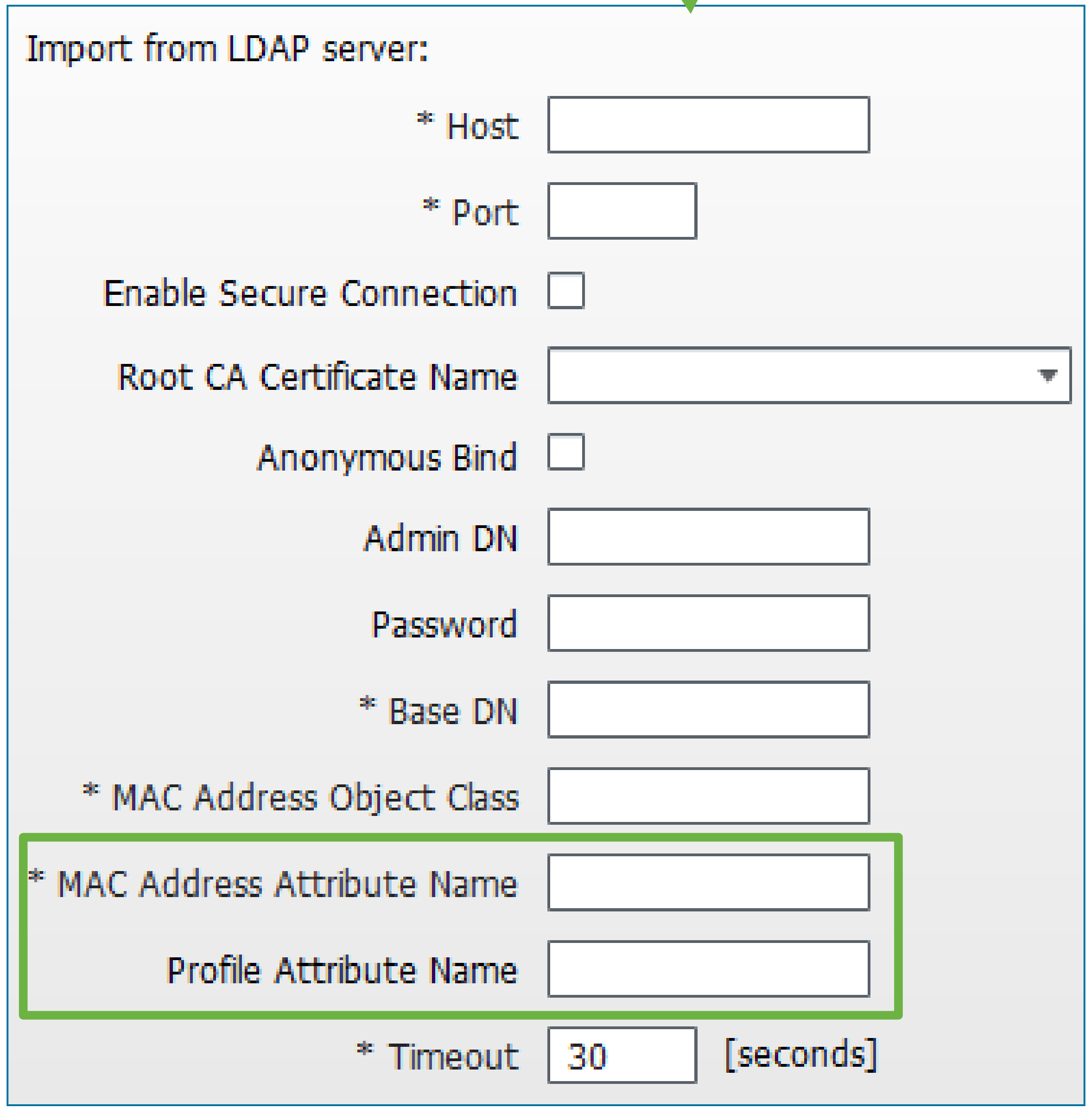
- Single device
  - Static Add
- Multiple devices
  - File Import
  - LDAP Import





Endpoint

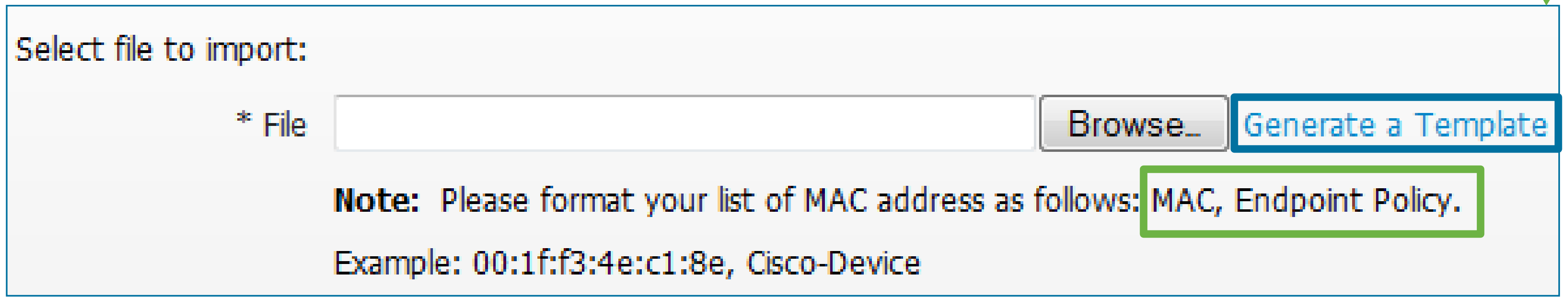
* MAC Address	00:11:22:AA:BB:CC
Policy Assignment	Unknown
Static Assignment	□
Identity Group Assignment	Workstation_Corp
Static Group Assignment	☑



Import from LDAP server:

* Host	
* Port	
Enable Secure Connection	□
Root CA Certificate Name	
Anonymous Bind	□
Admin DN	
Password	
* Base DN	
* MAC Address Object Class	
* MAC Address Attribute Name	
Profile Attribute Name	
* Timeout	30 [seconds]

Must create matching ID group under profile



Select file to import:

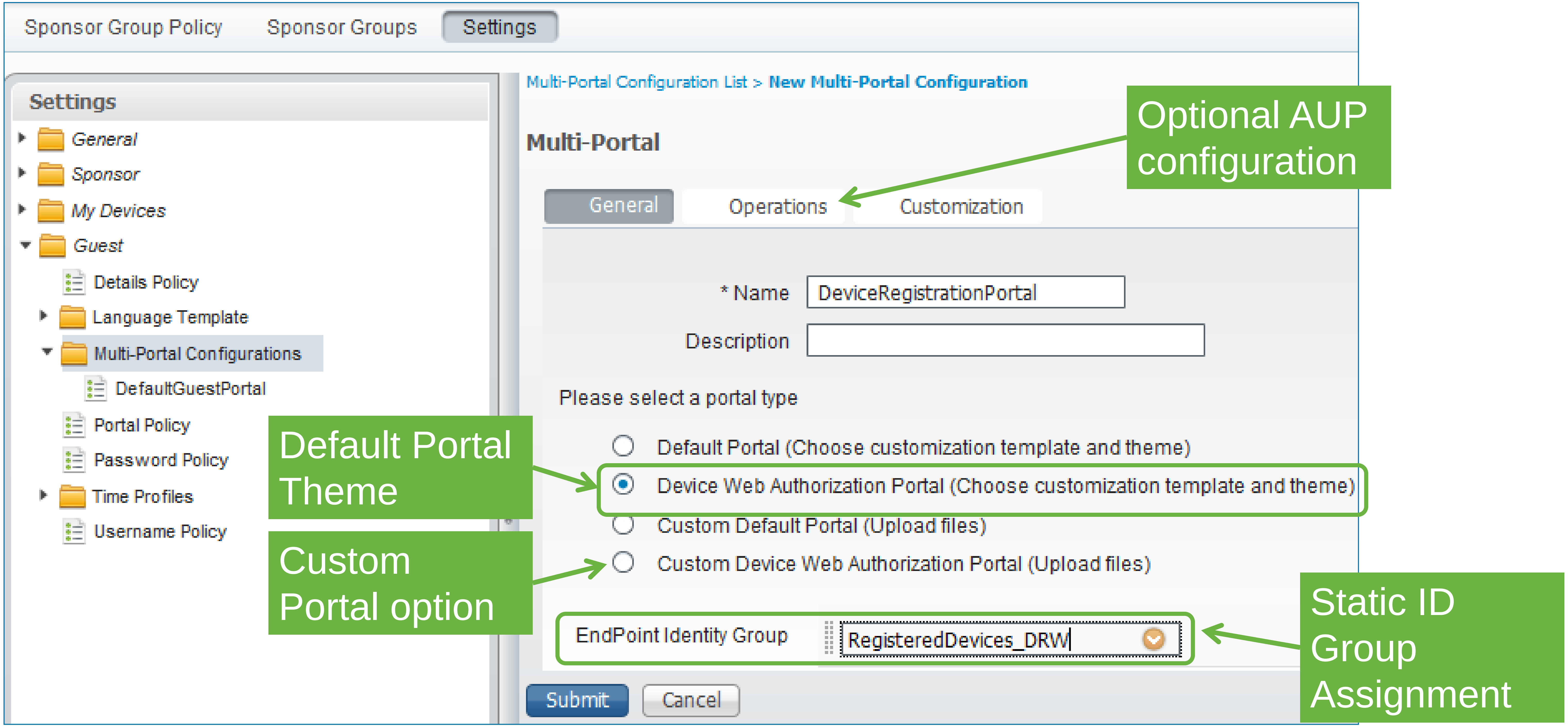
* File [ ] Browse… Generate a Template

Note: Please format your list of MAC address as follows: MAC, Endpoint Policy.

