



Configuring Multiple Basic Service Set Identifiers and Microsoft WPS IE SSIDL

This module describes how to configure multiple basic service set identifiers (BSSID) on a Cisco 800, 1800, 2800, or 3800 series integrated services router, hereafter referred to as an access point (AP).

Access point 802.11a and 802.11g radios support up to 16 BSSIDs which are similar to MAC addresses. You use multiple BSSIDs to broadcast more than one SSID in beacons.

Devices on your wireless LAN that are configured to associate to a specific access point based on the access point MAC address (for example, client devices, repeaters, hot standby units, or workgroup bridges) might lose their association when you add or delete a multiple BSSID. When you add or delete a multiple BSSID, check the association status of devices configured to associate to a specific access point. If necessary, reconfigure the disassociated device to use the BSSID's new MAC address.

This module also describes how to configure the Microsoft WPS IE SSIDL feature. This feature allows an access point to broadcast a list of configured SSIDs such as SSID Lists (SSIDL) in the Microsoft Wireless Provisioning Services information element (WPS IE). A client with the ability to read the SSIDL can alert the user to the availability of the SSIDs.

Finding Feature Information in This Module

Your Cisco IOS software release may not support all of the features documented in this module. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the [“Feature Information for Configuring Multiple Basic Service Set Identifiers and Microsoft WPS IE SSIDL”](#) section on page 125.

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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Prerequisites for Configuring Multiple Basic Service Set Identifiers and Microsoft WPS IE SSIDL

The following prerequisites apply to configuring multiple BSSIDs and Microsoft WPS IE SSIDL:

- VLANs must be configured.
- Access points must run Cisco IOS Release 12.4(15)T or a later release.
- Access points must contain an 802.11a or 802.11g radio that supports multiple BSSIDs. To determine whether a radio supports multiple basic SSIDs, enter the **show controllers radio-interface** command. The radio supports multiple basic SSIDs if the results include this line:
Number of supported simultaneous BSSID on *radio-interface*: 8

Information About Configuring Multiple Basic Service Set Identifiers and Microsoft WPS IE SSIDL

Before you configure QoS on an access point, you should understand the following concept:

- [Guidelines for Using Multiple BSSIDs, page 120](#)

Guidelines for Using Multiple BSSIDs

Remember these guidelines when configuring multiple BSSIDs:

- RADIUS-assigned VLANs are not supported when you enable multiple BSSIDs.
- When you enable BSSIDs, the access point automatically maps a BSSID to each SSID. You cannot manually map a BSSID to a specific SSID.
- When multiple BSSIDs are enabled on the access point, the SSIDL IE does not contain a list of SSIDs; it contains only extended capabilities.
- Any Wi-Fi certified client device can associate to an access point using multiple BSSIDs.
- You can enable multiple BSSIDs on access points that participate in WDS.

How to Configure Multiple BSSIDs and Include an SSID in an SSID IE

This section contains the following tasks:

- [Configuring Multiple BSSIDs on an Access Point, page 121](#) (optional)
- [Including an SSID in an SSID IE, page 122](#) (optional)

Configuring Multiple BSSIDs on an Access Point

Perform this task to configure multiple BSSIDs on an access point.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **dot11 mbssid**
4. **dot11 ssid *name***
5. **exit**
6. **interface dot11Radio *interface***
7. **ssid *name***
8. **end**
9. **copy running-config startup-config**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	dot11 mbssid Example: Router(config)# dot11 mbssid	Enables multiple basic SSIDs on all access point radio interfaces.
Step 4	dot11 ssid <i>name</i> Example: Router(config)# dot11 ssid guest	Creates a global SSID. • The SSID is inactive until you use the ssid interface configuration command to assign the SSID to a specific radio interface.

	Command or Action	Purpose
Step 5	exit Example: Router(config-ssid)# exit	Exits SSID configuration mode.
Step 6	interface dot11Radio interface Example: Router(config)# interface dot11Radio 0/3/0	Enters interface configuration mode for the radio interface. <ul style="list-style-type: none"> For the Cisco 800 and 1800 series fixed-configuration routers, the <i>interface</i> argument can be either 0, for the 2.4-GHz, 802.11b/g radio port, or 1, for the 5-GHz, 802.11a radio port. For the Cisco 1800 series modular router and the Cisco 2800 and 3800 series routers, the <i>interface</i> argument is in module/slot/port format, for example, 0/3/0.
Step 7	ssid name Example: Router(config-if)# ssid guest	Creates an SSID for a radio interface.
Step 8	end Example: Router(config-if-ssid)# end	Returns to privileged EXEC mode.
Step 9	copy running-config startup-config Example: Router# copy running-config startup-config	(Optional) Saves your entries in the configuration file.

