Troubleshoot Common ISE Guest Access Issues

Contents

Introduction

This document describes how to troubleshoot common guest issues in the deployment, how to isolate and check the issue, and simple workarounds to try.

Prerequisite

Requirements

Cisco recommends that you have knowledge of these topics:

- ISE guest configuration
- CoA configuration on Network Access Devices(NAD)
- Capture tools on workstations are required.

Components used

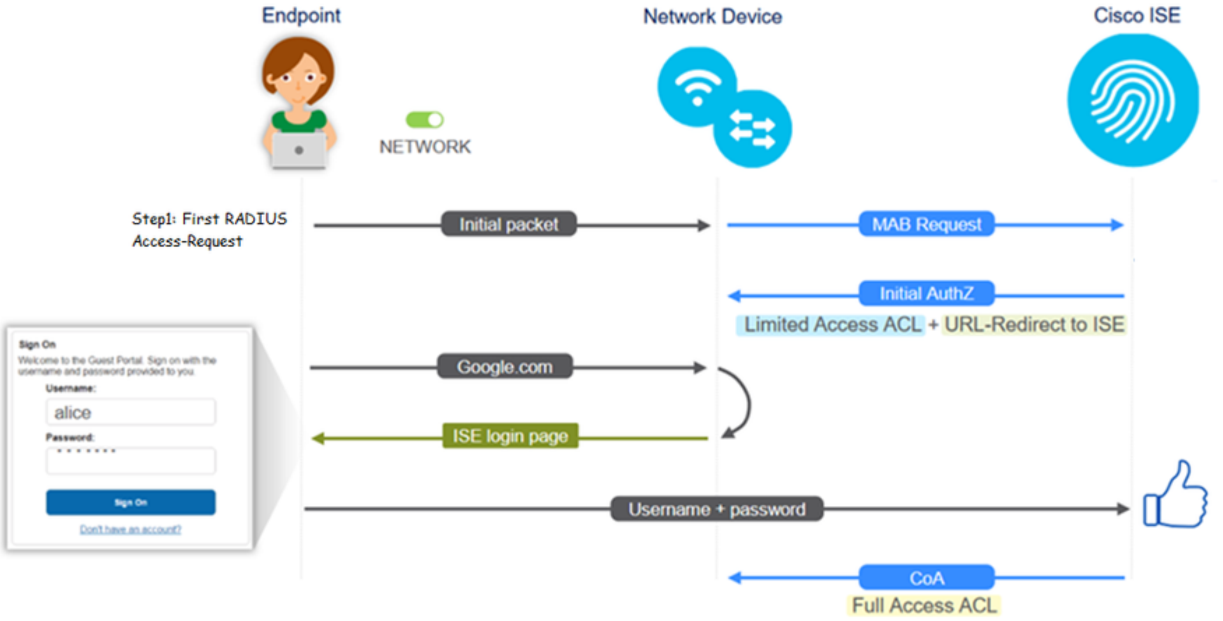
The information in this document is based on Cisco ISE, Release 2.6, and:

- WLC 5500
- Catalyst switch 3850 15.x version
- Windows 10 workstation

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Guest Flow

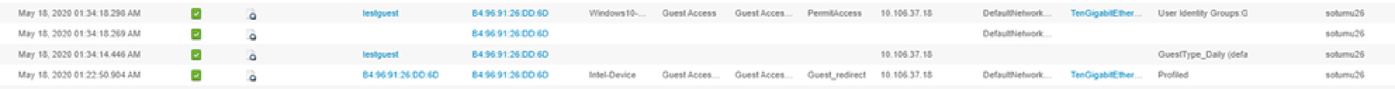
The guest flow overview is similar to wired or wireless setups. This image of the flow diagram can be used for reference throughout the document. It helps to visualize the step and the entity.



The flow can also be followed on ISE live logs [**Operations > RADIUS Live Logs**] by filtering the endpoint ID:

- MAB Authentication successful– username field has the MAC address- URL is pushed to the NAD - User gets the portal
- Guest Authentication successful- username field has the guest username, it has been identified as GuestType_Daily (or the configured type for the guest user)
- CoA initiated- username field is blank, detailed report shows Dynamic Authorization successful
- Guest Access provided

The sequence of events in the image (bottom to top)



May 18, 2020 01:34:18.298 AM	✓	🔍	testguest	B4:96:91:26:DD:6D	Windows10-...	Guest Access	Guest Acces...	PermitAccess	10.106.37.18	DefaultNetwork...	TenGigabitEther...	User Identity Groups:G	sotumu26
May 18, 2020 01:34:18.269 AM	✓	🔍		B4:96:91:26:DD:6D						DefaultNetwork...			sotumu26
May 18, 2020 01:34:14.446 AM	✓	🔍	testguest	B4:96:91:26:DD:6D					10.106.37.18			GuestType_Daily (defa	sotumu26
May 18, 2020 01:22:50.904 AM	✓	🔍	B4:96:91:26:DD:6D	B4:96:91:26:DD:6D	Intel-Device	Guest Acces...	Guest Acces...	Guest_redirect	10.106.37.18	DefaultNetwork...	TenGigabitEther...	Profiled	sotumu26

Common Deployment Guides

Here are some links for configuration assistance. For any specific use case troubleshooting, it helps to be aware of the ideal or expected configuration.

