

Stappen om Cisco Aironet 1142 te configureren en 7925 Wi-Fi telefoon te registreren met CUCM

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Inleiding

Dit document beschrijft hoe u een Cisco draadloze telefoon naar een Cisco Unified Communications Manager (CUCM)-server kunt registreren. Dit document heeft een gedetailleerde configuratie van CUCM, access point en draadloze telefoon.

Voorwaarden

Vereisten

Cisco raadt u aan kennis te hebben van CUCM en Cisco Access Point.

Gebruikte componenten

De informatie in dit document is gebaseerd op de volgende software- en hardware-versies:

- UCM versie 9.1.2.15.126-1.
- Cisco Aironet 1140 Series access point, versie 15.3(3)strategisch B2

- Cisco 7925 telefoon, versie 1.4(7)

De informatie in dit document is gebaseerd op de apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als uw netwerk live is, moet u de potentiële impact van elke opdracht begrijpen.

Configureren

Gebruik de informatie die in deze sectie wordt beschreven om een Cisco draadloze telefoons te registreren bij de CUCM server.

Toegang Point-configuratie

Toegang tot het access point (AP)

Configureer DHCP op uw L3-switch of controleer of de switch waarmee Aironet wordt aangesloten, toegang heeft tot de DHCP-server.

```
ip dhcp excluded-address 10.106.121.1
ip dhcp excluded-address 10.106.121.1 10.106.121.20
ip dhcp excluded-address 10.106.121.1 10.106.121.30
ip dhcp excluded-address 10.106.122.1 10.106.122.130
!
ip dhcp pool VLAN487
 network 10.106.122.128 255.255.255.192
 default-router 10.106.122.129
 option 150 ip 10.106.122.180
 lease 0 0 5
!
```

Nadat u Aironet op de verbindingspoort van een Cisco schakelaar aansluit, kunt u de details van Aironet vinden door het bevel van **tonen cdp burens** op schakelaar te gebruiken.

```
Ramebala_vlan487#sh cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
                  D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID         Local Intrfce   Holdtme    Capability   Platform   Port ID
SEPDC7B94F8C4BB  Fas 0/7         140        H P M       IP Phone   Port 1
SEPD0C282D07393  Fas 0/17        131        H P M       IP Phone   Port 1
SEP002497AB40D8  Fas 0/11        147        H P M       IP Phone   Port 1
SEP2893FE1262C4  Fas 0/14        174        H P M       IP Phone   Port 1
SEP503DE57D9995  Fas 0/19        169        H P M       IP Phone   Port 1
SEPB41489A2F295  Fas 0/13        127        H P M       IP Phone   Port 1
BGL14.M.18-LAP1142-1.LAB.com
                  Fas 0/6         157        T B I       AIR-AP114  Gig 0
UC-LAB-CUBE-SWITCH-FD2
                  Fas 0/24        153        R S I       WS-C3750E  Gig 2/0/5
```

Om het IP-adres van het Aironet te achterhalen (dat via DHCP zou zijn gebruikt), toont u de opdracht `cdp burens fa 0/6 details` op de switch.

```
Ramebala_vlan487#show cdp neighbors fa 0/6 detail
-----
Device ID: BGL14.M.18-LAP1142-1.LAB.com
Entry address(es):
  IP address: 10.106.122.152
  IPv6 address: FE80::CEEF:48FF:FEFA:4426 (link-local)
Platform: cisco AIR-AP1142N-A-K9, Capabilities: Trans-Bridge Source-Route-Bridge IGMP
Interface: FastEthernet0/6, Port ID (outgoing port): GigabitEthernet0
Holdtime : 166 sec

Version :
Cisco IOS Software, C1140 Software (C1140-K9W7-M), Version 15.3(3)JBB2, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2015 by Cisco Systems, Inc.
Compiled Thu 27-Aug-15 19:02 by prod_rel_team

advertisement version: 2
Duplex: full
Power drawn: 15.400 Watts
Power request id: 44652, Power management id: 2
Power request levels are:15400 14500 0 0 0
Management address(es):
  IP address: 10.106.122.152
```

Standaard gebruikersnaam en wachtwoorden voor Aironet worden **Cisco** en **Cisco** genoemd.