Example: 00:1f:f3:4e:c1:8e, Cisco-Device

Device Registration WebAuth (DRW)

One-Time Registration from Special Web Portal



Multi-Portal

* Name: DeviceRegistrationPortal

Description:

Please select a portal type

○ Default Portal (Choose customization template and theme)

● Device Web Authorization Portal (Choose customization template and theme)

○ Custom Default Portal (Upload files)

○ Custom Device Web Authorization Portal (Upload files)

EndPoint Identity Group: RegisteredDevices_DRW

Optional AUP configuration

Default Portal Theme

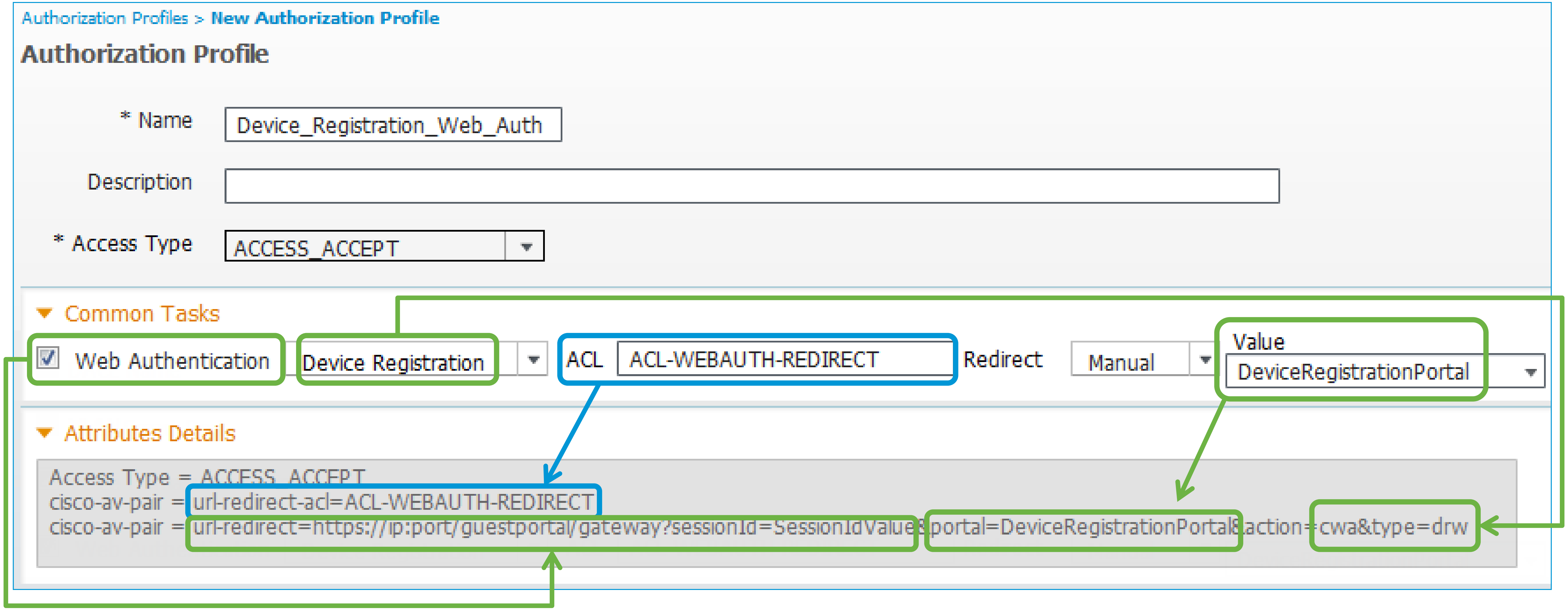
Custom Portal option

Static ID Group Assignment

Device Registration WebAuth

Sample Authorization Profile

- DRW configuration similar to CWA setup with URL Redirect and Redirect ACL



Authorization Profiles > **New Authorization Profile**

Authorization Profile

* Name: Device_Registration_Web_Auth

Description:

* Access Type: ACCESS_ACCEPT

Common Tasks

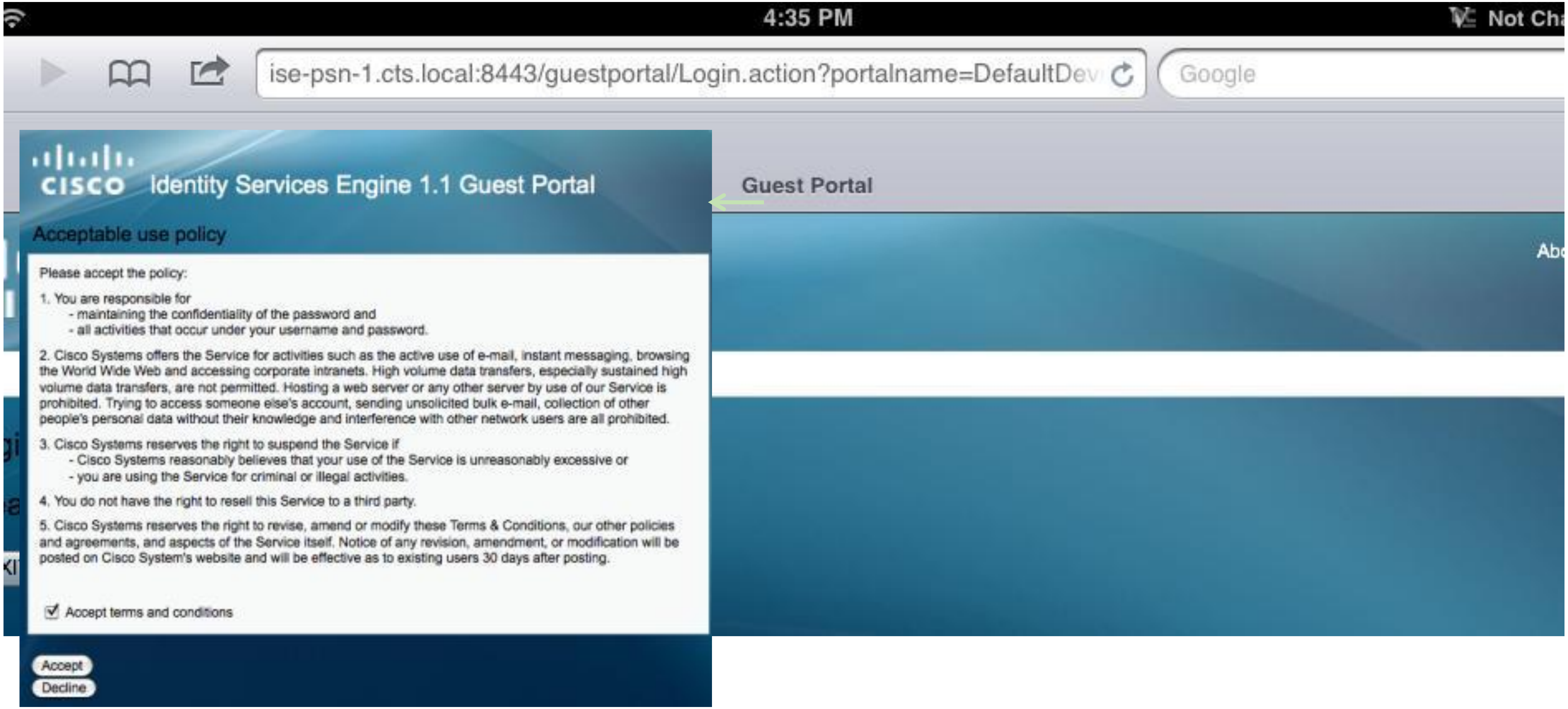
☑ Web Authentication | Device Registration | ACL: ACL-WEBAUTH-REDIRECT | Redirect: Manual | Value: DeviceRegistrationPortal

Attributes Details

```
Access Type = ACCESS_ACCEPT
cisco-av-pair = url-redirect-acl=ACL-WEBAUTH-REDIRECT
cisco-av-pair = url-redirect=https://ip:port/guestportal/gateway?sessionId=SessionIdValue&portal=DeviceRegistrationPortal&action=cwa&type=drw
```

Device Registration WebAuth

User Experience



4:35 PM
Not Cha
ise-psn-1.cts.local:8443/guestportal/Login.action?portalname=DefaultDev
Google
Identity Services Engine 1.1 Guest Portal
Guest Portal
Abo

Acceptable use policy

Please accept the policy:

1. You are responsible for
   - maintaining the confidentiality of the password and
   - all activities that occur under your username and password.

2. Cisco Systems offers the Service for activities such as the active use of e-mail, instant messaging, browsing the World Wide Web and accessing corporate intranets. High volume data transfers, especially sustained high volume data transfers, are not permitted. Hosting a web server or any other server by use of our Service is prohibited. Trying to access someone else's account, sending unsolicited bulk e-mail, collection of other people's personal data without their knowledge and interference with other network users are all prohibited.

3. Cisco Systems reserves the right to suspend the Service if
   - Cisco Systems reasonably believes that your use of the Service is unreasonably excessive or
   - you are using the Service for criminal or illegal activities.

4. You do not have the right to resell this Service to a third party.

5. Cisco Systems reserves the right to revise, amend or modify these Terms & Conditions, our other policies and agreements, and aspects of the Service itself. Notice of any revision, amendment, or modification will be posted on Cisco System's website and will be effective as to existing users 30 days after posting.