- Wired Guest Configuration
- Wireless Guest Configuration
- Wireless Guest CWA with FlexAuth APs

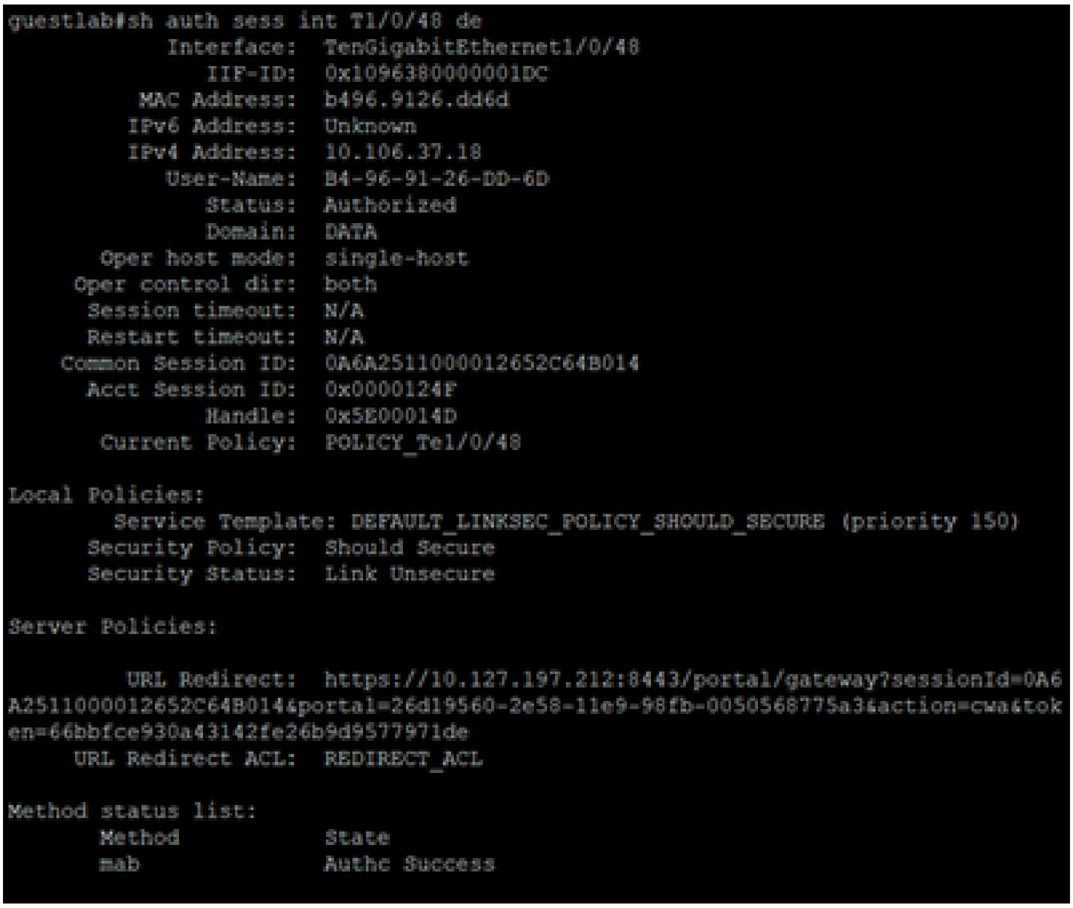
Frequently Encountered Issues

This document primarily addresses these issues:

Redirection to the Guest Portal Does not Work

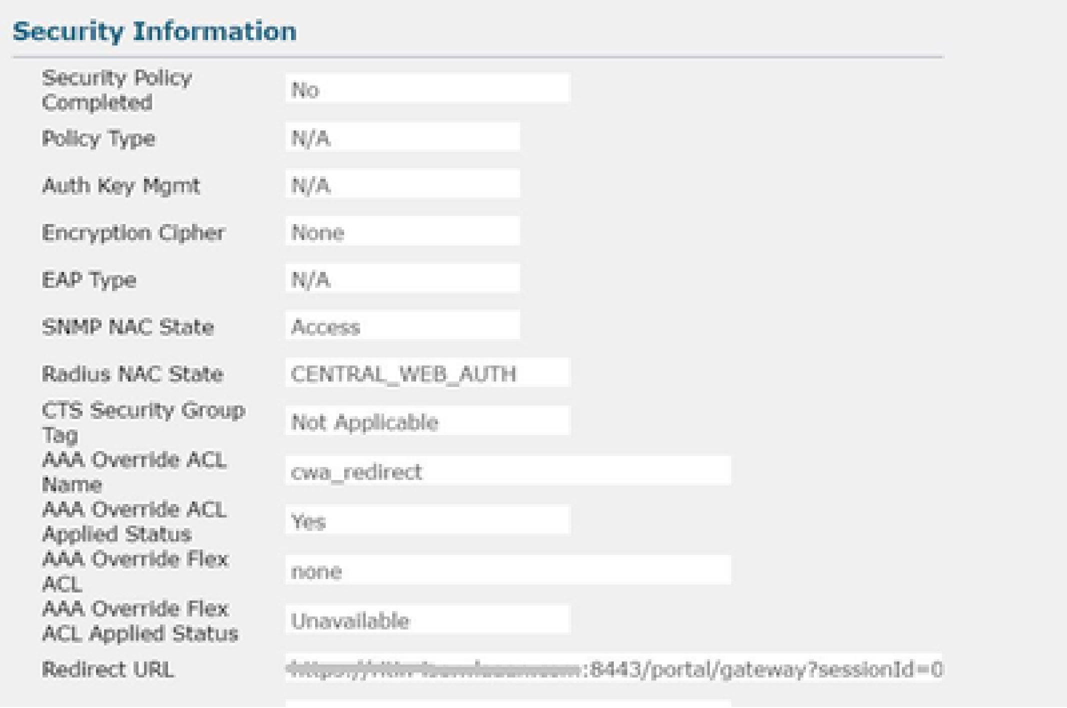
Once the redirect URL and ACL are pushed from ISE, check these:

1. The client status on the switch (if wired guest access) with the command **show authentication session int <interface> details**:



```
guestlab#sh auth sess int T1/0/48 de
            Interface:  TenGigabitEthernet1/0/48
               IIF-ID:  0x1096380000001DC
          MAC Address:  b496.9126.dd6d
         IPv6 Address:  Unknown
         IPv4 Address:  10.106.37.18
            User-Name:  B4-96-91-26-DD-6D
               Status:  Authorized
               Domain:  DATA
       Oper host mode:  single-host
     Oper control dir:  both
      Session timeout:  N/A
      Restart timeout:  N/A
    Common Session ID:  0A6A2511000012652C64B014
      Acct Session ID:  0x0000124F
               Handle:  0x5E00014D
       Current Policy:  POLICY_Te1/0/48

Local Policies:
        Service Template: DEFAULT_LINKSEC_POLICY_SHOULD_SECURE (priority 150)
      Security Policy:  Should Secure
      Security Status:  Link Unsecure

Server Policies:

         URL Redirect:  https://10.127.197.212:8443/portal/gateway?sessionId=0A6
A2511000012652C64B014&portal=26d19560-2e58-11e9-98fb-0050568775a3&action=cwa&tok
en=66bbfce930a43142fe26b9d9577971de
     URL Redirect ACL:  REDIRECT_ACL

Method status list:
       Method           State
       mab              Authc Success
```