Including an SSID in an SSIDL IE

The access point or bridge beacon can advertise only one broadcast SSID. However, you can use SSIDL information elements (SSIDL IEs) in the access point or bridge beacon to alert client devices of additional SSIDs on the access point or bridge. When you designate an SSID to be included in an SSIDL IE, client devices detect that the SSID is available, and they also detect the security settings required to associate using that SSID.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **dot11 ssid name**
4. **information-element ssidl [advertisement] [wps]**
5. Repeat Steps 3 and 4 for each SSID you want included in the information element.
6. **exit**
7. **interface dot11Radio interface**
8. **ssid name**

9. end

10. copy running-config startup-config

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	dot11 ssid name Example: Router(config)# dot11 ssid guest	Creates a global SSID. <ul style="list-style-type: none">The SSID is inactive until you use the ssid interface configuration command to assign the SSID to a specific radio interface.
Step 4	information-element ssid1 [advertisement wps] Example: Router(config-ssid)# information-element ssid1 advertisement	Designates an SSID for inclusion in an SSIDL IE that the access point includes in its beacons.
Step 5	Repeat Steps 3 and 4 for each SSID you want included in the information element.	—
Step 6	exit Example: Router(config-ssid)# exit	Exits SSID configuration mode.
Step 7	interface dot11Radio interface Example: Router(config)# interface dot11Radio 0/3/0	Enters interface configuration mode for the radio interface. <ul style="list-style-type: none">For the Cisco 800 and 1800 series fixed-configuration routers, the <i>interface</i> argument can be either 0, for the 2.4-GHz, 802.11b/g radio port, or 1, for the 5-GHz, 802.11a radio port.For the Cisco 1800 series modular router and the Cisco 2800 and 3800 series routers, the <i>interface</i> argument is in module/slot/port format, for example, 0/3/0.
Step 8	ssid name Example: Router(config-if)# ssid guest	Assigns a globally configured SSID to a radio interface and enters SSID configuration mode. <ul style="list-style-type: none">If you created more than one global SSID in Step 3, you would repeat this command for each SSID name.

	Command or Action	Purpose
Step 9	<code>end</code> Example: Router(config-if-ssid)# end	Returns to privileged EXEC mode.
Step 10	<code>copy running-config startup-config</code> Example: Router# copy running-config startup-config	(Optional) Saves your entries in the configuration file.

Configuration Examples for Configuring Multiple Basic Service Set Identifiers

This section contains the following example:

- [Configuring Multiple BSSIDs on an Access Point: Example, page 124](#)

Configuring Multiple BSSIDs on an Access Point: Example

This example shows the CLI commands that you use to enable multiple BSSIDs on a radio interface, create an SSID named *visitor*, designate the SSID as a BSSID, specify that the BSSID is included in beacons, and assign the SSID *visitor* to the radio interface:

```
configure terminal
dot11 mbssid
dot11 ssid visitor
exit
interface dot11 0
ssid visitor
end
```

Additional References

The following sections provide references related to configuring Multiple BSSIDs:

Related Documents

Related Topic	Document Title
Cisco IOS wireless LAN commands: complete command syntax, command mode, command history, defaults, usage guidelines, and examples	<i>Cisco IOS Wireless LAN Command Reference</i> , Release 12.4T

Standards

Standard	Title
No new or modified standards are supported, and support for existing standards has not been modified by this feature.	—

MIBs

MIB	MIBs Link
No new or modified MIBs are supported, and support for existing MIBs has not been modified.	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
No new or modified RFCs are supported, and support for existing RFCs has not been modified.	—

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

Feature Information for Configuring Multiple Basic Service Set Identifiers and Microsoft WPS IE SSIDL

[Table 8](#) lists the features in this module and provides links to specific configuration information. Only features that were introduced or modified in Cisco IOS Release 12.4T or later appear in the table.

For information on a feature in this technology that is not documented here, see the “Cisco IOS Wireless LAN Features Roadmap” module.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Cisco IOS software images are specific to a Cisco IOS software release, a feature set, and a platform. 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.

**Note**

[Table 8](#) lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 8 Feature Information for Configuring Multiple Basic Service Set Identifiers (BSSIDs)

Feature Name	Releases	Feature Information
Microsoft WPS IE SSIDL	12.4(15)T	<p>This feature allows an access point to broadcast a list of configured SSIDs such as SSID Lists (SSIDL) in the Microsoft Wireless Provisioning Services Information Element (WPS IE). A client with the ability to read the SSIDL can alert the user to the availability of the SSIDs.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • Including an SSID in an SSIDL IE
Multiple Basic Service Set ID (BSSID)	12.4(15)T	<p>This feature permits a single access point (AP) to appear to the wireless LAN (WLAN) as multiple virtual APs.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • Information About Configuring Multiple Basic Service Set Identifiers and Microsoft WPS IE SSIDL • How to Configure Multiple BSSIDs and Include an SSID in an SSIDL IE

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