☑ Accept terms and conditions

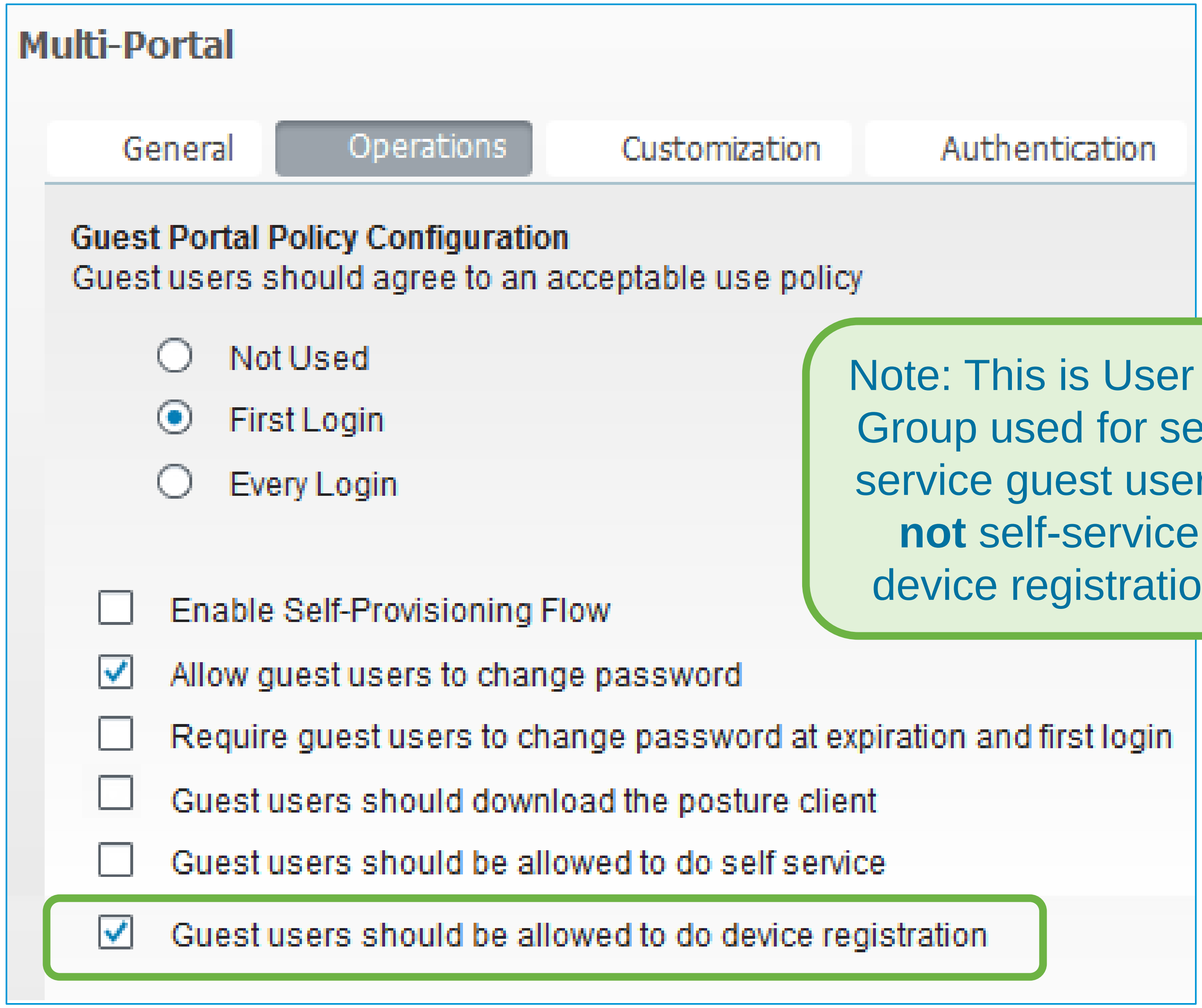
Accept

Decline

Guest Web Portal

Device Registration for Guest Users

Administration > Web Portal Management > Settings > Guest > Multi-Portal Configuration



Multi-Portal

Guest Portal Policy Configuration

Guest users should agree to an acceptable use policy

○ Not Used

● First Login

○ Every Login

□ Enable Self-Provisioning Flow

☑ Allow guest users to change password

□ Require guest users to change password at expiration and first login

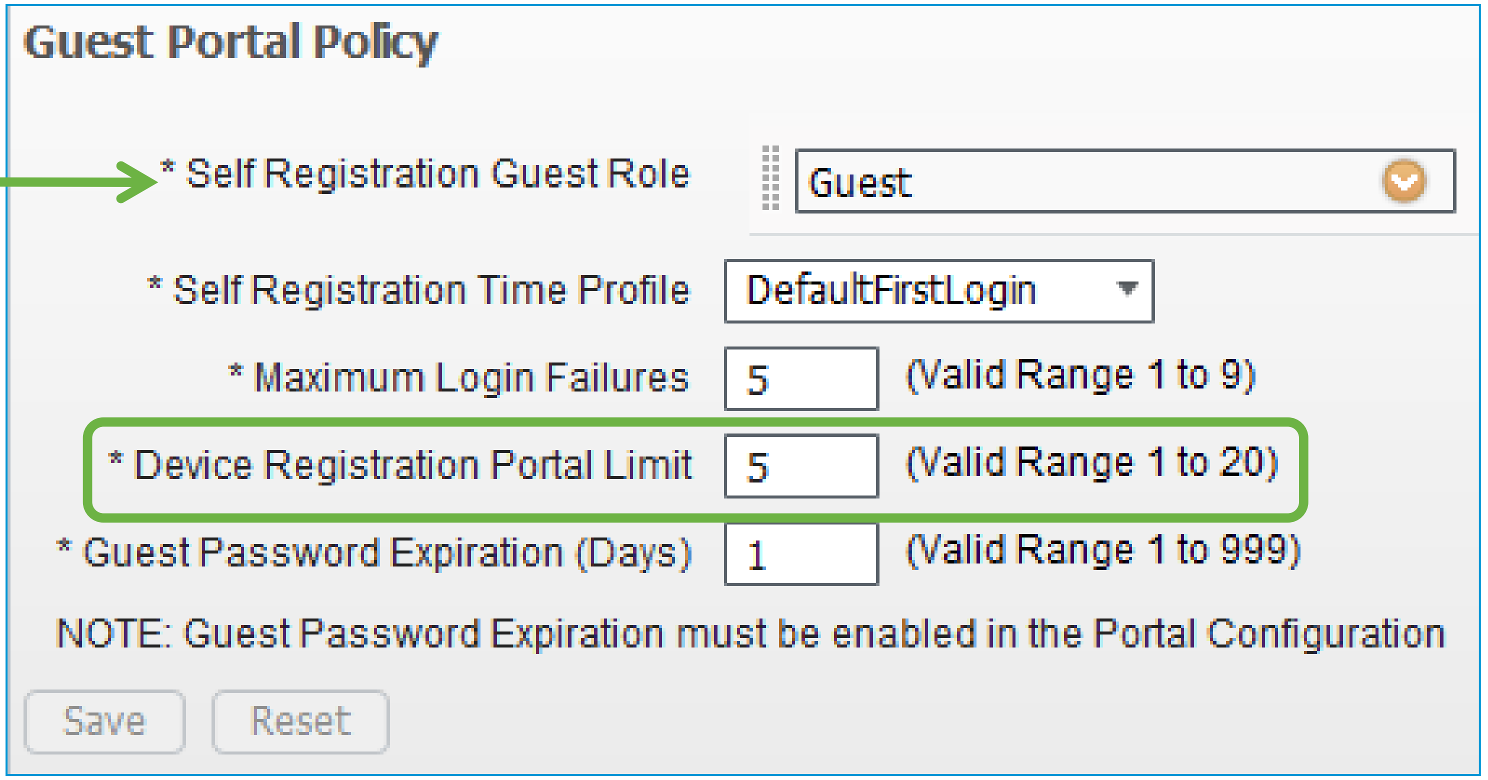
□ Guest users should download the posture client

□ Guest users should be allowed to do self service

☑ Guest users should be allowed to do device registration

Note: This is User ID Group used for self-service guest users, **not** self-service device registration

- Registered Devices are NOT assigned to an ID group by default.
- It is possible to use profiling with exception actions to statically assign ID group.*



Guest Portal Policy

* Self Registration Guest Role	Guest	
* Self Registration Time Profile	DefaultFirstLogin	
* Maximum Login Failures	5	(Valid Range 1 to 9)
* Device Registration Portal Limit	5	(Valid Range 1 to 20)
* Guest Password Expiration (Days)	1	(Valid Range 1 to 999)