2. The client status on the Wireless LAN Controller (if wireless guest access): **Monitor > Client > MAC address**



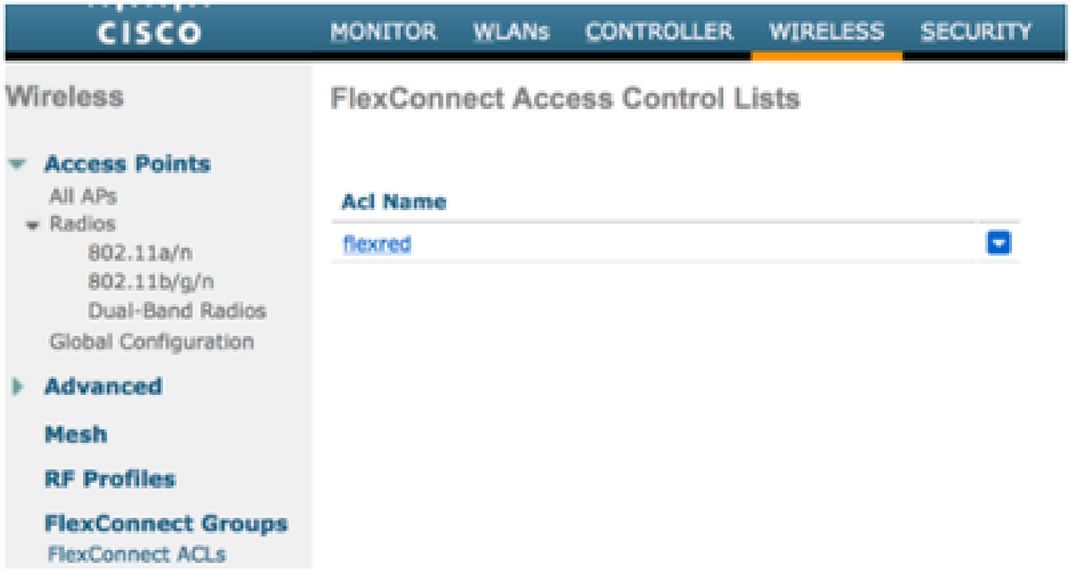
Security Information

Security Policy Completed	No
Policy Type	N/A
Auth Key Mgmt	N/A
Encryption Cipher	None
EAP Type	N/A
SNMP NAC State	Access
Radius NAC State	CENTRAL_WEB_AUTH
CTS Security Group Tag	Not Applicable
AAA Override ACL Name	cwa_redirect
AAA Override ACL Applied Status	Yes
AAA Override Flex ACL	none
AAA Override Flex ACL Applied Status	Unavailable
Redirect URL	[redacted]:8443/portal/gateway?sessionId=0

3. The reachability from the endpoint to the ISE on TCP port 8443 with the help of command prompt: **C:\Users\user>telnet <ISE-IP> 8443**

4. If the portal redirect URL has an FQDN, check if the client is able to resolve from the command prompt: **C:\Users\user>nslookup guest.ise.com**

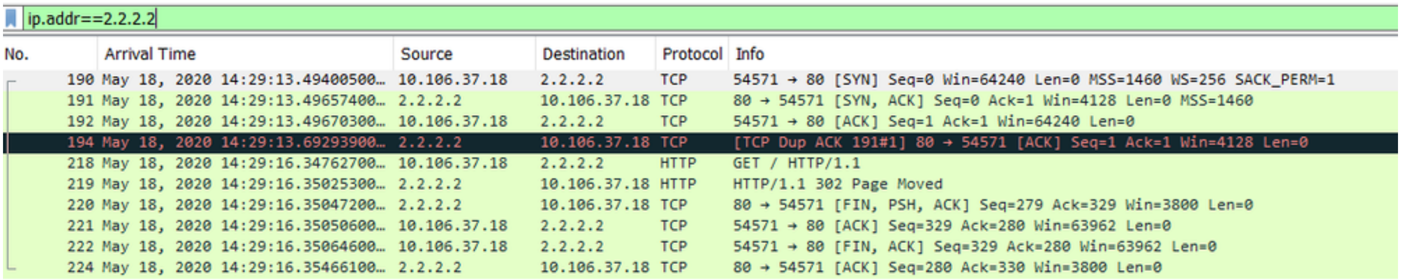
5. In flex connect setup, ensure the same ACL name is configured under ACL and flex ACLs. Also, verify if the ACL is mapped to the APs. Refer to the config guide from the previous section-Steps 7 b and c for more information.



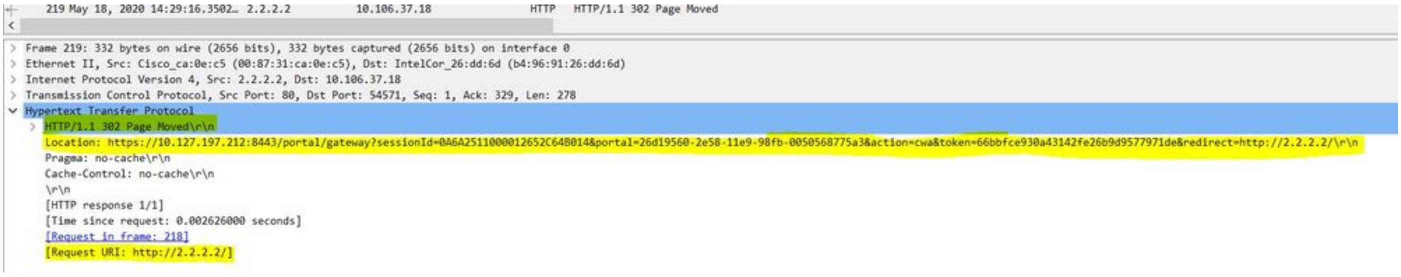
FlexConnect Access Control Lists

Acl Name
flexred

6. Take a packet capture from the client, and check for the redirection. The packet HTTP/1.1 302 Page Moved is to indicate the WLC/Switch redirected the accessed site to the ISE guest portal (redirected URL):



