



SSG Support of WISPr Location Attributes

Service Selection Gateway (SSG) supports Location-ID and Location-Name, Wireless Internet Service Provider roaming (WISPr) attributes, as specified by the Wi-Fi Alliance.

These two new SSG attributes allow wireless hotspot¹ providers to customize Web portals, based on client locations.

This document explains how to enable and use these WISPr attributes.

History for the SSG Support of WISPr Location Attributes Feature

Release	Modification
Cisco IOS Release 12.4(2)T	This feature was introduced.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

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1. The geographic boundary covered by a wireless access point such as 802.11b or 802.11a. Typically set up for the Internet, anyone entering the hot spot with a 802.11-based laptop has connectivity to the Web.

Prerequisites for SSG Support of WISPr Location Attributes

Before you can enable and use the WISPr attributes, you must configure:

- The RADIUS server to support the logon method.
- SSG to authenticate subscribers via RADIUS.
- One or more devices, such as an access point (AP), that supports the WISPr RADIUS attributes. The attributes must be configured on all the devices.

Restrictions for SSG Support of WISPr Location Attributes

- If the Subscriber Edge Services Manager (SESM), accounting servers, or billing services are not configured to interpret RADIUS WISPr attributes, they ignore those attributes.
- For Cisco IOS Release 12.4(2)T, SSG supports only the Location-ID and Location-Name attributes. Other WISPr vendor-specific attributes are not supported with Cisco IOS Release 12.4(2)T.

Information About SSG Support of WISPr Location Attributes

Before you use the RADIUS WISPr attributes, you should understand the following concepts:

- [WISPr RADIUS Attributes, page 2](#)
- [How WISPr RADIUS Attributes Are Processed, page 3](#)

WISPr RADIUS Attributes

SSG supports the following WISPr attributes:

- Location-ID
- Location-Name

These attributes, which enable wireless hotspot providers to customize their web portals, are based on the client device location and are RADIUS vendor-specific attributes (VSAs). The VSAs are recommended by the WI-FI Alliance in the *Best Current Practices for Wireless Internet Service Provider (WISP) Roaming* document. WISPr uses a private enterprise number (PEN) of 14122 for these attributes.

Wireless hotspot providers can use WISPr attributes to:

- Display a logon page and enforce a preconfigured security list, based on the client location.
- Enable auto-logon services based on the location of the user
- Bill clients based on their location
- Support roaming billing arrangements between service providers

How WISPr RADIUS Attributes Are Processed

The Location-ID and Location-Name attributes are included in the Accounting-Request, Access-Request, and Access-Accept messages.

The Accounting Start event starts before the user logs on or when SSG creates a host object. SSG stores the attributes locally and passes them on to SESM as part of the Status Query response. The attributes are also sent in the host and connection accounting records.

Both authenticated EAPSIM users and open authentication users are supported.

**Note**

For users with Transparent Auto Logon (TAL), SSG includes the WISPr attributes in the Status Query responses to SESM.

How to Configure SSG Support of WISPr Location Attributes

The *WISPr Best Current Practices for Wireless Internet Service Provider (WISP) Roaming* document lists RADIUS attributes, which APs must send with RADIUS accounting and authentication requests.

APs currently support the following WISPr attributes:

- Location-ID
- Location-name

Use the **snmp-server location** and the **dot11 location isocc** commands to configure these attributes on APs.

The *WISPr Best Current Practices for Wireless Internet Service Provider (WISP) Roaming* document also requires APs to include a class attribute in RADIUS authentication replies and accounting requests. The APs automatically include the class attribute.

You can find a list of ISO and ITU country and area codes at the ISO and ITU web sites. Cisco IOS software does not check the validity of the country and area codes that you configure on APs.

Refer to [SUMMARY STEPS](#), next, for the command sequence required to configure SSG Support of WISPr Location Attributes.

For a detailed summarization of the command sequence, with examples, refer to [DETAILED STEPS](#), [page 4](#).

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **snmp-server location** *location*
4. **dot11 location isocc** *ISO-country-code* **cc** *country-code* **ac** *area-code*
5. **end**
6. **show running-config**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: ap> enable	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	configure terminal Example: ap# configure terminal	Enters global configuration mode.
Step 3	snmp-server location <i>location</i> Example: ap(config)# snmp-server location ACMEWISP,Gate_14_Terminal_C_of_Newark_Airport	Specifies the WISPr location-name attribute. The WISPr Best Current Practices for Wireless Internet Service Provider (WISP) Roaming document recommends that you enter the location name, in this format: hotspot_operator_name,location
Step 4	dot11 location isocc <i>ISO-country-code</i> cc <i>country-code</i> ac <i>area-code</i> Example: ap(config)# dot11 location isocc us cc 1 ac 408	Specify ISO and ITU country and area codes that the access point includes in accounting and authentication requests. isocc <i>ISO-country-code</i>—Specifies the ISO country code that the access point includes in RADIUS authentication and accounting requests. cc <i>country-code</i>—Specifies the ITU country code that the access point includes in RADIUS authentication and accounting requests. ac <i>area-code</i>—Specifies the ITU area code that the access point includes in RADIUS authentication and accounting requests.
Step 5	end Example: ap(config)# end	Return to privileged EXEC mode.
Step 6	show running-config Example: ap# show running-config	Verify your settings.

Examples

The following command example shows how to configure the WISPr location-name attribute:

```
ap(config)# snmp-server location ACMEWISP,Gate_14_Terminal_C_of_Newark_Airport
```

The following command example shows how to configure the ISO and ITU location codes on the access point:

```
ap(config)# dot11 location isocc us cc 1 ac 408
```

The following command example shows how the access point adds the SSID used by the client device and formats the location-ID string:

```
isocc=us,cc=1,ac=408,network=ACMEWISP_NewarkAirport
```

Additional References

The following sections provide references related to SSG Support of WISPr Location Attributes.

Related Documents

Related Topic	Document Title
Wi-Fi Alliance Wireless IP Roaming best practices	<i>Best Current Practices for Wireless Internet Service Provider (WISP) Roaming</i>
SSG commands	<i>Cisco IOS Service Selection Gateway Command Reference, Release 12.4</i>
Configuring SESM	<i>Cisco Subscriber Edge Services Manager documentation.</i>
RADIUS commands	<i>Cisco IOS Security Command Reference, Release 12.4</i>
RADIUS configuration tasks	<i>Cisco IOS Security Configuration Guide, Release 12.4</i>

Standards

Standard	Title
IEEE 802.11b	<i>IEEE Wireless Standards</i>

MIBs

MIB	MIBs Link
None	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
RFC 2477	<i>Criteria for Evaluating Roaming Protocols</i>
RFC 2865	<i>Remote Authentication Dial In User Service (RADIUS)</i>
RFC 2866	<i>RADIUS Accounting</i>

Technical Assistance

Description	Link
The Cisco Technical Support website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/techsupport

Command Reference

This feature uses no new or modified commands.

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