Unified Access Wireless LAN Controller Guest Anchor mit konvergentem Zugriff -Konfigurationsbeispiel

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Einleitung

In diesem Dokument wird die Konfiguration der Wireless LAN Controller (WLCs) der Serien 5508/5760 und des Catalyst Switches der Serie 3850 für den Wireless Client Guest Anchor in der neuen Mobilitätsbereitstellungskonfiguration beschrieben, in der der WLC der Serie 5508 als Mobility Anchor fungiert und der Catalyst Switch der Serie 3850 als Mobility Foreign Controller für die Clients Darüber hinaus fungiert der Catalyst Switch der Serie 3850 als Mobility Agent für einen WLC der Serie 5760, der als Mobility Controller fungiert, von dem aus der Catalyst Switch der Serie 3850 die Access Point (AP)-Lizenz erwirbt.

Voraussetzungen

Anforderungen

Cisco empfiehlt, dass Sie diese Themen kennen, bevor Sie diese Konfiguration vornehmen:

Cisco IOS[®] GUI oder CLI mit Converged Access WLCs der Serien 5760 und 3650 und dem

Catalyst Switch der Serie 3850

- GUI- und CLI-Zugriff über den WLC der Serie 5508
- Konfiguration der Service Set Identifier (SSID)
- Webauthentifizierung

Verwendete Komponenten

Die Informationen in diesem Dokument basierend auf folgenden Software- und Hardware-Versionen:

- Cisco 5760 Release 3.3.3 (Next Generation Wiring Closet [NGWC])
- Catalyst Switches der Serie 3850
- Cisco WLC der Serie 5508, Version 7.6.120
- Cisco Lightweight APs der Serie 3602
- Cisco Catalyst Switches der Serie 3560

Die Informationen in diesem Dokument beziehen sich auf Geräte in einer speziell eingerichteten Testumgebung. Alle Geräte, die in diesem Dokument benutzt wurden, begannen mit einer gelöschten (Nichterfüllungs) Konfiguration. Wenn Ihr Netz Live ist, überprüfen Sie, ob Sie die mögliche Auswirkung jedes möglichen Befehls verstehen.

Konfigurieren

Hinweis: Verwenden Sie das <u>Command Lookup Tool</u> (nur für <u>registrierte</u> Kunden), um weitere Informationen zu den in diesem Abschnitt verwendeten Befehlen zu erhalten.

Netzwerkdiagramm

Der WLC der Serie 5508 fungiert als Anchor Controller, und der Switch der Serie Catalyst 3850 fungiert als Foreign Controller und Mobility Agent, der die Lizenz vom Mobility Controller 5760 bezieht.



Hinweis: Im Netzwerkdiagramm fungiert der WLC der Serie 5508 als Anchor Controller, der WLC der Serie 5760 als Mobility Controller und der Switch der Serie Catalyst 3850 als Mobility Agent und Foreign WLC. Der Anker-Controller für den Catalyst Switch der Serie 3850 ist zu jedem Zeitpunkt entweder der WLC der Serie 5760 oder der WLC der Serie 5508. Beide können nicht gleichzeitig als Anker verwendet werden, da der doppelte Anker nicht funktioniert.

Konfigurationen

Die Konfiguration besteht aus drei Teilen:

Teil 1: Konfiguration des 5508 Anchor WLC

Teil 2: Konvergente Zugriffsmobilitätskonfiguration zwischen dem WLC der Serien 5508/5760 und dem Switch der Serie Catalyst 3850

Teil 3: Konfiguration auf dem Foreign Catalyst Switch der Serie 3850

Teil 1: Konfiguration des 5508 Anchor WLC

1. Bewegen Sie den Mauszeiger auf dem WLC der Serie 5508 über WLAN > New, um ein

neues Wireless LAN (WLAN) zu erstellen.

cisco	MONITOR WLANS CO	ONTROLLER WIRELESS SECURITY MANAGEMENT COMMANDS HELP
WLANs	WLANs > Edit 'CUW	/N'
VLANs	General Security	QoS Policy-Mapping Advanced
Advanced	Profile Name	CUWN
	Туре	WLAN
	SSID	CUWN
	Status	C Enabled
	Security Policies	WEB POLICY, Web-Auth (Modifications done under security tab will appear after applying the changes.)
	Radio Policy	All 👻
	Interface/Interface Group(G)	vlan60 👻
	Multicast Vlan Feature	Enabled
	Broadcast SSID	Imabled
	NAS-ID	5508

2. Bewegen Sie den Mauszeiger über WLAN > WLAN Edit > Security > Layer 3 enabled Webauthentication, um die Layer 3-Sicherheit zu konfigurieren.

սիսիս cısco	MONITOR WLANS CONTROLLER WIRELESS SECURITY MANAGEMENT COMMANDS HELP FEEDBA
WLANs	WLANs > Edit 'CUWN'
WLANs WLANs	General Security QoS Policy-Mapping Advanced
Advanced	Layer 2 Layer 3 AAA Servers
	Layer 3 Security ¹ Web Policy • • Authentication • Passthrough • Conditional Web Redirect • Splash Page Web Redirect • On MAC Filter failure ¹¹ Preauthentication ACL IPv4 None • IPv6 None • WebAuth FlexAcl None • Sleeping Client • Enable Over-ride Global Config • Enable

3. Legen Sie die Ankeradresse im Konfigurationsfenster für den WLAN Mobility Anchor **lokal fest,** um den WLC der Serie 5508 als Anker hinzuzufügen.