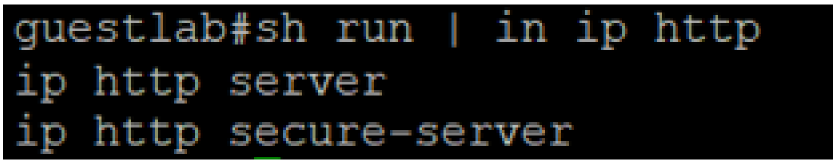
```
ip.addr==2.2.2.2

No.   Arrival Time                          Source         Destination    Protocol  Info
  190 May 18, 2020 14:29:13.49400500…  10.106.37.18   2.2.2.2        TCP       54571 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM=1
  191 May 18, 2020 14:29:13.49657400…  2.2.2.2        10.106.37.18   TCP       80 → 54571 [SYN, ACK] Seq=0 Ack=1 Win=4128 Len=0 MSS=1460
  192 May 18, 2020 14:29:13.49670300…  10.106.37.18   2.2.2.2        TCP       54571 → 80 [ACK] Seq=1 Ack=1 Win=64240 Len=0
  194 May 18, 2020 14:29:13.69293900…  2.2.2.2        10.106.37.18   TCP       [TCP Dup ACK 191#1] 80 → 54571 [ACK] Seq=1 Ack=1 Win=4128 Len=0
  218 May 18, 2020 14:29:16.34762700…  10.106.37.18   2.2.2.2        HTTP      GET / HTTP/1.1
  219 May 18, 2020 14:29:16.35025300…  2.2.2.2        10.106.37.18   HTTP      HTTP/1.1 302 Page Moved
  220 May 18, 2020 14:29:16.35047200…  2.2.2.2        10.106.37.18   TCP       80 → 54571 [FIN, PSH, ACK] Seq=279 Ack=329 Win=3800 Len=0
  221 May 18, 2020 14:29:16.35050600…  10.106.37.18   2.2.2.2        TCP       54571 → 80 [ACK] Seq=329 Ack=280 Win=63962 Len=0
  222 May 18, 2020 14:29:16.35064600…  10.106.37.18   2.2.2.2        TCP       54571 → 80 [FIN, ACK] Seq=329 Ack=280 Win=63962 Len=0
  224 May 18, 2020 14:29:16.35466100…  2.2.2.2        10.106.37.18   TCP       80 → 54571 [ACK] Seq=280 Ack=330 Win=3800 Len=0
```



```
  219 May 18, 2020 14:29:16.3502… 2.2.2.2        10.106.37.18        HTTP   HTTP/1.1 302 Page Moved

> Frame 219: 332 bytes on wire (2656 bits), 332 bytes captured (2656 bits) on interface 0
> Ethernet II, Src: Cisco_ca:0e:c5 (00:87:31:ca:0e:c5), Dst: IntelCor_26:dd:6d (b4:96:91:26:dd:6d)
> Internet Protocol Version 4, Src: 2.2.2.2, Dst: 10.106.37.18
> Transmission Control Protocol, Src Port: 80, Dst Port: 54571, Seq: 1, Ack: 329, Len: 278
v Hypertext Transfer Protocol
  > HTTP/1.1 302 Page Moved\r\n
    Location: https://10.127.197.212:8443/portal/gateway?sessionId=0A6A2511000012652C648014&portal=26d19560-2e58-11e9-98fb-0050568775a3&action=cwa&token=66bbfce930a43142fe26b9d9577971de&redirect=http://2.2.2.2/\r\n
    Pragma: no-cache\r\n
    Cache-Control: no-cache\r\n
    \r\n
    [HTTP response 1/1]
    [Time since request: 0.002626000 seconds]
    [Request in frame: 218]
    [Request URI: http://2.2.2.2/]
```

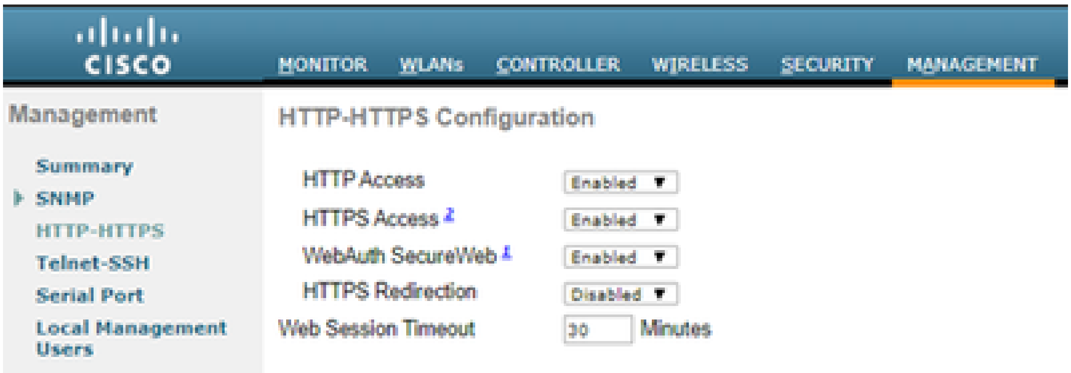
7. HTTP(s) engine is enabled on the Network Access Devices:

On the switch:



```
guestlab#sh run | in ip http
ip http server
ip http secure-server
```

On the WLC:



HTTP-HTTPS Configuration

HTTP Access: Enabled

HTTPS Access 2: Enabled

WebAuth SecureWeb 1: Enabled

HTTPS Redirection: Disabled

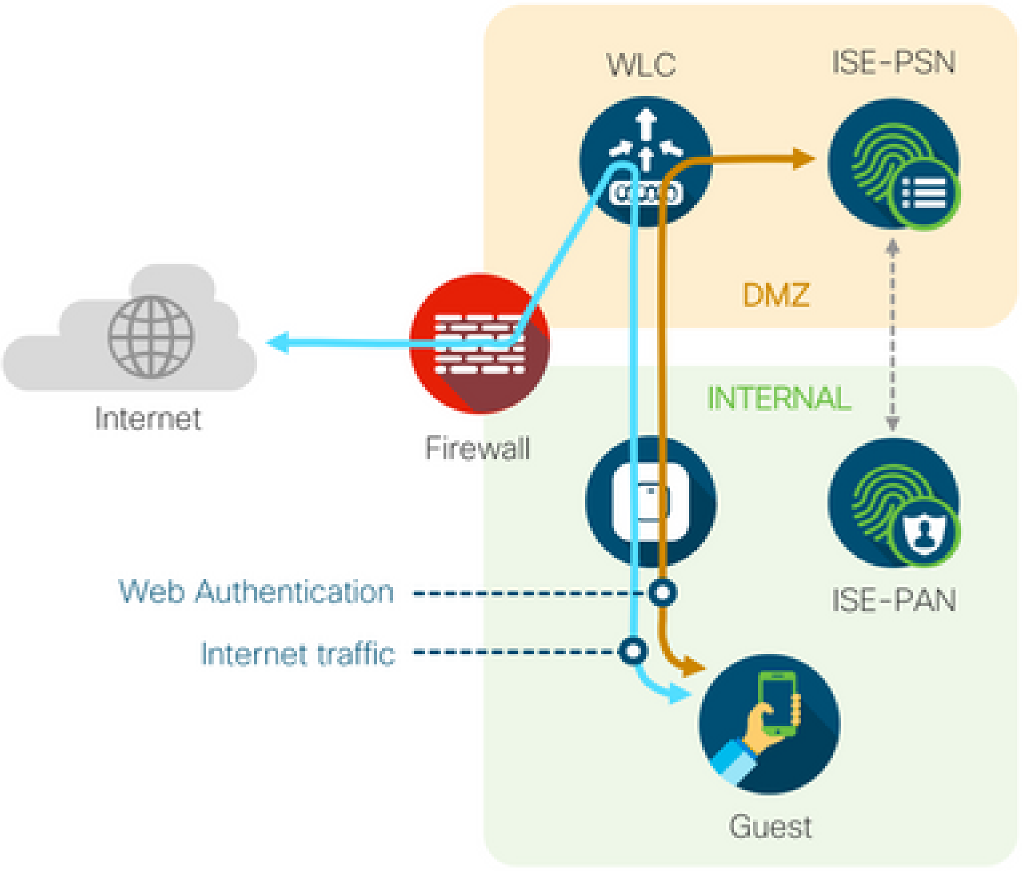
Web Session Timeout: 30 Minutes

8. If the WLC is in a foreign-anchor setup, check these:

Step 1. The client status must be the same on both the WLCs.

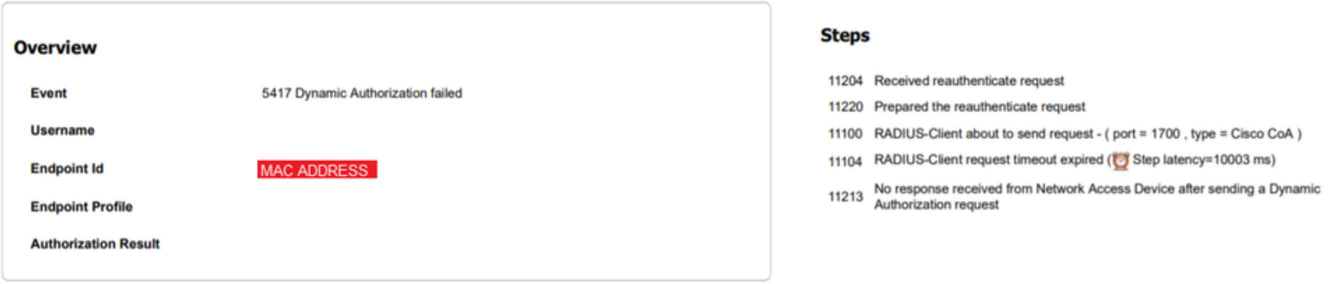
Step 2. Redirect URL must be seen on both the WLCs.

Step 3. RADIUS Accounting must be disabled on the anchor WLC.



Dynamic Authorization Fails

If the end-user is able to access the guest portal and log in successfully, the next step would be a change of authorization, to give full guest access to the user. If this does not work, you would see a Dynamic Authorization failure on ISE Radius Live Logs. To remediate the issue, check these:



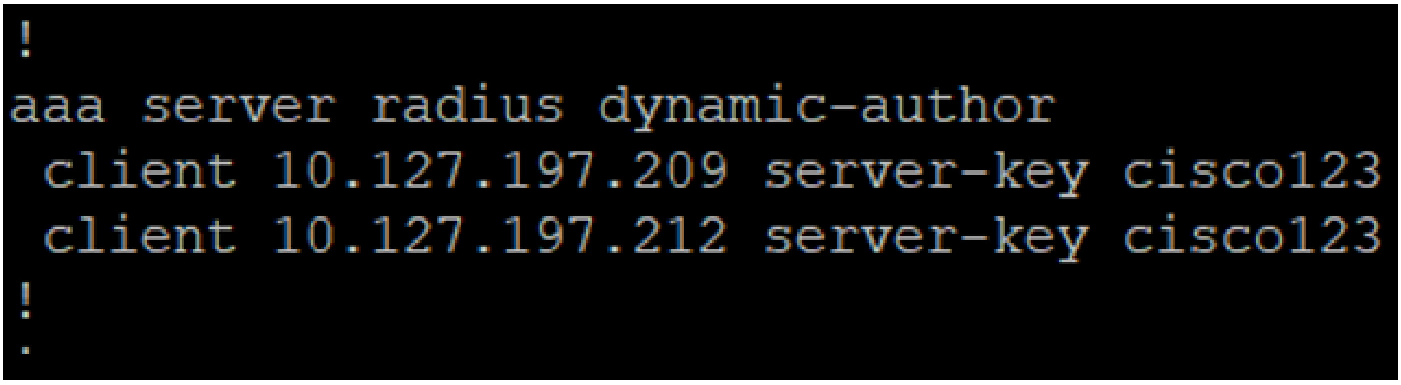
Overview

Event	5417 Dynamic Authorization failed
Username	
Endpoint Id	MAC ADDRESS
Endpoint Profile	
Authorization Result	