U kunt Graphical User Interface (GUI) - toegang van Aironet of Opdrachtlijn Interface (CLI) - toegang van Aironet gebruiken om de configuratiewijzigingen uit te voeren. In dit document is gebruik gemaakt van de GUI-toegang van Aironet.



Radio-interfaces inschakelen

Navigeer naar het menu **NETWORK** en klik op elke radio-interfaces en selecteer de knop **Toegang** tot het **tabblad Radio** van **INSTELLINGEN**, zoals in deze afbeelding weergegeven. Alle radio-interfaces inschakelen.

The screenshot shows the Cisco configuration interface for the radio interface **RADIO0-802.11N 2.4GHz**. The **SETTINGS** tab is active. The **Hostname** is **BGL14.M.18-LAP1142-1**. The **Network Interfaces: Radio0-802.11N 2.4GHz Settings** section includes:

- Operating Mode:** Mixed
- Enable Radio:** Enable Disable
- Current Status (Software/Hardware):** Disabled ↓ Down ↓
- Role in Radio Network:**
 - Access Point
 - Access Point (Fallback to Radio Shutdown)
 - Access Point (Fallback to Repeater)
 - Repeater
 - Root Bridge

Voeg nieuw VLAN toe

Navigeer naar het menu **BEVEILIGING** en kies **SSID Manager** nadat die op **Define VLANs** klikt, krijgt u een optie om VLAN's toe te voegen, zodra zij op de **APPLY** knop klikt.

The screenshot shows the Cisco configuration interface for the **Security: Global SSID Manager**. The **SSID Manager** menu item is highlighted. The **Hostname** is **ap**. The **SSID Properties** section includes:

- Current SSID List:** An empty table with a scroll bar.
- SSID:**
- VLAN:** Define VLANs
- Band-Select:** Band Select
- Universal Admin Mode:** Universal Admin Mode
- Interface:**
 - Radio0-802.11N 2.4GHz
 - Radio1-802.11N 5GHz
- Network ID:** (0-4096)

Zoals in de afbeelding wordt VLAN 487 toegevoegd en gecontroleerd op beide Radios.

Als dit VLAN inactief VLAN is, kunt u het vakje **Inheems VLAN** controleren.

Services: VLAN

Global VLAN Properties

Current Native VLAN: None

Assigned VLANs

Current VLAN List

< NEW >

Delete

Create VLAN [Define SSIDs](#)

VLAN ID: (1-4094)

VLAN Name (optional):

Native VLAN

Enable Public Secure Packet Forwarding

Radio0-802.11N^{2.4GHz}

Radio1-802.11N^{5GHz}

Management VLAN (if non-native)

Apply

Creatie van nieuwe SSID's en associeer het VLAN

Navigeer naar het menu **BEVEILIGING** en selecteer **SSID Manager**.

Selecteer **<NEW>** onder Huidige **SSID-lijst** en geef SSID-waarde op.

Controleer het vakje voor beide radio interfaces.

Save
CISCO
HOME NETWORK ASSOCIATION WIRELESS SECURITY SERVICES MANAGEMENT SOFTWARE EVENT LOG

Security

- Admin Access
- Encryption Manager
- SSID Manager**
- Dot11u Manager
- Server Manager
- AP Authentication
- Intrusion Detection
- Local RADIUS Server
- Advance Security

Hostname BGL14.M.18-LAP1142-1 BGL14.M.18-LAP1142-1

Security: Global SSID Manager

SSID Properties

Current SSID List

< NEW >

Delete

SSID:

VLAN: [Define VLANs](#)

Backup 1:

Backup 2:

Backup 3:

Band-Select: Band Select

Universal Admin Mode: Universal Admin Mode

Interface: Radio0-802.11N^{2.4GHz}
 Radio1-802.11N^{5GHz}

Network ID: (0-4096)

Klik op de knop **Toepassen**.