										Sa <u>v</u> e Configural
MONITOR	WLANS	CONTROLLER	WIRELESS	SECURITY	MANAGEMENT	COMMANDS	HELP	EEEDBACK		
Mobility /	Anchors									
WLAN SSI	D CUM	m –								
Switch IP	Address (Anchor)							Data Path	Control Path
local									up	up
Mobility	Anchor Cr	eate								

4. Bewegen Sie den Mauszeiger über **Sicherheit > Webauth > Webauth page**, um die Webauth-Seite für die Client-Authentifizierung zu konfigurieren.

In diesem Beispiel ist die Seite "WLC Internal Webauth" (Interne WLC-Webauthentifizierung) ausgewählt:

.ı ı.ı ı. cısco	MONITOR WLANS		WIRELESS		MANAGEMENT	COMMANDS	нејр	EEEDBAC
Security	Web Login Page							
AAA General RADIUS Authentication Accounting Fallback	Web Authentication Redirect URL after lo This page allows you to page. The Login page i WLAN if 'Web Authentio	Type ogin o customize the co s presented to we vation" is turned or	Intent and appe b users the firs a (under WLAN	mal (Default) earance of the t time they acc Security Polici	Login cess the es).	•		
DNS TACACS+ LDAP Local Net Users MAC Filtering Disabled Clients User Login Policies AP Policies	Cisco Logo Headline Message	© Sho	ow					

5. Erstellen Sie einen lokalen Netzbenutzer. Dieses Benutzername/Kennwort-Paar wird vom Benutzer verwendet, wenn er auf der Webauthentifizierungsseite dazu aufgefordert wird.

cisco	MONITOR WLANS		WIRELESS	SECURITY	MANAGEMENT	с <u>о</u>
Security	Local Net Users >	Edit				
AAA General	User Name	surbg				
• RADIUS	Password	•••				
Authentication	Confirm Password	•••				
Fallback	Creation Time	Mon M	lay 19 12:00:4	1 2014		
DNS	Remaining Time	N/A				
LDAP	WLAN Profile	Any V	VLAN 👻			
Local Net Users	Description	surbg				
MAC Filtering Disabled Clients						

Teil 2: Konvergente Zugriffsmobilitätskonfiguration zwischen dem WLC der Serien 5508/5760 und dem Catalyst Switch der Serie 3850

1. Fügen Sie auf dem WLC der Serie 5508 den WLC der Serie 5760 als Mobility Peer hinzu.

cisco	MONITOR WLANS CO	WTROLLER WIRELESS	SECURITY	MANAGEMENT	COMMANDS	нејр	EEEOBACK	_	_	s
Controller	Static Mobility Group	Members								
General Inventory	Local Nobility Group	Mobile-1								
Interfaces	MAC Address	IP Address		Public	IP Address	Group	Name	Nulticast IP	Status	
Interface Groups	58:8d:09:cd:ac:60	10.105.135.151		10.105	135.151	Mobile	-1	0.0.0.0	Up	
Multicast										
Network Routes	00:00:00:00:00:00	10.105.135.178		10.105	.135.178	surbg		0.0.0.0	Up	
Redundancy	00:00:00:00:00:00	10.105.135.244		10.105	.135.244	eurbg		0.0.0.0	Up	
Internal DHCP Server										
 Mobility Management Mobility Configuration Mobility Groups 										

2. Fügen Sie auf dem WLC der Serie 5760 als Mobility Controller den WLC der Serie 5508 als Mobility Peer hinzu.

alah						
CISCO Wireless Controller	🛆 Home	Monitor • Configuration	n + Administration +	Help		
Controller	Mobility Peer					
* 🚍 System	New Remove					
General	IP Address	Public IP Address	Group Name	Multicast IP	Control Link Status	Data Link Status
Multicast	10.105.135.244	-	surbg	0.0.0.0	-	-
Interfaces	10.105.135.151	10.105.135.151	Mobile-1		UP	UP
* 🧰 VLAN	10.105.135.178	10.105.135.178	surbg	0.0.0.0	UP	UP
Internal DHCP Server						
Management						
* 🔤 Mobility Management						
Mobility Global Config						
Mobility Page						
Switch Peer Group						

 Dieser Schritt ist sehr wichtig! Fügen Sie den Catalyst Switch der Serie 3850 auf dem WLC der Serie 5760 unter der Registerkarte "Switch Peer Group" (Switch-Peer-Gruppe) unter "Mobility Management" als Mobility Agent hinzu.

ahah				
CISCO Wireless Controller	🟡 Home Monitor	Configuration Administr	ation 💌 Help	
Controller	Switch Peer Group > SURBG-SPG Switch Peer Group > SURBG-SPG			
* 🚔 System				
General	New Remove			
Multicast	IP Address	Public IP Address	Control Link Status	Data Link Status
Interfaces	10.105.135.226	10.105.135.226	UP	UP
VLAN				
Internal DHCP Server				
Management				
🕶 📥 Mobility Management				
Mobility Global Config				
Mobility Peer				
Switch Peer Group				

4. Fügen Sie auf dem Catalyst Switch der Serie 3850 den WLC der Serie 5760 als Mobility Controller hinzu. Anschließend erhält der Catalyst Switch der Serie 3850 die Lizenz für den AP Coult vom Mobility Controller 5760.