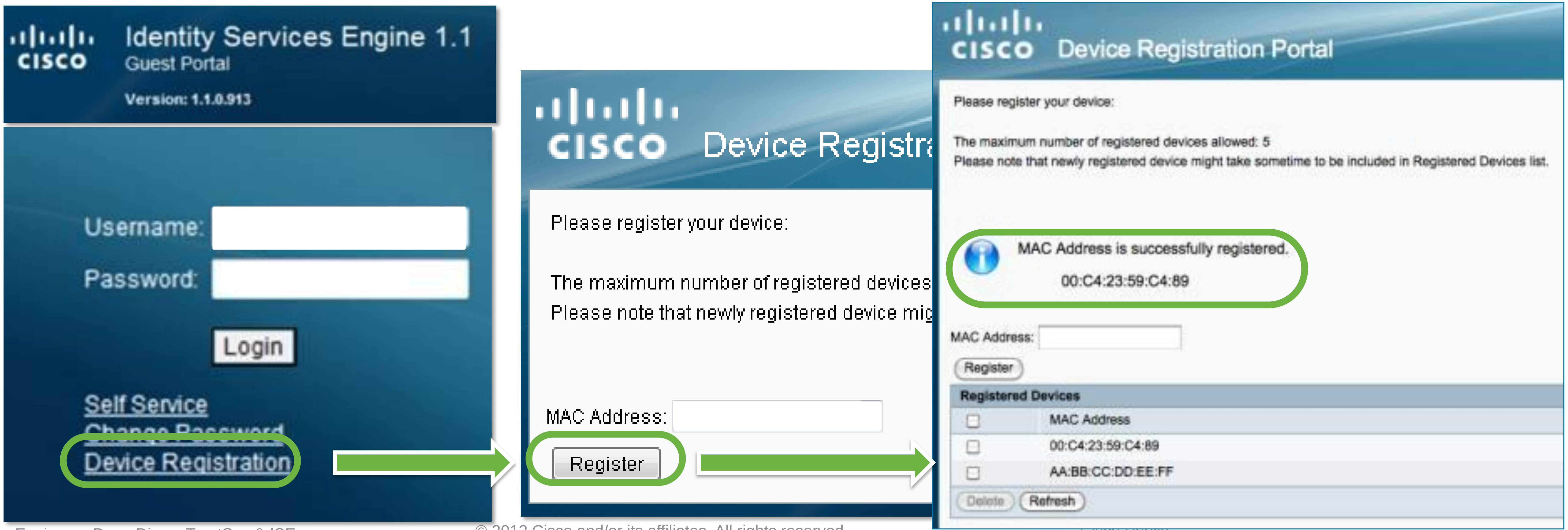
NOTE: Guest Password Expiration must be enabled in the Portal Configuration

*** ISE Device Registration and Policy Enforcement:** http://pmbuwiki.cisco.com/Products/ISE/Technical/Design-Config

Device Registration via Web Portal

Guest User Experience

- Portal allows users to register their own devices
- Access can be granted to guests, employees, students
- Accessible by clicking **Device Registration** from ISE web auth portal.



Please register your device:

The maximum number of registered devices

Please note that newly registered device mig

Please register your device:

The maximum number of registered devices allowed: 5

Please note that newly registered device might take sometime to be included in Registered Devices list.

MAC Address is successfully registered.

00:C4:23:59:C4:89

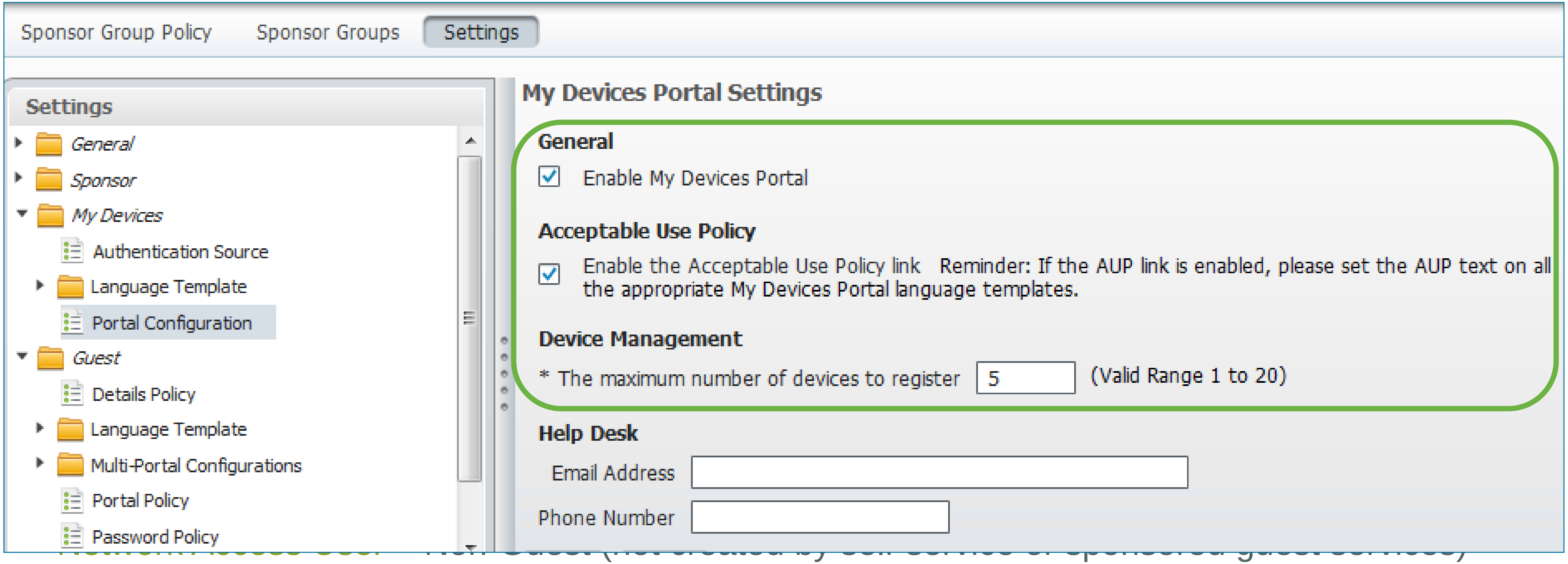
Registered Devices

	MAC Address
□	00:C4:23:59:C4:89
□	AA:BB:CC:DD:EE:FF

My Devices Portal

Device Registration for Network Access Users*

- Devices registered via MDP are statically assigned to RegisteredDevices endpoint ID group.



Settings

- General
- Sponsor
- My Devices
  - Authentication Source
  - Language Template
  - Portal Configuration
- Guest
  - Details Policy
  - Language Template
  - Multi-Portal Configurations
  - Portal Policy
  - Password Policy

My Devices Portal Settings

General

☑ Enable My Devices Portal

Acceptable Use Policy

☑ Enable the Acceptable Use Policy link Reminder: If the AUP link is enabled, please set the AUP text on all the appropriate My Devices Portal language templates.

Device Management

* The maximum number of devices to register 5 (Valid Range 1 to 20)

Help Desk

Email Address

Phone Number

*Network Access User – Non-Guest (not created by self-service or sponsored guest services)

My Devices Portal

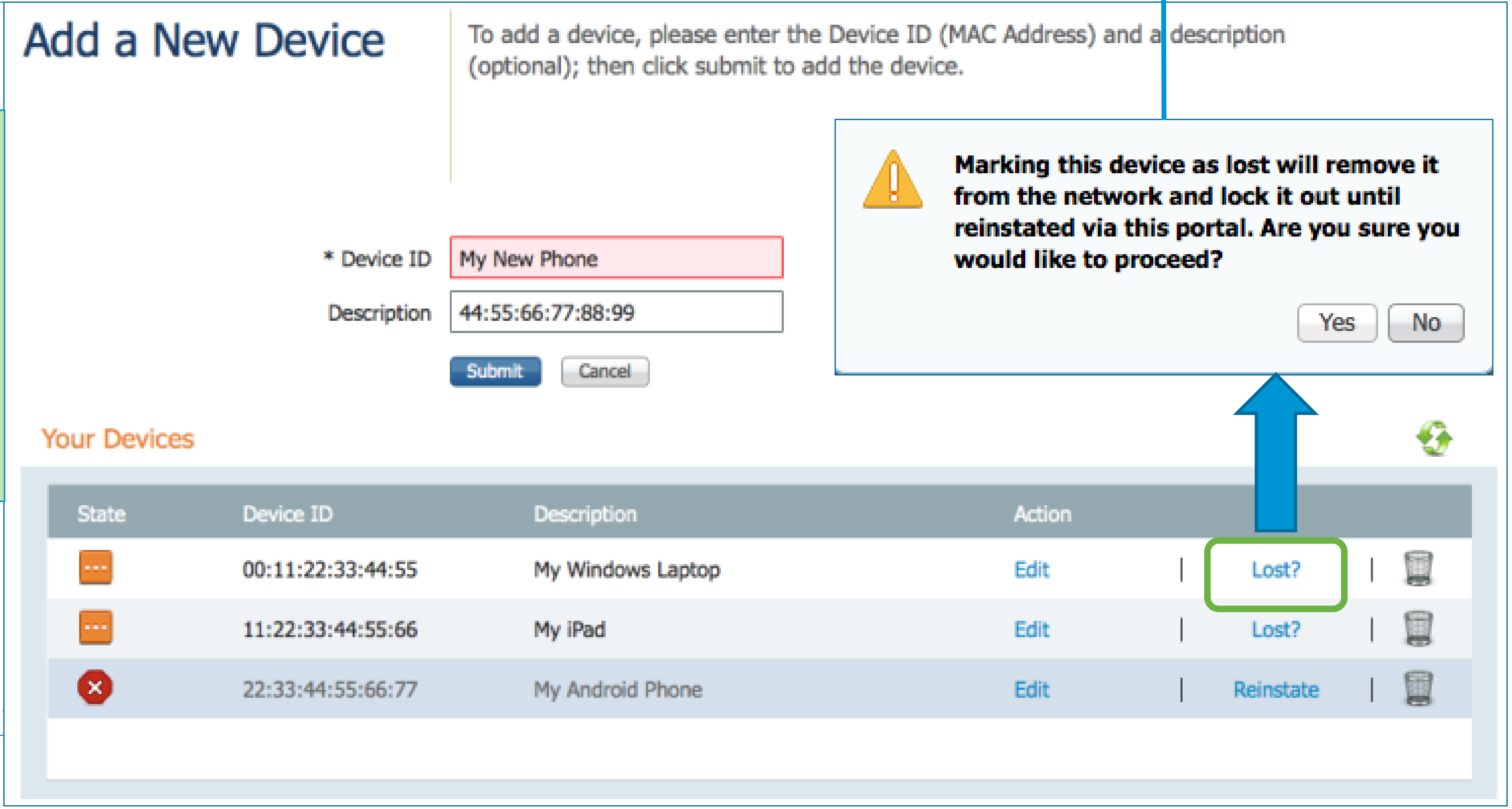
Network Access User Experience

Flagging a device as 'Lost' will at it to the Blacklist; CoA with Session Terminate action also sent.