Multiple BSSID Beacon Settings

Multiple BSSID Beacon

Set SSID as Guest Mode

Set DataBeacon Rate (DTIM): **DISABLED** (1-100)

Apply **Cancel**

Guest Mode/Infrastructure SSID Settings

Radio0-802.11N^{2.4GHz}:

Set Beacon Mode: Single BSSID Set Single Guest Mode SSID: **< NONE >**

Multiple BSSID

Set Infrastructure SSID: **< NONE >** Force Infrastructure Devices to associate only to this SSID

Radio1-802.11N^{5GHz}:

Set Beacon Mode: Single BSSID Set Single Guest Mode SSID: **< NONE >**

Multiple BSSID

Set Infrastructure SSID: **< NONE >** Force Infrastructure Devices to associate only to this SSID

Apply **Cancel**

Opmerking: Als de radio-interface niet omhoog komt nadat de radio-interfaces van de GUI zijn ingeschakeld, logt u in op CLI en voert u **geen shutdown**-opdracht uit onder radiointerfaces (Dot11Radio).

SSID zichtbaar maken voor clients

Om SSID op de cliënten te zien, moet u de SSIDs (SSID's) kiezen onder de ingestelde single-Guest mode SSID voor alle radio's zoals in dit beeld wordt getoond.

The screenshot shows the Cisco configuration interface with the following details:

- Navigation:** HOME, NETWORK, ASSOCIATION, WIRELESS, SECURITY (highlighted), SERVICES, MANAGEMENT, SOFTWARE, EVENT LOG.
- Page Header:** Save Configuration | Ping
- Left Sidebar:** Security, Admin Access, Encryption Manager, SSID Manager, Dot11u Manager, Server Manager, AP Authentication, Intrusion Detection, Local RADIUS Server, Advance Security.
- Main Content:**
 - Set DataBeacon Rate (DTIM): **DISABLED** (1-100)
 - Guest Mode/Infrastructure SSID Settings**
 - Radio0-802.11N^{2.4GHz}:**
 - Set Beacon Mode: Single BSSID Set Single Guest Mode SSID: **voicelab**
 - Multiple BSSID
 - Set Infrastructure SSID: **< NONE >** Force Infrastructure Devices to associate only to this SSID
 - Radio1-802.11N^{5GHz}:**
 - Set Beacon Mode: Single BSSID Set Single Guest Mode SSID: **voicelab**
 - Multiple BSSID
 - Set Infrastructure SSID: **< NONE >** Force Infrastructure Devices to associate only to this SSID
- Buttons:** **Apply** **Cancel** (at the top and bottom of the settings section).

De aangesloten clients controleren

Nadat de client is verbonden met het access point, ziet u de clientgegevens in het **Home** menu.

The screenshot shows the Cisco configuration interface for a device with Hostname BGL14.M.18-LAP1142-1. The top navigation bar includes HOME, NETWORK, ASSOCIATION, WIRELESS, SECURITY, SERVICES, MANAGEMENT, SOFTWARE, and EVENT LOG. The left sidebar shows the Home menu with options for Summary, Easy Setup, and Network Assistant. The main content area displays the Association section, showing 2 clients and 0 infrastructure clients. A table lists the associated clients:

Device Type	Name	IPv4 Address	IPv6 Address	MAC Address	State	Parent	VLAN
ccx-client	NONE	10.106.122.153	::	8438.3801.45be	Associated	self	487
unknown	NONE	10.106.122.154	::	c0ee.fb53.eb46	Associated	self	487

Optioneel: hoe u het wachtwoord op SSID wilt instellen

Navigeer naar het tabblad **BEVEILIGING** en kies **Encryption Manager**.