սիսիս				
CISCO Wireless Controller	🏡 Home	Monitor 🔻	Configuration 🔻	Administration
Controller	Mobility Agent Configura	tion		
▼ 📴 System				
General	Mobility Role	-	Mobility Agent 💌	
Multicast	Mobility Controller IP Address		10.105.135.244	
Interfaces	Control Link Status		UP	
VLAN	Data Link Status		UP	
🕨 🧰 Internal DHCP Server	Mobility Protocol Port		16666	
🕨 🧰 Management	Mobility Switch Peer Group Na	ame <mark>.</mark>	SURBG-SPG	
🔻 🗁 Mobility Management	DTLS Mode		Enabled	
Mobility Global Config	Mobility Domain ID for 802.11	r	0xe699	
Mobility Peer	Mobility Keepalive Interval (1-3	30)sec	10	

Teil 3: Konfiguration auf dem Foreign Catalyst Switch der Serie 3850

1. Bewegen Sie den Mauszeiger über GUI > Configuration > Wireless > WLAN > New, um die genaue SSID/WLAN auf dem Catalyst Switch der Serie 3850 zu konfigurieren.

սիսիս		
CISCO Wireless Controller	🏠 Home	Monitor Configuration Administration Help
Wireless	WLAN > Edit	
	General Security	QOS AVC Policy Mapping Advanced
Access Points	Profile Name	CUWN
B02.11a/n/ac	Туре	WLAN
B02.11b/g/n	SSID	CUWN
Media Stream	Status	Enabled
• QOS	Security Policies	Web-Auth (Modifications done under security tab will appear after applying the changes.)
	Radio Policy	AI V
	Interface/Interface Group(G	;) VLAN0060 🔎
	Broadcast SSID	
	Multicast VLAN Feature	

2. Bewegen Sie den Mauszeiger über WLAN > WLAN Edit > Security > Layer 3 enabled Webauthentication, um die Layer 3-Sicherheit zu konfigurieren.

սիսիս				
cisco Wireless Controller	🏡 Home	Monitor 🔻	Configuration 🔻	Administration 🔻 Help
Wireless	WLAN > Edit			
WLAN WLAN Access Points	General Security Layer2 Layer3	QOS AAA Serve	AVC Policy	Mapping Advanced
 802.11a/n/ac 802.11b/g/n Media Stream 	Web Policy Conditional Web Redirect Webauth Authentication L Webauth Parameter Map	st Disabl	ed P	
• 🔤 Qos	Webauth On-mac-filter Fail Preauthentication IPv4 ACI Preauthentication IPv6 ACI	ure 🗆 . Uncor . none	nfigured 🔎	

3. Fügen Sie die IP-Adresse des WLC der Serie 5508 als Referenzpunkt unter der Konfiguration des WLAN Mobility Anchor hinzu.

Wireless Mobility Anchors * WLAN > Edit	alialia cisco Wireless Controller	Administration ▼ Help
WLANS MLAN Profile WLAN Profile WLAN Profile Switch IP Address Switch IP Address Create Mobility Anchor Remove Anchor Media Stream IP Address IP Address ID.105.135.151	Wireless WLAN WLAN WLANs Access Points 802.11a/n/ac 802.11b/g/n Media Stream QOS	Mobility Anchors WLAN Profile QUWN Switch IP Address Create Mobility Anchor Remove Anchor IP Address IP Address ID.105.135.151

Überprüfung

Verwenden Sie diesen Abschnitt, um zu überprüfen, ob Ihre Konfiguration ordnungsgemäß funktioniert.

Verbinden Sie den Client mit dem Cisco Unified Wireless Network (CUWN) WLAN. Dies ist der Workflow:

- 1. Der Client erhält eine IP-Adresse.
- 2. Der Kunde öffnet einen Browser und greift auf eine beliebige Website zu.
- 3. Das erste vom Client gesendete TCP-Paket wird vom WLC gehackt, und der WLC fängt die Webauth-Seite ab und sendet sie.
- 4. Wenn der DNS richtig konfiguriert ist, erhält der Client die Webauthentifizierungsseite.
- 5. Der Client muss den Benutzernamen/das Kennwort angeben, um authentifiziert zu werden.
- 6. Nach erfolgreicher Authentifizierung wird der Client zur ursprünglichen Zugriffsseite umgeleitet.