- http://<PSN>:8443/mydevices (or use simplified URL)

My Devices Portal

- Optionally configure port TCP/443 for portal access.
- Portal not available to Guest user accounts.



Add a New Device

To add a device, please enter the Device ID (MAC Address) and a description (optional); then click submit to add the device.

* Device ID: My New Phone

Description: 44:55:66:77:88:99

Marking this device as lost will remove it from the network and lock it out until reinstated via this portal. Are you sure you would like to proceed?

Your Devices

State	Device ID	Description	Action		
⋯	00:11:22:33:44:55	My Windows Laptop	Edit	Lost?	🗑
⋯	11:22:33:44:55:66	My iPad	Edit	Lost?	🗑
✕	22:33:44:55:66:77	My Android Phone	Edit	Reinstate	🗑

Device Registration Methods

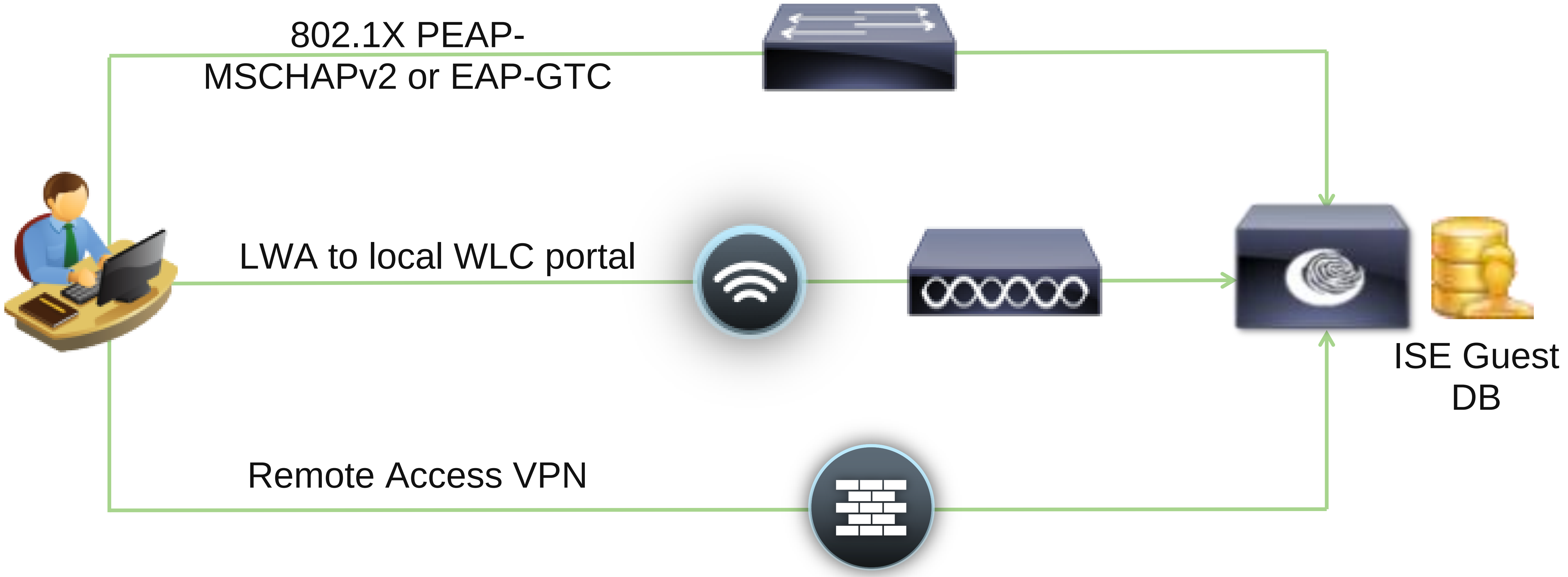
Comparison Summary Table

Device Registration Method	ID Group Assigned	Device Limit	Created By	De-Registration Method	Target Endpoints
Manual Update of Endpoint Database	Yes. Configurable per endpoint.	100k	Administrator (requires authentication to ISE Admin UI)	Administrator must manually change ID Group/Policy assignment or delete entry in endpoint database.	Administratively-defined endpoints—bulk import options supported
Device Registration WebAuth (DRW)	Yes. Configurable by DRW portal.	100k	Any endpoint with DRW portal access (no authentication required)		Self-Service – Access without requiring any auth credentials.
WebAuth Portal	No	Up to 20. (Global setting)	Guest or Network Access User authenticated via web portal		Self-Service – Guest / WebAuth users
My Devices Portal (MDP)	Yes. Static assignment to RegisteredDevices	Up to 20. (Global setting)	Network Access User authenticated using MDP or via Native Supplicant Provisioning flow (for example, user authenticated via CWA or 802.1X PEAP)	Network Access User can remove device from Registered Devices list via MDP, but Administrator must manually delete entry in endpoint database to permanently remove.	Self-Service – Network Access (non-Guest) users

Pre-Activated Guests

Authenticating Sponsored Guests w/o Web Auth

- 802.1X users with EAP based on username/password
- LWA users that authenticate against non-ISE portal
- Remote Access VPN clients unable to login using ISE Sponsored Guest accounts.



Authentication failed : **24206** User disabled

Sponsored Guest Authentication via 802.1X

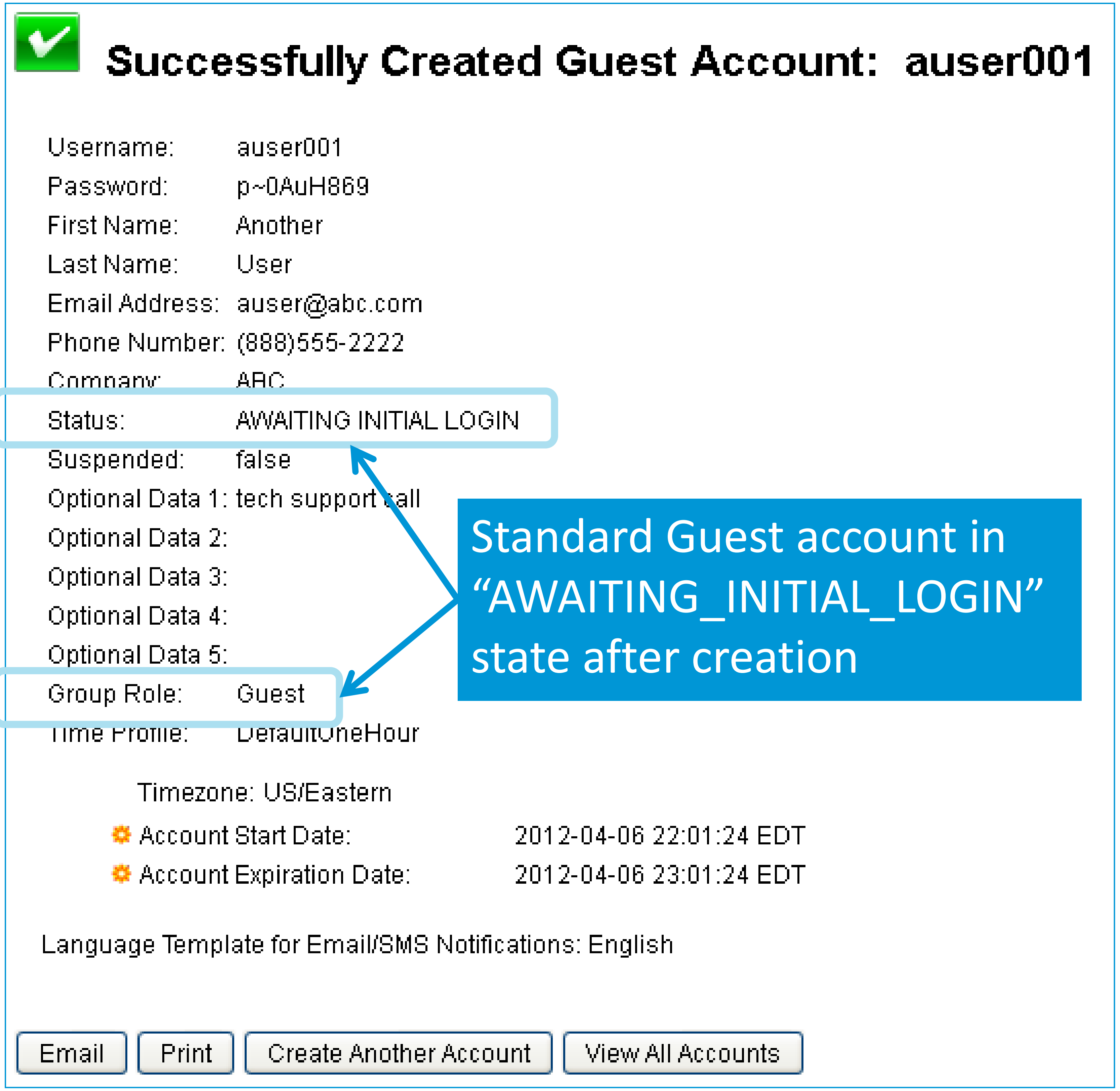
Problem Statement

- Auth methods **not** based on an initial web auth to ISE portal such as 802.1X, VPN, or LWA using local portal fail.