Kies in de modus Encryption de optie **Encryption** en selecteer **AES CCMP**.

Klik na deze klik op **Toepassen**.

The screenshot shows the Cisco configuration interface for a device with Hostname BGL14.M.18-LAP1142-1. The top navigation bar includes HOME, NETWORK, ASSOCIATION, WIRELESS, SECURITY, SERVICES, and MANA. The left sidebar shows the Security menu with options for Admin Access, Encryption Manager, SSID Manager, Dot11u Manager, Server Manager, AP Authentication, Intrusion Detection, Local RADIUS Server, and Advance Security. The main content area displays the Security: Encryption Manager section, showing the Set Encryption Mode and Keys for VLAN configuration. The Encryption Modes section is visible, with the following options:

- None
- WEP Encryption
- Cipher

Additional options for Cisco Compliant TKIP Features are visible, including checkboxes for Enc and Ena.

Selecteer vervolgens de **SSID Manager** onder het menu **SECURITY**

Stel het sleutelbeheer in als **verplicht** en controleer het vakje **WAP inschakelen** en kies **WAPv2**.

Geef het wachtwoord van SSID onder **de pre-gedeeld sleutel van WAP**.

Klik vervolgens op de knop **APPLY**.

The screenshot shows the Cisco configuration interface for Security. The top navigation bar includes: HOME, NETWORK, ASSOCIATION, WIRELESS, SECURITY (highlighted), SERVICES, MANAGEMENT, SOFTWARE, and EVENT LOG. A 'Save Configuration' link is visible in the top right. On the left, a 'Security' sidebar lists: Admin Access, Encryption Manager, SSID Manager (highlighted), Dot11u Manager, Server Manager, AP Authentication, Intrusion Detection, Local RADIUS Server, and Advance Security. The main content area shows 'Client Authenticated Key Management' settings. It includes: Priority 2 and 3 dropdowns (all set to '< NONE >'); Key Management set to 'Mandatory'; CCKM checkbox (unchecked); 'Enable WPA' checkbox (checked); WPA version dropdown set to 'WPAv2'; WPA Pre-shared Key field (masked with dots); ASCII/Hexadecimal radio buttons (ASCII selected); 11w Configuration set to 'Disable'; 11w Association-comeback set to '1000' (range 1000-20000); and 11w Saquery-retry set to '100' (range 100-500).

CUCM-configuratie

Hoe u 7925 telefoon aan de CUCM-server kunt toevoegen

Aanmelden bij CUCM-beheerhandleiding en navigeer naar **apparaat > telefoon**

The screenshot shows the Cisco Unified CM Administration interface. The top navigation bar includes: System, Call Routing, Media Resources, Advanced Features, Device (highlighted), Application, User Management, Bulk Administration, and Help. A 'Navigation' dropdown is set to 'Cisco Unified CM Administration'. The main content area displays a 'Device' dropdown menu with options: CTI Route Point, Gatekeeper, Gateway, Phone (highlighted), Trunk, Remote Destination, and Device Settings. A warning banner at the top left states: 'The system is operating on demo licenses... WARNING: No backup device is configured... Smart Call Home is not configured...'. A large informational banner on the right says: 'Add this system to a Cisco Prime License Manager and install sufficient... your system in case of failure... disable the reminder, please go to Cisco Unified Serviceability > Call...'. The bottom of the page shows the 'Cisco Unified CM Administration' header and 'System version: 10.5.2.13037-1'.

Klik op de knop **Nieuw toevoegen**.

The screenshot shows the Cisco Unified CM Administration interface. At the top, there is a navigation bar with the Cisco logo and the text "Cisco Unified CM Administration For Cisco Unified Communications Solutions". Below this is a menu bar with items: System, Call Routing, Media Resources, Advanced Features, Device, Application, and User Management. The main heading is "Find and List Phones". There is a blue plus icon followed by the text "Add New". Below this is a section titled "Phone" with a search form. The search form has a label "Find Phone where" followed by a dropdown menu set to "Device Name", a dropdown menu set to "begins with", an empty text input field, and a "Find" button. Below the search form is a dropdown menu with the text "Select item or enter search text". At the bottom right of the search area, there is a message: "No active query. Please enter your search criteria." At the bottom left, there is a yellow highlighted "Add New" button.