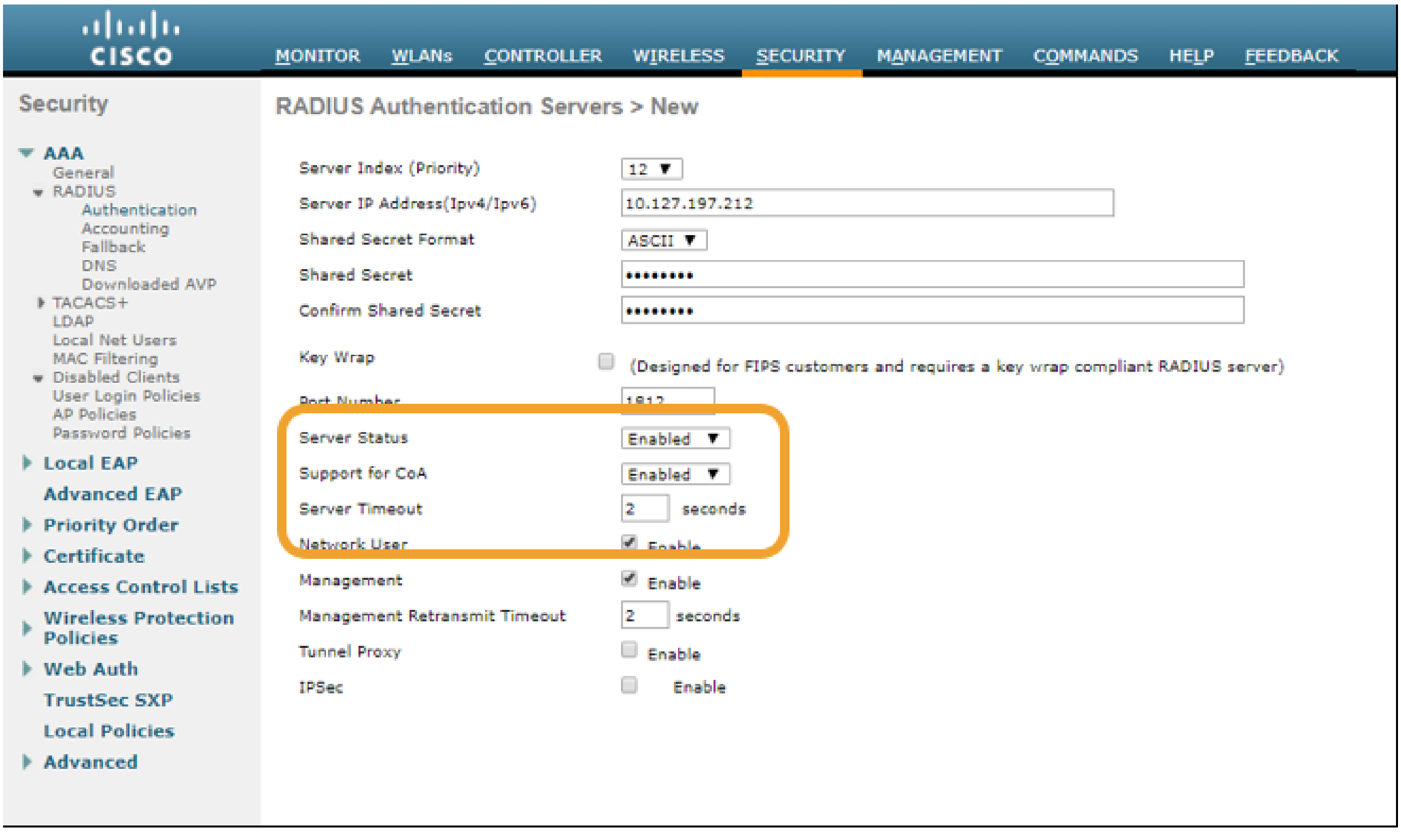
Steps

11204	Received reauthenticate request
11220	Prepared the reauthenticate request
11100	RADIUS-Client about to send request - (port = 1700 , type = Cisco CoA)
11104	RADIUS-Client request timeout expired (⏰ Step latency=10003 ms)
11213	No response received from Network Access Device after sending a Dynamic Authorization request

1. Change of Authorization (CoA) must be enabled/configured on the NAD:



```
!
aaa server radius dynamic-author
 client 10.127.197.209 server-key cisco123
 client 10.127.197.212 server-key cisco123
!
.
```