Attps://1	92.168.200.1 🔎 – 😵 C. 🗟 🖒 🗙 🎑 Web Authentication	×
Login		
Welcome to	the Cisco wireless network	
Cisco is pleased your network. Plo solution to work.	d to provide the Wireless LAN infrastructure for ease login and put your unified wireless	
User Name		
Password		
	Submit	

7. Nachdem der Client die richtigen Anmeldeinformationen angegeben hat, übergibt der Client die Authentifizierung.

¢	→ A ttp://www.google.com/ P + C ×	🥖 Internet Explorer cannot dis 🗙	
	Cogout - Windows Internet Explorer	vebpage	
	Web Authentication Login Successful ! You can now use all regular network services over the wireless network. Please retain this small logout window in order to logoff when done. Note that you can always use the following URL to retrieve this page: <u>https://192.168.200.1/logout.html</u> Logout		
	 € 100% ▼		

Fehlerbehebung

Geben Sie zur Fehlerbehebung bei Ihrer Konfiguration die folgenden Fehlerbehebungsschritte in den WLC der Serie 5508 ein, der als Guest Anchor fungiert:

Debug Client

Debug web-auth redirect enable mac

Hier ein Beispiel:

Debug Client 00:17:7C:2F:B6:9A Debug web-auth redirect enable mac 00:17:7C:2F:B6:9A

show debug

MAC Addr 1..... 00:17:7C:2F:B6:9A

Debug Flags Enabled: dhcp packet enabled. dot11 mobile enabled. dot11 state enabled dot1x events enabled. dot1x states enabled. FlexConnect ft enabled. pem events enabled. pem state enabled. CCKM client debug enabled. webauth redirect enabled.

*mmMaListen: May 19 13:36:34.276: 00:17:7c:2f:b6:9a Adding mobile on Remote AP 00:00:00:00:00(0)

*mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a override for default ap group, marking intgrp NULL *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a Applying Interface policy on Mobile, role Unassociated. Ms NAC State 2 Quarantine Vlan 0 Access Vlan 0

*mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a Re-applying interface policy
for client

*mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a 0.0.0.0 START (0) Changing IPv4 ACL 'none' (ACL ID 255) ===> 'none' (ACL ID 255) --- (caller apf_policy.c:2219) *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a 0.0.0.0 START (0) Changing IPv6 ACL 'none' (ACL ID 255) ===> 'none' (ACL ID 255) --- (caller apf_policy.c:2240) *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a apfApplyWlanPolicy: Apply WLAN Policy over PMIPv6 Client Mobility Type *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a override from intf group to an intf for roamed client - removing intf group from mscb *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a 0.0.0.0 L2AUTHCOMPLETE (4)
Change state to DHCP_REQD (7) last state L2AUTHCOMPLETE (4)

*mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a Resetting web IPv4 acl from 255 to 255 *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a Resetting web IPv4 Flex acl from 65535 to 65535 *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a Stopping deletion of Mobile Station: (callerId: 53) *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Adding Fast Path rule type = Airespace AP - Learn IP address on AP 00:00:00:00:00, slot 0, interface = 1, QOS = 0 IPv4 ACL ID = 255, IPv*mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Fast Path rule (contd...) 802.1P = 0, DSCP = 0, TokenID = 15206 Local Bridging Vlan = 60, Local Bridging intf id = 13 *mmMaListen: May 19 13:36:34.277: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Successfully plumbed mobile rule (IPv4 ACL ID 255, IPv6 ACL ID 255, L2 ACL ID 255) *mmMaListen: May 19 13:36:34.278: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) State Update from Mobility-Incomplete to Mobility-Complete, mobility role=ExpAnchor, client state=APF_MS_STATE_ASSOCIATED *mmMaListen: May 19 13:36:34.278: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Change state to DHCP_REQD (7) last state DHCP_REQD (7) *mmMaListen: May 19 13:36:34.278: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) pemAdvanceState2 5807, Adding TMP rule *mmMaListen: May 19 13:36:34.278: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Replacing Fast Path rule type = Airespace AP - Learn IP address on AP 00:00:00:00:00:00, slot 0, interface = 1, QOS = 0 IPv4 ACL ID = 255, *mmMaListen: May 19 13:36:34.278: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Fast Path rule (contd...) 802.1P = 0, DSCP = 0, TokenID = 15206 Local Bridging Vlan = 60, Local Bridging intf id = 13 *mmMaListen: May 19 13:36:34.278: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Successfully plumbed mobile rule (IPv4 ACL ID 255, IPv6 ACL ID 255, L2 ACL ID 255) *pemReceiveTask: May 19 13:36:34.278: 00:17:7c:2f:b6:9a Set bi-dir quest tunnel for 00:17:7c:2f:b6:9a as in Export Anchor role *pemReceiveTask: May 19 13:36:34.278: 00:17:7c:2f:b6:9a 0.0.0.0 Added NPU entry of type 9, dtlFlags 0x4 *pemReceiveTask: May 19 13:36:34.278: 00:17:7c:2f:b6:9a Sent an XID frame *pemReceiveTask: May 19 13:36:34.278: 00:17:7c:2f:b6:9a Set bi-dir guest tunnel for 00:17:7c:2f:b6:9a as in Export Anchor role *pemReceiveTask: May 19 13:36:34.278: 00:17:7c:2f:b6:9a 0.0.0.0 Added NPU entry of type 9, dtlFlags 0x4 *IPv6_Msg_Task: May 19 13:36:34.281: 00:17:7c:2f:b6:9a Pushing IPv6 Vlan Intf ID 13: fe80:0000:0000:0000:6c1a:b253:d711:0c7f , and MAC: 00:17:7C:2F:B6:9A , Binding to Data Plane. SUCCESS !! dhcpv6bitmap 0 *IPv6_Msg_Task: May 19 13:36:34.281: 00:17:7c:2f:b6:9a Calling mmSendIpv6AddrUpdate for addition of IPv6: fe80:0000:0000:0000:6cla:b253:d711:0c7f , for MAC: 00:17:7C:2F:B6:9A *IPv6_Msg_Task: May 19 13:36:34.281: 00:17:7c:2f:b6:9a mmSendIpv6AddrUpdate:4800 Assigning an IPv6 Addr fe80:0000:0000:0000:6c1a:b253:d711:0c7f to the client in Anchor state update the foreign switch 10.105.135.226 *IPv6_Msg_Task: May 19 13:36:34.281: 00:17:7c:2f:b6:9a Link Local address fe80:: 6cla:b253:d7ll:c7f updated to mscb. Not Advancing pem state.Current state: mscb in apfMsMmInitial mobility state and client state APF_MS_STATE_AS *mmMaListen: May 19 13:36:34.298: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Replacing Fast Path rule type = Airespace AP - Learn IP address