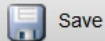
Kies **Cisco 7925** onder het **type telefoon** en klik op de knop **Volgende** (u kunt het type telefoon kiezen in overeenstemming met de draadloze telefoons die u hebt).

The screenshot shows the Cisco Unified CM Administration interface for adding a new phone. At the top, there is a navigation bar with the Cisco logo and the text "Cisco Unified CM Administration For Cisco Unified Communications Solutions". Below this is a menu bar with items: System, Call Routing, Media Resources, Advanced Features, Device, and Application. The main heading is "Add a New Phone". There is a green arrow icon followed by the text "Next". Below this is a section titled "Status" with an information icon and the text "Status: Ready". Below the status section is a section titled "Select the type of phone you would like to create" with a dropdown menu. The dropdown menu is set to "Cisco 7925". At the bottom left, there is a yellow highlighted "Next" button.

Voeg het **MAC-adres** van de telefoon toe onder de pagina **Phone Configuration** en kies de juiste waarden voor bepaalde delen zoals in de afbeelding en klik op de knop **Opslaan**.



Phone Configuration



Status

Status: Ready

Phone Type

Product Type: Cisco 7925

Device Protocol: SCCP

Device Information

Device is trusted

MAC Address*

Description

Device Pool* [View Details](#)

Common Device Configuration [View Details](#)

Phone Button Template*

Softkey Template

Common Phone Profile* [View Details](#)

Protocol Specific Information

Packet Capture Mode*

Packet Capture Duration

BLF Presence Group*

Device Security Profile*

SUBSCRIBE Calling Search Space

Unattended Port

Klik op **Een nieuwe lijn toevoegen** en geef een folder nummer aan deze telefoon.



Cisco Unified CM Administration

For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Administration ▾

Phone Configuration

Save Delete Copy Reset Apply Config Add New

Status

Status: Ready

Association

[Modify Button Items](#)

- 1 [Line \[1\] - Add a new DN](#)
- 2 [Line \[2\] - Add a new DN](#)
- 3 [Add a new SD](#)
- 4 [Add a new SD](#)
- 5 [Add a new SD](#)
- 6 [Add a new SD](#)

Phone Type

Product Type: Cisco 7925
Device Protocol: SCCP

Real-time Device Status

Registration: Unregistered
IPv4 Address: [10.106.122.155](#)
Active Load ID: None
Download Status: None

Device Information

Geef een directory nummer en klik op de knop **SAVE**. Klik vervolgens op de knoppen **Config** en **Reset**.



Cisco Unified CM Administration

For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Administration ▾

Directory Number Configuration

Save

Status

Directory Number Configuration has refreshed due to a directory number change. Please click Save button to save the configuration.

Directory Number Information

Directory Number* Urgent Priority
Route Partition
Description
Alerting Name
ASCII Alerting Name
External Call Control Profile
 Active

Directory Number Settings

Physical 7925-telefoonconfiguratie

Profielnaam

Navigatie in naar instellingen > Netwerkprofielen

- In elk profiel zoeken
- Type ****#** om de telefooninstellingen te ontgrendelen
- Geef een **profielnaam**