  Authentication failed : **24206** User disabled

- Reason: Sponsored guest accounts require activation via ISE web portal

- Web auth to ISE portal supports compliance with any AUP and password change policy that may be configured.



Successfully Created Guest Account: auser001

Username:	auser001
Password:	p~0AuH869
First Name:	Another
Last Name:	User
Email Address:	auser@abc.com
Phone Number:	(888)555-2222
Company:	ABC
Status:	AWAITING INITIAL LOGIN
Suspended:	false
Optional Data 1:	tech support call
Optional Data 2:	
Optional Data 3:	
Optional Data 4:	
Optional Data 5:	
Group Role:	Guest
Time Profile:	DefaultOneHour

Timezone: US/Eastern

Account Start Date:	2012-04-06 22:01:24 EDT
Account Expiration Date:	2012-04-06 23:01:24 EDT

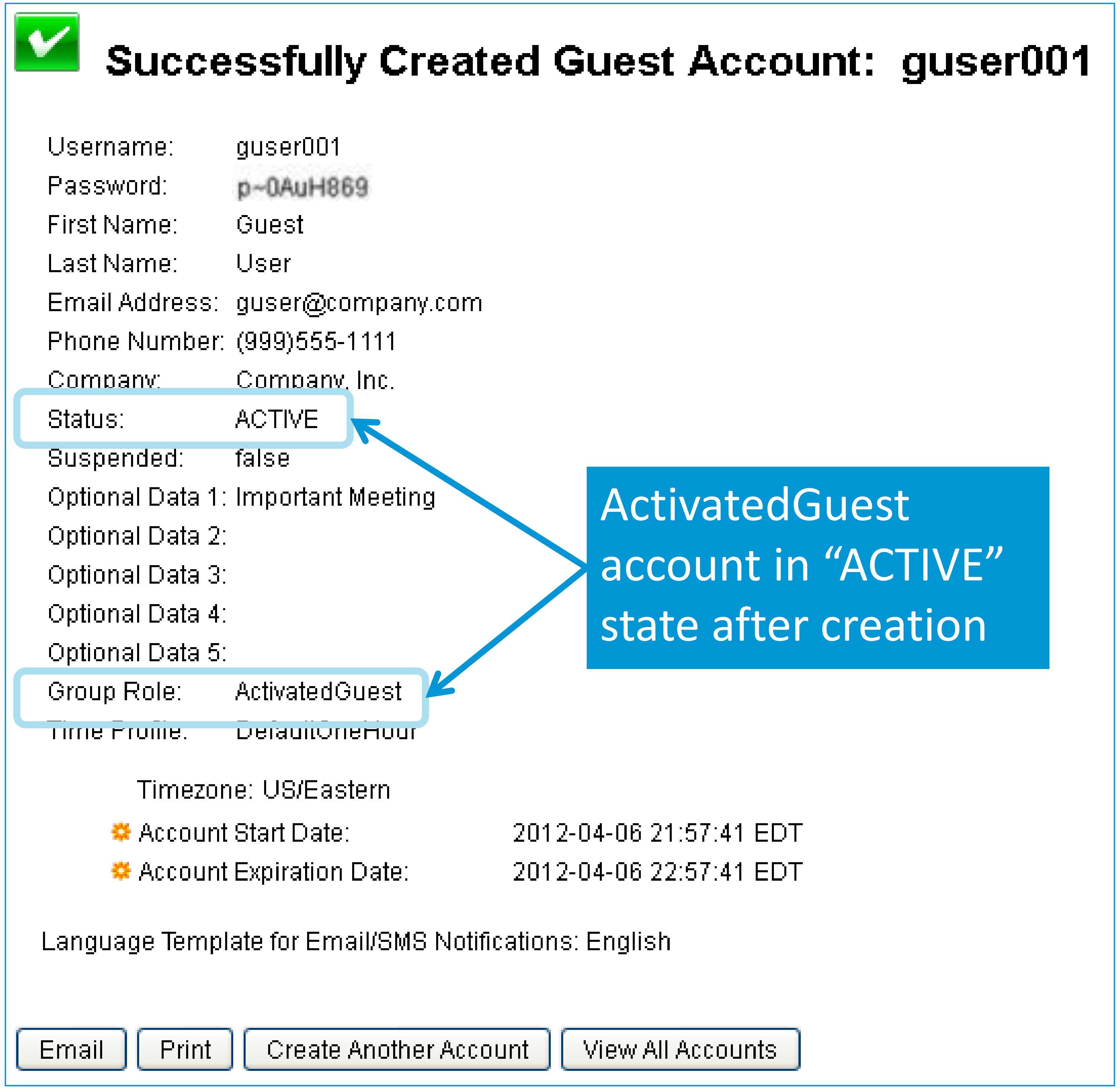
Language Template for Email/SMS Notifications: English

Standard Guest account in “AWAITING_INITIAL_LOGIN” state after creation

Immediate Guest Account Activation

Solution

- Pre-Activated Guest Accounts
- Assigning Guest users to the special ActivatedGuest Identity Group allows immediate activation of those accounts.
- Sponsor Group must be assigned privilege to create guests using this ID group.
- AUP and Change Password policies cannot be enforced with pre-activated guest accounts.



Successfully Created Guest Account: guser001

Username:	guser001
Password:	p~0AuH869
First Name:	Guest
Last Name:	User
Email Address:	guser@company.com
Phone Number:	(999)555-1111
Company:	Company, Inc.
Status:	ACTIVE
Suspended:	false
Optional Data 1:	Important Meeting
Optional Data 2:	
Optional Data 3:	
Optional Data 4:	
Optional Data 5:	
Group Role:	ActivatedGuest
Time Profile:	DefaultOneHour

Timezone: US/Eastern

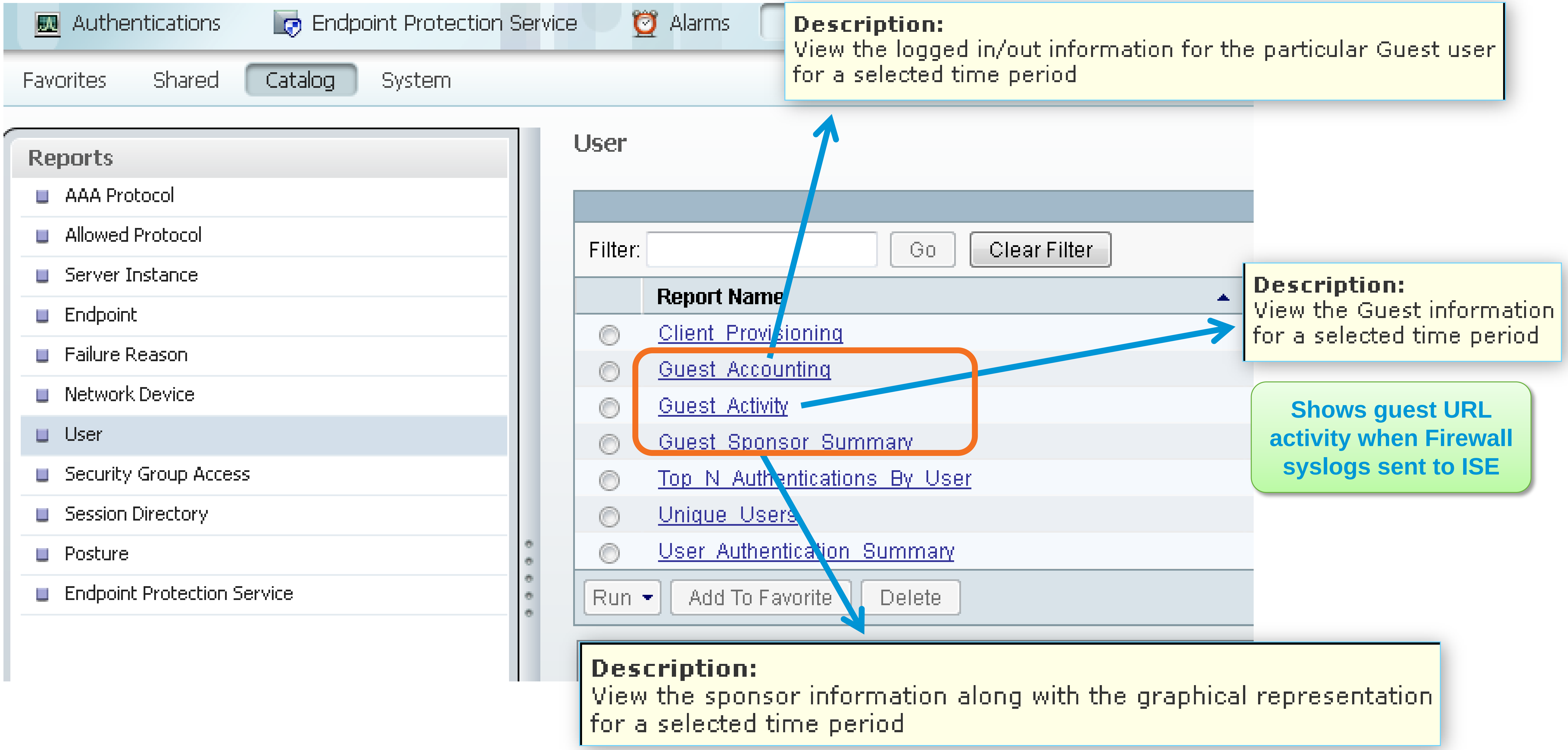
Account Start Date:	2012-04-06 21:57:41 EDT
Account Expiration Date:	2012-04-06 22:57:41 EDT