on AP 00:00:00:00:00:00, slot 0, interface = 1, QOS = 0 IPv4 ACL ID = 255, *mmMaListen: May 19 13:36:34.298: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Fast Path rule (contd...) 802.1P = 0, DSCP = 0, TokenID = 15206 Local Bridging Vlan = 60, Local Bridging intf id = 13 *mmMaListen: May 19 13:36:34.298: 00:17:7c:2f:b6:9a 0.0.0.0 DHCP_REQD (7) Successfully plumbed mobile rule (IPv4 ACL ID 255, IPv6 ACL ID 255, L2 ACL ID 255) *pemReceiveTask: May 19 13:36:34.298: 00:17:7c:2f:b6:9a Set bi-dir quest tunnel for 00:17:7c:2f:b6:9a as in Export Anchor role *pemReceiveTask: May 19 13:36:34.298: 00:17:7c:2f:b6:9a 0.0.0.0 Added NPU entry of type 9, dtlFlags 0x4 *dtlArpTask: May 19 13:36:34.564: 00:17:7c:2f:b6:9a Static IP client associated to interface vlan60 which can support client subnet. *dtlArpTask: May 19 13:36:34.564: 00:17:7c:2f:b6:9a 60.60.60.11 DHCP_REQD (7) Change state to WEBAUTH_REQD (8) last state DHCP_REQD (7) *dtlArpTask: May 19 13:36:34.564: 00:17:7c:2f:b6:9a 60.60.60.11 WEBAUTH_REQD (8) pemAdvanceState2 6717, Adding TMP rule *dtlArpTask: May 19 13:36:34.564: 00:17:7c:2f:b6:9a 60.60.60.11 WEBAUTH_REQD (8) Replacing Fast Path rule type = Airespace AP Client - ACL passthru on AP 00:00:00:00:00:00, slot 0, interface = 1, QOS = 0 IPv4 ACL *dtlArpTask: May 19 13:36:34.564: 00:17:7c:2f:b6:9a 60.60.60.11 WEBAUTH_REQD (8) Fast Path rule (contd...) 802.1P = 0, DSCP = 0, TokenID = 15206 Local Bridging Vlan = 60, Local Bridging intf id = 13 *dtlArpTask: May 19 13:36:34.564: 00:17:7c:2f:b6:9a 60.60.60.11 WEBAUTH_REQD (8) Successfully plumbed mobile rule (IPv4 ACL ID 255, IPv6 ACL ID 255, L2 ACL ID 255) *dtlArpTask: May 19 13:36:34.564: 00:17:7c:2f:b6:9a Plumbing web-auth redirect rule due to user logout *dtlArpTask: May 19 13:36:34.564: 00:17:7c:2f:b6:9a apfAssignMscbIpAddr:1148 Assigning an Ip Addr 60.60.60.11 to the client in Anchor state update the foreign switch 10.105.135.226 *dtlArpTask: May 19 13:36:34.565: 00:17:7c:2f:b6:9a Assigning Address 60.60.60.11 to mobile *pemReceiveTask: May 19 13:36:34.565: 00:17:7c:2f:b6:9a Set bi-dir guest tunnel for 00:17:7c:2f:b6:9a as in Export Anchor role *pemReceiveTask: May 19 13:36:34.565: 00:17:7c:2f:b6:9a 60.60.60.11 Added NPU entry of type 2, dtlFlags 0x4 *pemReceiveTask: May 19 13:36:34.565: 00:17:7c:2f:b6:9a Pushing IPv6: fe80:0000:0000:0000:6cla:b253:d711:0c7f , and MAC: 00:17:7C:2F:B6:9A , Binding to Data Plane. SUCCESS !! *pemReceiveTask: May 19 13:36:34.565: 00:17:7c:2f:b6:9a Sent an XID frame (5508-MC) > (5508-MC) > (5508-MC) >*DHCP Socket Task: May 19 13:36:44.259: 00:17:7c:2f:b6:9a DHCP received op BOOTREQUEST (1) (len 314, vlan 0, port 1, encap 0xec07) *DHCP Socket Task: May 19 13:36:44.259: 00:17:7c:2f:b6:9a DHCP (encap type 0xec07) mstype 3ff:ff:ff:ff:ff *DHCP Socket Task: May 19 13:36:44.259: 00:17:7c:2f:b6:9a DHCP selecting relay 1 control block settings: dhcpServer: 0.0.0.0, dhcpNetmask: 0.0.0.0, dhcpGateway: 0.0.0.0, dhcpRelay: 0.0.0.0 VLAN: 0 *DHCP Socket Task: May 19 13:36:44.259: 00:17:7c:2f:b6:9a DHCP selected relay 1 -60.60.60.251 (local address 60.60.60.2, gateway 60.60.60.251, VLAN 60, port 1) *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP transmitting DHCP REOUEST (3) *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP op: BOOTREQUEST, htype: Ethernet, hlen: 6, hops: 1 *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP xid: 0xad00ada3 (2902502819), secs: 3072, flags: 0 *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP chaddr: 00:17:7c:2f:b6:9a

*DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP ciaddr: 0.0.0.0, yiaddr: 0.0.0.0 *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP siaddr: 0.0.0.0, giaddr: 60.60.60.2 *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP requested ip: 60.60.60.11 *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP sending REQUEST to 60.60.60.251 (len 358, port 1, vlan 60) *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP selecting relay 2 control block settings: dhcpServer: 0.0.0.0, dhcpNetmask: 0.0.0.0, dhcpGateway: 0.0.0.0, dhcpRelay: 60.60.60.2 VLAN: 60 *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP selected relay 2 -NONE (server address 0.0.0.0,local address 0.0.0.0, gateway 60.60.60.251, VLAN 60, port 1) *DHCP Socket Task: May 19 13:36:44.260: 00:17:7c:2f:b6:9a DHCP received op BOOTREPLY (2) (len 308, vlan 60, port 1, encap 0xec00) *DHCP Socket Task: May 19 13:36:44.261: 00:17:7c:2f:b6:9a DHCP setting server from ACK (server 60.60.60.251, yiaddr 60.60.60.11) *DHCP Socket Task: May 19 13:36:44.261: 00:17:7c:2f:b6:9a DHCP transmitting DHCP ACK (5) *DHCP Socket Task: May 19 13:36:44.261: 00:17:7c:2f:b6:9a DHCP op: BOOTREPLY, htype: Ethernet, hlen: 6, hops: 0 *DHCP Socket Task: May 19 13:36:44.261: 00:17:7c:2f:b6:9a DHCP xid: 0xad00ada3 (2902502819), secs: 0, flags: 0 *DHCP Socket Task: May 19 13:36:44.261: 00:17:7c:2f:b6:9a DHCP chaddr: 00:17:7c:2f:b6:9a *DHCP Socket Task: May 19 13:36:44.261: 00:17:7c:2f:b6:9a DHCP ciaddr: 0.0.0.0, yiaddr: 60.60.60.11 *DHCP Socket Task: May 19 13:36:44.261: 00:17:7c:2f:b6:9a DHCP siaddr: 0.0.0.0, giaddr: 0.0.0.0 *DHCP Socket Task: May 19 13:36:44.261: 00:17:7c:2f:b6:9a DHCP server id: 192.168.200.1 rcvd server id: 60.60.60.251 *webauthRedirect: May 19 13:36:47.678: 0:17:7c:2f:b6:9a- received connection *webauthRedirect: May 19 13:36:47.680: captive-bypass detection disabled, Not checking for wispr in HTTP GET, client mac=0:17:7c:2f:b6:9a *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- Preparing redirect URL according to configured Web-Auth type *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- Checking custom-web config for WLAN ID:4 *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- unable to get the hostName for virtual IP, using virtual IP =192.168.200.1 *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- Global status is enabled, checking on web-auth type *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- Web-auth type Internal, no further redirection needed. Presenting defualt login page to user *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- http response msg body1 is <HTML><HEAD><TITLE> Web Authentication Redirect</TITLE><META http-equiv= "Cache-control" content="no-cache"><META http-equiv="Pragma" content="n *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- http_response_msg_body2 is "></HEAD></HTML> *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- parser host is www.facebook.com *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- parser path is /

*webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- parser path is /
*webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- added redirect=,
URL is now https://192.168.200.1/login.html?
*webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- str1 is now
https://192.168.200.1/login.html?redirect=www.facebook.com/
*webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- clen string is
Content-Length: 312

*webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- Message to be sent is HTTP/1.1 200 OK Location: https://192.168.200.1/login.html?redirect=www.facebook.com/ Content-Type: text/html Content-Length: 312 <HTML><HEAD *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- send data length=448 *webauthRedirect: May 19 13:36:47.680: 0:17:7c:2f:b6:9a- Web-auth type External, but unable to get URL *webauthRedirect: May 19 13:36:47.681: 0:17:7c:2f:b6:9a- received connection *emWeb: May 19 13:36:48.731: SSL Connection created for MAC:0:17:7c:2f:b6:9a *webauthRedirect: May 19 13:36:51.795: 0:17:7c:2f:b6:9a- received connection *webauthRedirect: May 19 13:36:51.795: captive-bypass detection disabled, Not checking for wispr in HTTP GET, client mac=0:17:7c:2f:b6:9a *webauthRedirect: May 19 13:36:51.795: 0:17:7c:2f:b6:9a- Preparing redirect URL according to configured Web-Auth type *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- Checking custom-web config for WLAN ID:4 *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- unable to get the hostName for virtual IP, using virtual IP =192.168.200.1 *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- Global status is enabled, checking on web-auth type *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- Web-auth type Internal, no further redirection needed. Presenting defualt login page to user *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- http_response_msg_body1 is <HTML><HEAD><TITLE> Web Authentication Redirect</TITLE><META http-equiv= "Cache-control" content="no-cache"><META http-equiv="Pragma" content="n *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- http_response_msg_body2 is "></HEAD></HTML> *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- parser host is www.facebook.com *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- parser path is /favicon.ico *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- added redirect=, URL is now https://192.168.200.1/login.html? *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- strl is now https://192.168.200.1/login.html?redirect=www.facebook.com/favicon.ico *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- clen string is Content-Length: 323 *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- Message to be sent is HTTP/1.1 200 OK Location: https://192.168.200.1/login.html?redirect=www.facebook.com/favicon.ico Content-Type: text/html Content-Length: 323 *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- send data length=470 *webauthRedirect: May 19 13:36:51.796: 0:17:7c:2f:b6:9a- Web-auth type External, but unable to get URL *DHCP Socket Task: May 19 13:37:03.905: 00:17:7c:2f:b6:9a DHCP received op BOOTREQUEST (1) (len 308, vlan 0, port 1, encap 0xec07) *DHCP Socket Task: May 19 13:37:03.905: 00:17:7c:2f:b6:9a DHCP (encap type 0xec07) mstype 3ff:ff:ff:ff:ff *DHCP Socket Task: May 19 13:37:03.905: 00:17:7c:2f:b6:9a DHCP selecting relay 1 control block settings: dhcpServer: 60.60.60.251, dhcpNetmask: 255.255.255.0, dhcpGateway: 60.60.60.251, dhcpRelay: 60.60.60.2 VLAN: 60

```
*emWeb: May 19 13:38:35.187:
ewaURLHook: Entering:url=/login.html, virtIp = 192.168.200.1, ssl_connection=1,
secureweb=1
```

```
*emWeb: May 19 13:38:35.199: WLC received client 0:17:7c:2f:b6:9a request for
Web-Auth page /login.html
*emWeb: May 19 13:38:35.199: WLC received client 0:17:7c:2f:b6:9a request for
Web-Auth page /login.html
*emWeb: May 19 13:38:47.215:
ewaURLHook: Entering:url=/login.html, virtIp = 192.168.200.1, ssl_connection=1,
secureweb=1
```

```
*ewmwebWebauth1: May 19 13:38:47.216: 00:17:7c:2f:b6:9a Username entry (surbg)
created for mobile, length = 5
*ewmwebWebauth1: May 19 13:38:47.216: 00:17:7c:2f:b6:9a Username entry (surbg)
created in mscb for mobile, length = 5
*ewmwebWebauth1: May 19 13:38:47.216: 00:17:7c:2f:b6:9a 60.60.60.11 WEBAUTH_REQD
(8) Change state to WEBAUTH_NOL3SEC (14) last state WEBAUTH_REQD (8)
```

*ewmwebWebauth1: May 19 13:38:47.216: 00:17:7c:2f:b6:9a apfMsRunStateInc
*ewmwebWebauth1: May 19 13:38:47.216: 00:17:7c:2f:b6:9a 60.60.60.11 WEBAUTH_NOL3SEC
(14) Change state to RUN (20) last state WEBAUTH_NOL3SEC (14)

*ewmwebWebauth1: May 19 13:38:47.216: 00:17:7c:2f:b6:9a Session Timeout is 0 not starting session timer for the mobile
*ewmwebWebauth1: May 19 13:38:47.216: 00:17:7c:2f:b6:9a 60.60.60.11 RUN (20)
Reached PLUMBFASTPATH: from line 6605
*ewmwebWebauth1: May 19 13:38:47.216: 00:17:7c:2f:b6:9a 60.60.60.11 RUN (20)
Replacing Fast Path rule
type = Airespace AP Client

```
on AP 00:00:00:00:00, slot 0, interface = 1, QOS = 0
IPv4 ACL ID = 255, IPv6 ACL ID =
```

Hier sehen Sie die clientseitige Paketerfassung.

Der Client erhält die IP-Adresse.

Smartlin_2f:b6:9a	Broadcast	ARP	42 who has 60.60.60.11? Tell 0.0.0.0
Smartlin_2f:b6:9a	Broadcast	ARP	42 who has 60.60.60.251? Tell 60.60.60.11
Smartlin_2f:b6:9a	Broadcast	ARP	42 Gratuitous ARP for 60.60.60.11 (Request)
0.0.0.0	255.255.255.255	DHCP	348 DHCP Request - Transaction ID 0xd73b645b
192.168.200.1	60.60.60.11	DHCP	346 DHCP ACK - Transaction ID 0xd73b645b
Automatic state and a state	££65587	The second se	CONTRACTOR CALLER RECEIPTING CONTRACTOR

Der Client öffnet einen Browser und gibt www.facebook.com ein.