Netwerkconfiguratie

Navigatie in naar instellingen > Netwerkprofiel > Netwerkconfiguratie

Stel **DHCP**-waarde in op **YES**

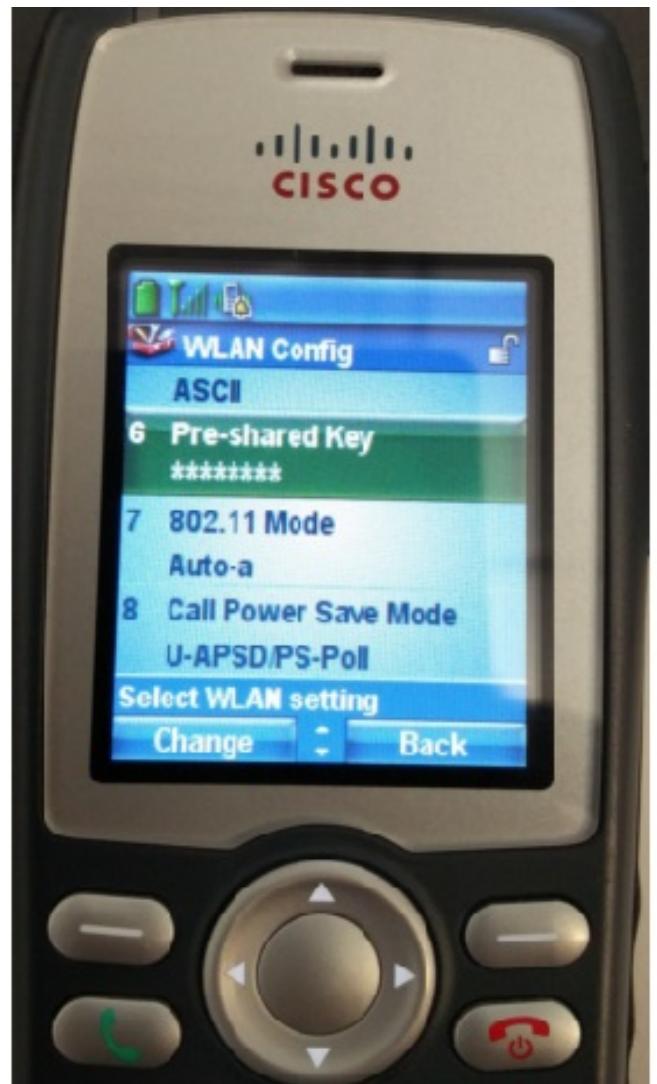
Als de TFTP IP niet uit de DHCP-server wordt getrokken, kunt u het TFTP IP-adres hier handmatig toevoegen.



WLAN-configuratie

Navigeren in instellingen > Netwerkprofiel > WLAN-configuratie

- Geef **SSID** naam (ingesteld op Access Point) en druk vervolgens op **Optie** en selecteer **SAVE**
- Stel de **beveiligingsmodus** in als **Auto (AKM)**
- Onder **Voorgedeeld Key Section** voert u het wachtwoord van SSID in (in ons laboratorium zetten we dit in als voicelab123)



Verifiëren

Zodra de telefoon met CUCM wordt geregistreerd, wordt het geconfigureerde Directory Number op het scherm weergegeven. Op de pagina Phone Configuration van CUCM Administration GUI, ziet u dat de telefoon in de geregistreerde status is zoals in de afbeelding.

A screenshot of the Cisco Unified CM Administration GUI. The page title is 'Cisco Unified CM Administration' with the tagline 'For Cisco Unified Communications Solutions'. The navigation menu includes 'System', 'Call Routing', 'Media Resources', 'Advanced Features', 'Device', 'Application', 'User Management', 'Bulk Administration', and 'Help'. The current page is 'Phone Configuration' for a 'Cisco 7925' phone. The 'Association Information' section shows two lines: 'Line [1] - 4002 (no partition)' and 'Line [2] - 4004 (no partition)'. The 'Phone Type' section shows 'Product Type: Cisco 7925' and 'Device Protocol: SCCP'. The 'Device Information' section shows 'Registration: Registered with Cisco Unified Communications Manager cucm192', 'IP Address: 10.106.122.161', and 'Device is Active' checked.

Problemen oplossen

Er is momenteel geen specifieke troubleshooting-informatie beschikbaar voor deze configuratie.