Language Template for Email/SMS Notifications: English

ActivatedGuest account in "ACTIVE" state after creation

Monitoring Guests

Specific Guest Reports



User

	Report Name
○	Client_Provisioning
○	Guest_Accounting
○	Guest_Activity
○	Guest_Sponsor_Summary
○	Top_N_Authentications_By_User
○	Unique_Users
○	User_Authentication_Summary

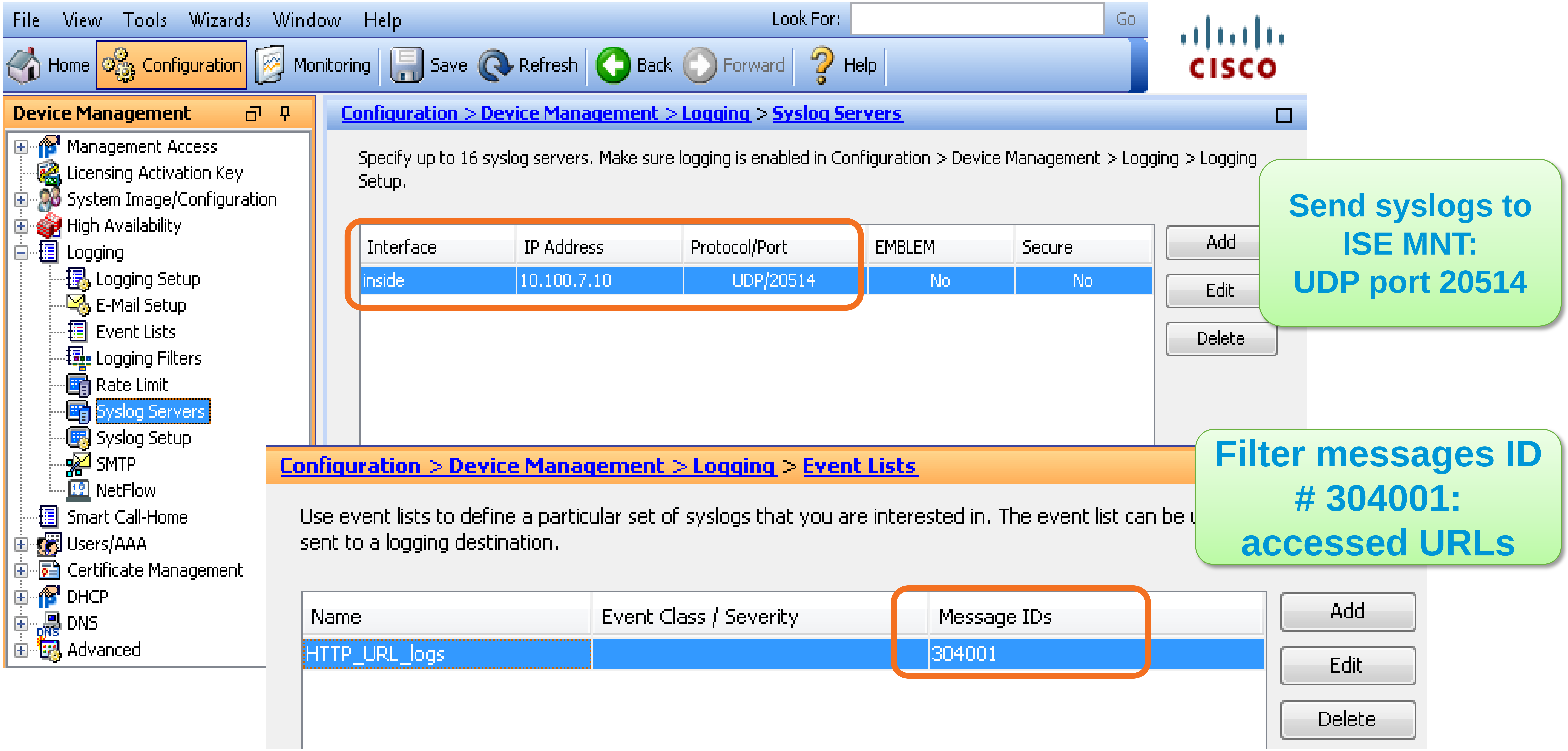
Description:
View the logged in/out information for the particular Guest user for a selected time period

Description:
View the Guest information for a selected time period

Shows guest URL activity when Firewall syslogs sent to ISE

Description:
View the sponsor information along with the graphical representation for a selected time period

Configure ASA to Send HTTP Syslogs to ISE (1/2)



Configuration > Device Management > Logging > Syslog Servers

Specify up to 16 syslog servers. Make sure logging is enabled in Configuration > Device Management > Logging > Logging Setup.

Interface	IP Address	Protocol/Port	EMBLEM	Secure
inside	10.100.7.10	UDP/20514	No	No

Configuration > Device Management > Logging > Event Lists

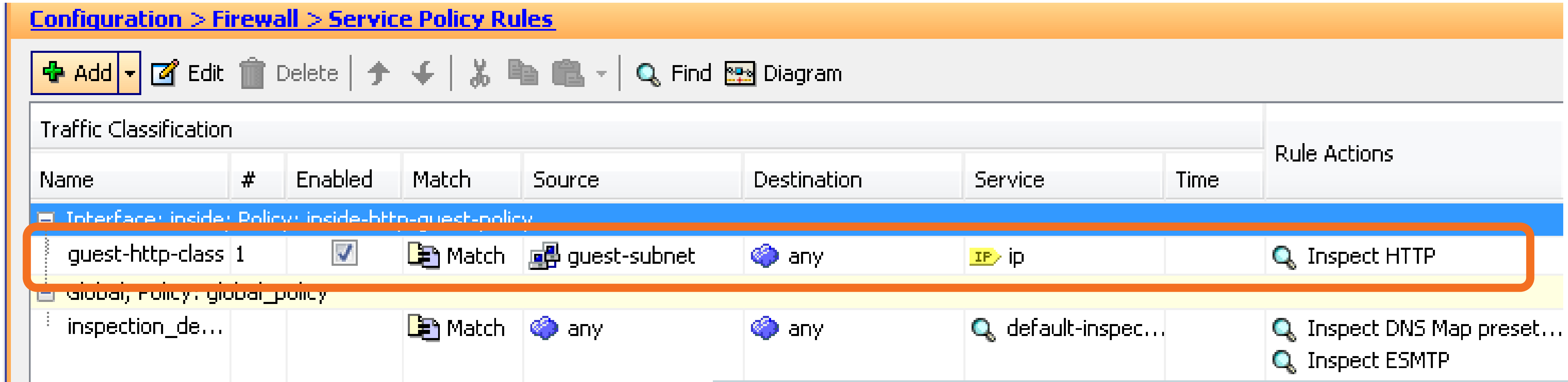
Use event lists to define a particular set of syslogs that you are interested in. The event list can be u sent to a logging destination.

Name	Event Class / Severity	Message IDs
HTTP_URL_logs		304001

Send syslogs to ISE MNT: UDP port 20514

Filter messages ID # 304001: accessed URLs

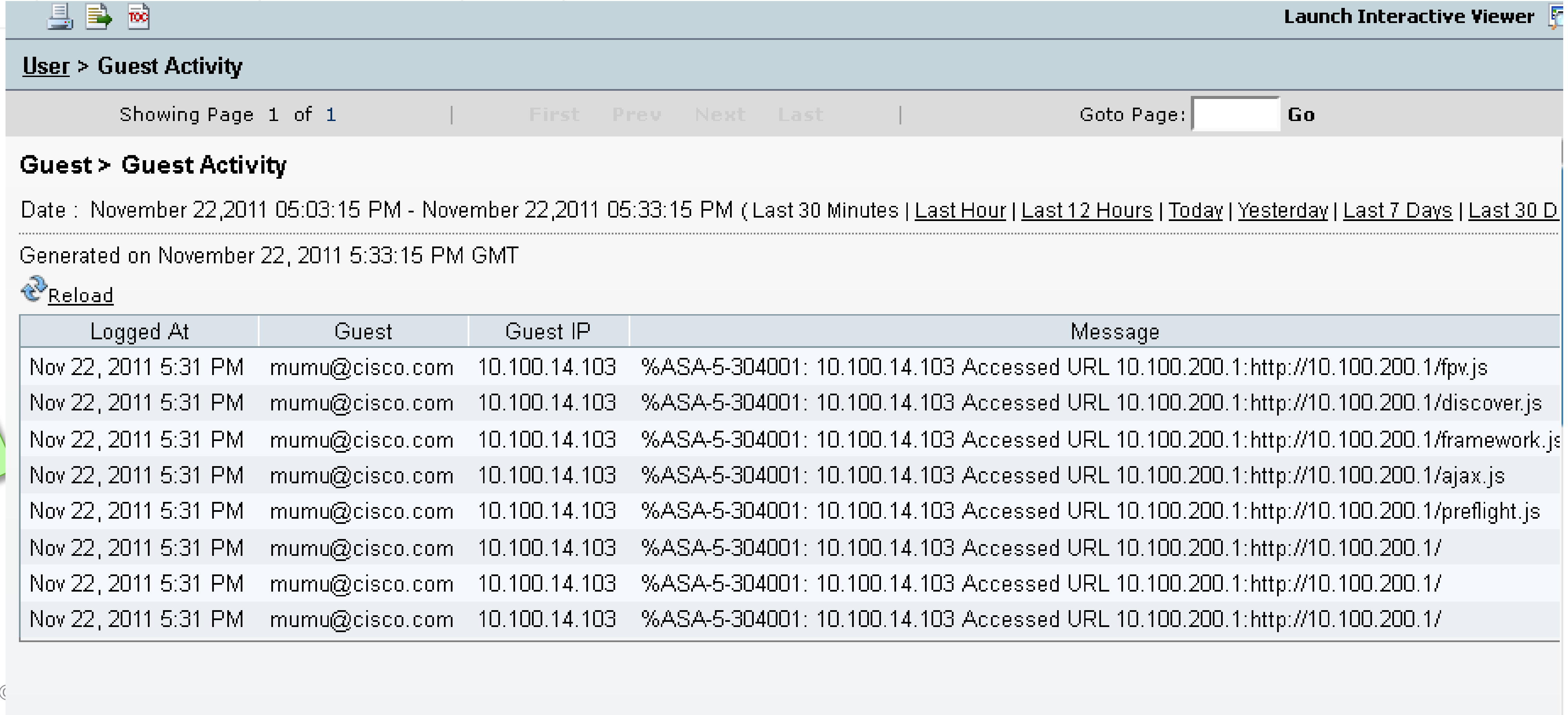
Configure ASA to Send HTTP Syslogs to ISE (2/2)