			as same a such from and the success and must	
0.60.11	50.50.50.251	DNS	76 Standard query 0x18bc A www.facebook.com	
0.50.251	60.60.60.11	DNS	92 Standard query response 0x18bc A 56.56.56.56	
0.60.11	50.50.50.251	DNS	76 Standard query 0xab1b AAAA www.facebook.com	
0.60.11	50.50.50.251	DNS	76 Standard query 0xab1b AAAA www.facebook.com	
0.60.11	50, 50, 50, 251	DNS	76 Standard query Oxab1b _ AAAA_www.facebook.com	
ame 508: 76 h	otes on wire (608 bi	ts). 76 bytes captured (608 b	its) on interface 0	
ame 500.70 0	yces on whe (ous of	captured (dob b	resy on meetace o	
hernet II, Sr	c: Smartlin_2f:b6:9a	(00:17:7c:2f:b6:9a), Dst: C1	sco_fc:96:a8 (f0:f7:55:fc:96:a8)	
Internet Protocol Version 4, Src: 60.60.60.11 (60.60.60.11), Dst: 50.50.50.251 (50.50.251)				
er Datagram P	rotocol, Src Port: 6	2672 (62672), Dst Port: domai	in (53)	
main Name Sys	tem (query)			
Transaction I	D: Oxab1b			
Flags: 0x0100	Standard query			
Questions: 1				
Answer RRs: 0	j.			
Authority RRs	: 0			
Additional RR	s: 0			
Queries				
<pre>d Frame 508: 76 bytes on wire (608 bits), 76 bytes captured (608 bits) on interface 0 e Ethernet II, Src: Smartlin_2f:b6:9a (00:17:7c:2f:b6:9a), Dst: Cisco_fc:96:a8 (f0:f7:55:fc:96:a8) Internet Protocol Version 4, Src: 60.60.60.11 (60.60.60.11), Dst: 50.50.50.251 (50.50.50.251) User Datagram Protocol, Src Port: 62672 (62672), Dst Port: domain (53) Domain Name System (query) Transaction ID: Oxablb Flags: 0x0100 Standard query Questions: 1 Answer RRS: 0 Authority RRS: 0 Additional RRs: 0 </pre>				

www.facebook.com: type AAAA, class IN

Der WLC fängt das erste TCP-Paket des Clients ab und überträgt dessen virtuelle IP-Adresse und die interne Webauth-Seite.

56.56.56.56	60.60.60.11	TCP	54 http > 49720 [ACK] seq=1 Ack=207 win=6656 Len=0	
56.56.56.56	60.60.60.11	HTTP	524 HTTP/1.1 200 OK (text/html)	
56 56 56 56	60 60 60 11	TCP	54 http://wine6656.cene0	
4				
■ Frame 550: 5	24 bytes on wire (4192	bits), 524 bytes captured	(4192 bits) on interface 0	
Ethernet II,	Src: Cisco_fc:96:a8 (f0:f7:55:fc:96:a8), Dst: Sm	martlin_2f:b6:9a (00:17:7c:2f:b6:9a)	
Internet Pro	tocol Version 4, Src:	56.56.56.56 (56.56.56.56),	Dst: 60.60.60.11 (60.60.60.11)	
B Transmission Control Protocol, Src Port: http (80), Dst Port: 49720 (49720), Seq: 1, Ack: 207, Len: 470				
Hypertext Tr	ansfer Protocol			
HTTP/1.1 2	00 OK\r\n			
Location: https://192.168.200.1/login.html?redirect=www.facebook.com/favicon.ico\r\n				
Content-Type: text/html\r\n				
Gontent-Length: 323\r\n				
\r\n				
[HTTP resp	onse 1/1]			

[HTTP response 1/1]

Nach erfolgreicher Web-Authentifizierung ist der restliche Workflow abgeschlossen.

60.60.60.11	50.50.50.251	DNS	86 Standard query 0x64dd A 1e9cvlist.ie.microsoft.com
60.60.60.11	192.168.200.1	TCP	66 49724 > https [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=4 SACK_PERM=1
192.168.200.1	60.60.60.11	TCP	66 https > 49724 [SYN, ACK] Seq=0 Ack=1 Win=5560 Len=0 MSS=1390 SACK_PERM=1 WS=64
60.60.60.11	192.168.200.1	TCP	54 49724 > https [ACK] Seq=1 Ack=1 win=16680 Len=0
60.60.60.11	192,168,200,1	TLSV1	190 Client Hello
192.168.200.1	60.60.60.11	TCP	54 https > 49724 [ACK] Seq=1 Ack=137 win=6656 Len=0
192.168.200.1	60.60.60.11	TLSV1	192 Server Hello, Change Cipher Spec, Encrypted Handshake Message
60.60.60.11	192.168.200.1	TLSV1	113 Change Cipher Spec, Encrypted Handshake Message
60.60.60.11	50.50.50.251	DNS	83 Standard query 0xb814 A ctldl.windowsupdate.com
192.168.200.1	60.60.60.11	TCP	54 https > 49724 [ACK] seq=139 Ack=196 win=6656 Len=0
60 60 60 31	40 40 40 315	A STATUT	63 Mars Hundre ND TEATAD 60.

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