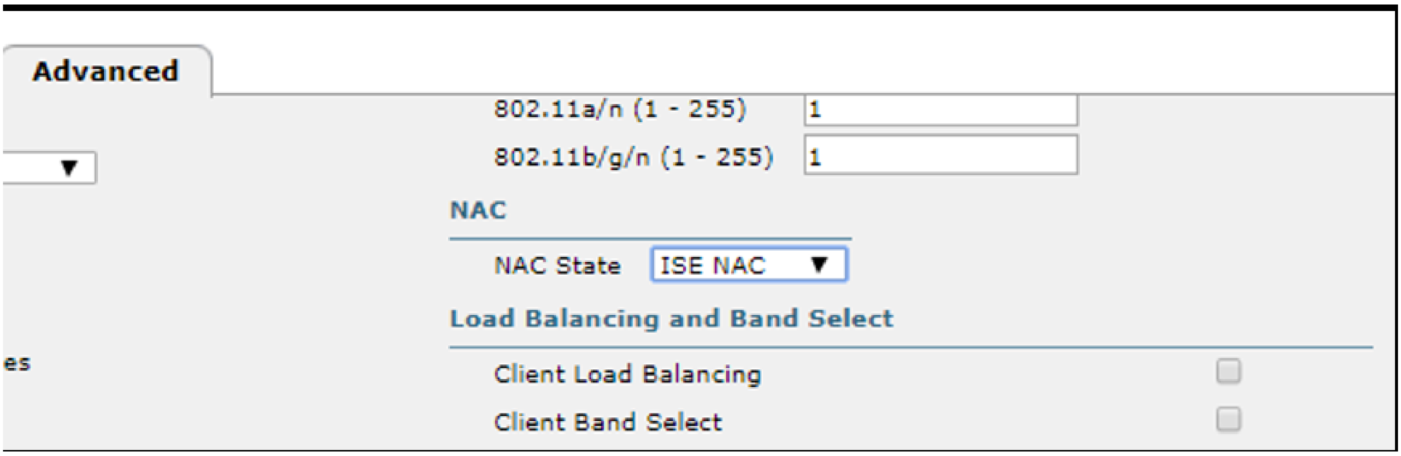


RADIUS Authentication Servers > New

Server Index (Priority)	12
Server IP Address(Ipv4/Ipv6)	10.127.197.212
Shared Secret Format	ASCII
Shared Secret	••••••••
Confirm Shared Secret	••••••••
Key Wrap	□ (Designed for FIPS customers and requires a key wrap compliant RADIUS server)
Port Number	1812
Server Status	Enabled
Support for CoA	Enabled
Server Timeout	2 seconds
Network User	☑ Enable
Management	☑ Enable
Management Retransmit Timeout	2 seconds
Tunnel Proxy	□ Enable
IPSec	□ Enable

2. UDP Port 1700 must be allowed on the firewall.

3. NAC state on WLC is incorrect. Under Advanced settings on **WLC GUI > WLAN** change the NAC state to ISE NAC.



802.11a/n (1 - 255)	1
802.11b/g/n (1 - 255)	1

NAC

NAC State: ISE NAC

Load Balancing and Band Select

Client Load Balancing □

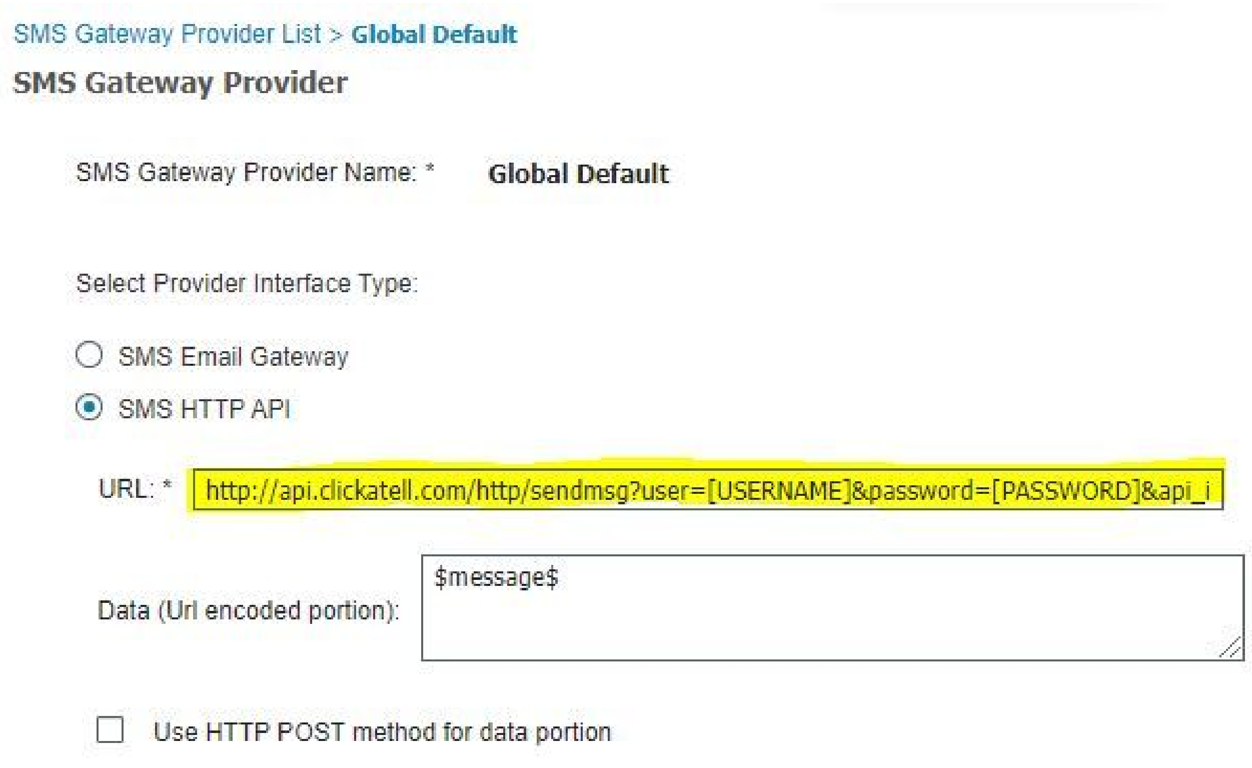
Client Band Select □

SMS/EMAIL Notifications are not Sent

1. Check the SMTP configuration under **Administration > System > Settings > SMTP**.

2. Check the API for SMS/Email gateways outside ISE:

Test the URL(s) provided by the vendor on an API client or a browser, replace the variables like usernames, passwords, mobile number, and test the reachability. [**Administration > System > Settings > SMS Gateways**]



SMS Gateway Provider List > Global Default

SMS Gateway Provider

SMS Gateway Provider Name: * Global Default

Select Provider Interface Type:

○ SMS Email Gateway

● SMS HTTP API

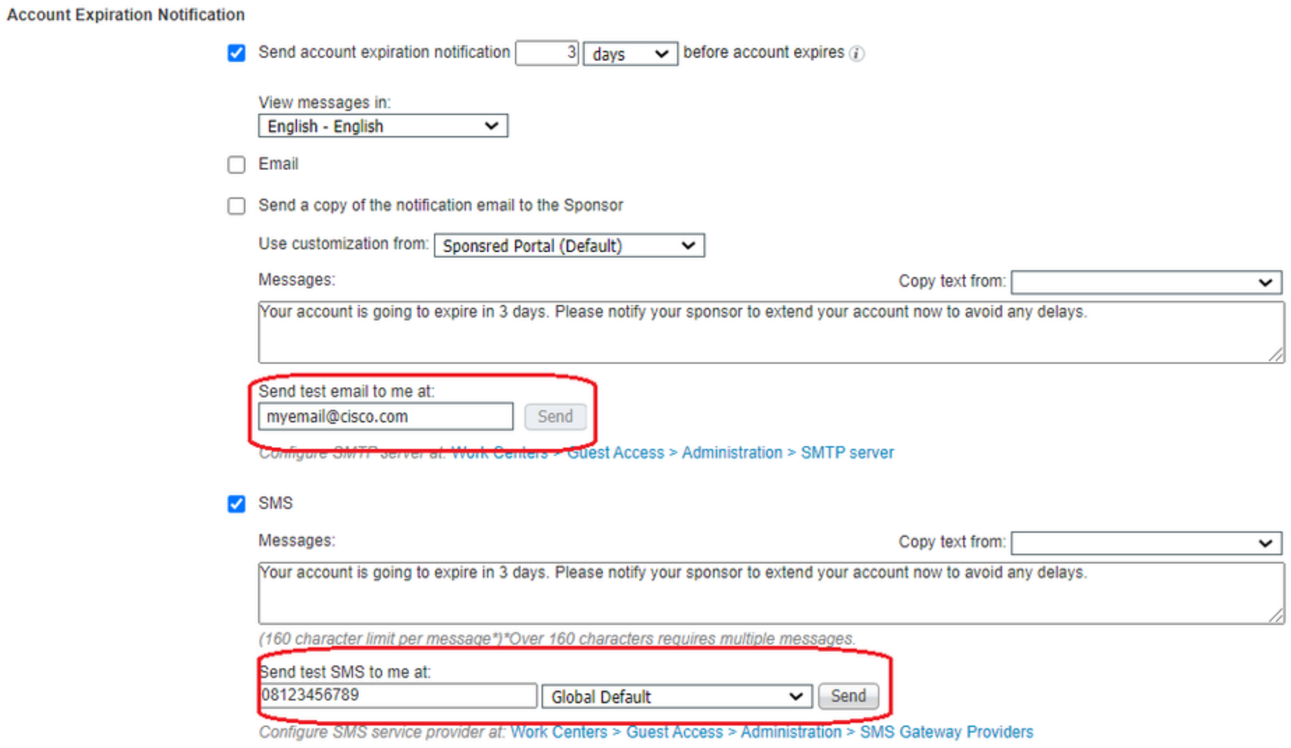
URL: * http://api.clickatell.com/http/sendmsg?user=[USERNAME]&password=[PASSWORD]&api_i

Data (Url encoded portion): $message$

□ Use HTTP POST method for data portion

Alternatively, if you test from the ISE sponsor groups [**Workcentres > Guest Access > Portals and Components > Guest Types**], take a packet capture on ISE and the SMS/SMTP gateway to check if

1. The request packet reaches the server untampered.
2. ISE server has the vendor recommended permissions/privilege for the gateway to process this request.



Account Expiration Notification

☑ Send account expiration notification 3 days before account expires

View messages in: English - English

□ Email

□ Send a copy of the notification email to the Sponsor

Use customization from: Sponsred Portal (Default)

Messages: Copy text from:

Your account is going to expire in 3 days. Please notify your sponsor to extend your account now to avoid any delays.

Send test email to me at: myemail@cisco.com Send

Configure SMTP server at: Work Centers > Guest Access > Administration > SMTP server

☑ SMS

Messages: Copy text from:

Your account is going to expire in 3 days. Please notify your sponsor to extend your account now to avoid any delays.

(160 character limit per message*)*Over 160 characters requires multiple messages.

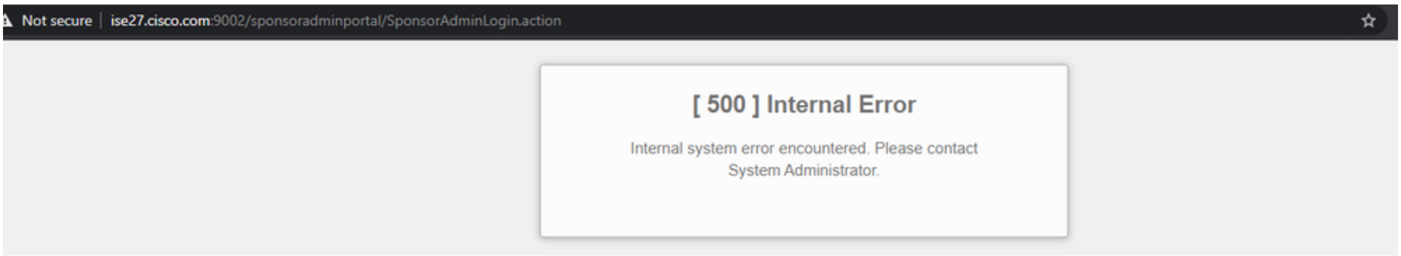
Send test SMS to me at: 08123456789 Global Default Send

Configure SMS service provider at: Work Centers > Guest Access > Administration > SMS Gateway Providers

Manage the Accounts Page is not Reachable

1. Under the **Workcentres > Guest Access > Manage accounts** button redirects to the ISE

FQDN on port 9002, for the ISE admin to access the sponsor portal:


Not secure | ise27.cisco.com:9002/sponsoradminportal/SponsorAdminLogin.action

[500] Internal Error

Internal system error encountered. Please contact System Administrator.

2. Check if the FQDN is resolved by the workstation from which Sponsor Portal is accessed with the command **nslookup <FQDN of ISE PAN>**.

3. Check if ISE TCP port 9002 is open from the CLI of the ISE with the command **show ports | include 9002**.

Portal Certificate Best Practices

- For seamless user experience, the certificate used for portals and admin roles must be signed by a well-known public Certificate Authorities (example: GoDaddy, DigiCert, VeriSign, etc), commonly trusted by browsers (example: Google Chrome, Firefox, and so on).
- It is not recommended to use static IP for guest redirection as that makes the private IP of ISE visible to all users. Most of the vendors do not provide 3rd party-signed certificates for private IP.
- When you move from ISE 2.4 p6 to p8 or p9, there is a known bug: Cisco bug ID CSCvp75207 where the **Trust for authentication within ISE** and **Trust for client authentication and Syslog** boxes must be manually checked after the patch upgrade. This ensures that ISE sends out the full cert chain for TLS flow when the guest portal is accessed.

If these actions do not resolve guest access problems, please reach out to TAC with a support bundle collected with instructions from the document: Debugs to enable on ISE.

Related Information

- **Cisco Technical Support & Downloads**