Configuration > Firewall > Service Policy Rules

Traffic Classification								Rule Actions
Name	#	Enabled	Match	Source	Destination	Service	Time	
Interface: inside; Policy: inside-http-guest-policy								
guest-http-class	1	☑	Match	guest-subnet	any	ip		Inspect HTTP
Global; Policy: global_policy								
inspection_de...			Match	any	any	default-inspec...		Inspect DNS Map preset... Inspect ESMTP

Create Service Policy in ASA to inspect HTTP traffic for guest subnet



User > Guest Activity

Showing Page 1 of 1 | First Prev Next Last | Goto Page: Go

Guest > Guest Activity

Date : November 22,2011 05:03:15 PM - November 22,2011 05:33:15 PM (Last 30 Minutes | Last Hour | Last 12 Hours | Today | Yesterday | Last 7 Days | Last 30 D

Generated on November 22, 2011 5:33:15 PM GMT

Reload

Logged At	Guest	Guest IP	Message
Nov 22, 2011 5:31 PM	mumu@cisco.com	10.100.14.103	%ASA-5-304001: 10.100.14.103 Accessed URL 10.100.200.1:http://10.100.200.1/fpv.js
Nov 22, 2011 5:31 PM	mumu@cisco.com	10.100.14.103	%ASA-5-304001: 10.100.14.103 Accessed URL 10.100.200.1:http://10.100.200.1/discover.js
Nov 22, 2011 5:31 PM	mumu@cisco.com	10.100.14.103	%ASA-5-304001: 10.100.14.103 Accessed URL 10.100.200.1:http://10.100.200.1/framework.js
Nov 22, 2011 5:31 PM	mumu@cisco.com	10.100.14.103	%ASA-5-304001: 10.100.14.103 Accessed URL 10.100.200.1:http://10.100.200.1/ajax.js
Nov 22, 2011 5:31 PM	mumu@cisco.com	10.100.14.103	%ASA-5-304001: 10.100.14.103 Accessed URL 10.100.200.1:http://10.100.200.1/preflight.js
Nov 22, 2011 5:31 PM	mumu@cisco.com	10.100.14.103	%ASA-5-304001: 10.100.14.103 Accessed URL 10.100.200.1:http://10.100.200.1/
Nov 22, 2011 5:31 PM	mumu@cisco.com	10.100.14.103	%ASA-5-304001: 10.100.14.103 Accessed URL 10.100.200.1:http://10.100.200.1/
Nov 22, 2011 5:31 PM	mumu@cisco.com	10.100.14.103	%ASA-5-304001: 10.100.14.103 Accessed URL 10.100.200.1:http://10.100.200.1/

ISE shows accessed URLs in reports

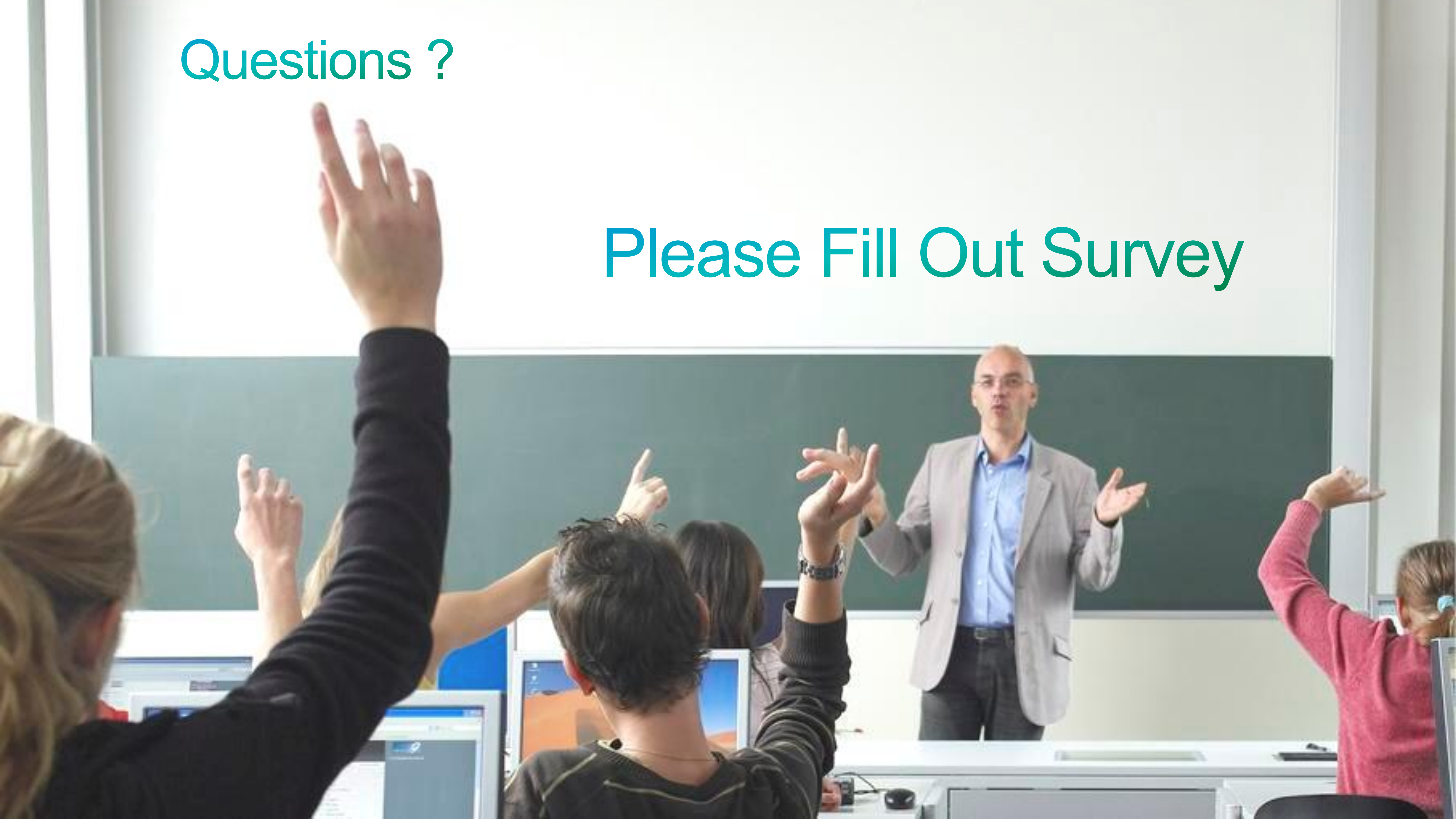
Support Resources

- ISE Product - http://www.cisco.com/go/ise
- TrustSec - http://www.cisco.com/go/trustsec
- ISE 1.1.1 Demos

  https://communities.cisco.com/community/partner/borderlessnetworks/security?view=video
- dCloud BYOD Hosted Demos – http://www.cisco.com/go/byoddemo
- Free NFR Lab Software for Partners (1.1.1 Available)

  Cisco Marketplace - $35 VMware image, perpetual license, 20 endpoints
  http://cisco.mediuscorp.com/ise
- PDI Helpdesk - Webpage: http://www.cisco.com/go/pdihelpdesk
- Program-related questions: pdihd-bn@cisco.com
- **Your Cisco PDM and CSE**

Questions ?



Please Fill Out Survey

Cisco ISE ATP Resources

- ISE ATP Portal: http://ciscosecurityatp.com/
- Cisco Partner ISE Resources: http://cisco.com/go/isepartner
- ISE ATP HLD Webinar: https://communities.cisco.com/docs/DOC-27689
- ISE HLD Help Alias (US): ise_hld_help@cisco.com
- ATP requirements and guidelines for ISE:
  http://www.cisco.com/web/partners/partner_with_cisco/channel_partner_program/resale/atp/ise.html
- Sales Acceleration Center (SAC) for HLD submissions: sac-support@cisco.com
- SAMPG Partner Team:
  Sheila Rone srone@cisco.com
  Phuong Nguyen pvnguyen@cisco.com

Additional Training

- ISE Security Basics - https://communities.cisco.com/docs/DOC-30718
- ISE Best Practices VoD - Security Express - Replays and Presentations https://communities.cisco.com/docs/DOC-18350
- 802.1X Training on PEC

  http://tools.cisco.com/pecx/login?URL=searchOffering%3FcourseId=00028869

  http://tools.cisco.com/pecx/login?URL=searchOffering%3FcourseId=00028870

  http://tools.cisco.com/pecx/login?URL=searchOffering%3FcourseId=00028851
- Team MIDAS Wireless ISE and BYOD classes

  Tech Sessions: http://cisco.cvent.com/d/ccqs4s

  Hands-On Lab Sessions: http://cisco.cvent.com/d/kcqs43

  Lab Guide: https://communities.cisco.com/docs/DOC-30944