

Configure Management Frame Protection (MFP) on a Wireless Access Point

Objective

Management Frame Protection (MFP) is a wireless feature that increases the security of the management frames. Its wireless standard is IEEE 802.11w-2009 or Protected Management Frames (PMF) which aims to provide data confidentiality of the management frames and protect wireless connectivity. This feature only works if both the access point and the client have MFP enabled.

There are certain restrictions for some wireless clients to communicate with MFP-enabled infrastructure devices. MFP adds a long set of information elements to each probe request or SSID beacon. Some wireless clients such as Personal Digital Assistants (PDAs), smartphones, barcode scanners, and so forth have limited memory and CPU so you are not able to process these requests or beacons. As a result, you fail to see the Service Set Identifier (SSID) entirely, or you are not able to associate with these infrastructure devices due to mismatch of SSID capabilities. This issue is not specific to MFP. This also occurs with any SSID that has multiple information elements (IEs). It is always recommended to test MFP-enabled SSIDs on the environment with all your available client types before you deploy it in real time.

This article provides instructions on how to configure MFP on your Wireless Access Point (WAP).

Note: Your wireless client or operating system may or may not support this feature. Check with your wireless device or operating system manufacturer for more details.

Applicable Devices

- WAP100 Series â€“ WAP150
- WAP300 Series â€“ WAP361, WAP371
- WAP500 Series

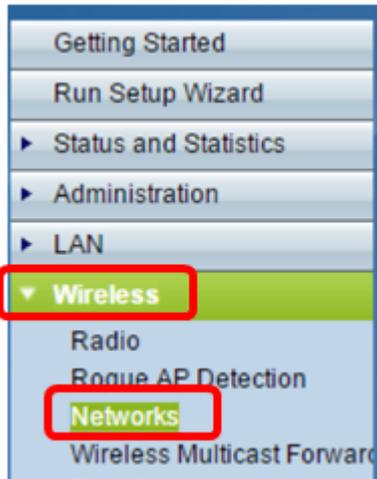
Software Version

- 1.2.1.3 â€“ WAP371, WAP551, WAP561
- 1.0.0.16 â€“ WAP150, WAP361, WAP571, WAP571E

Configure MFP on a WAP

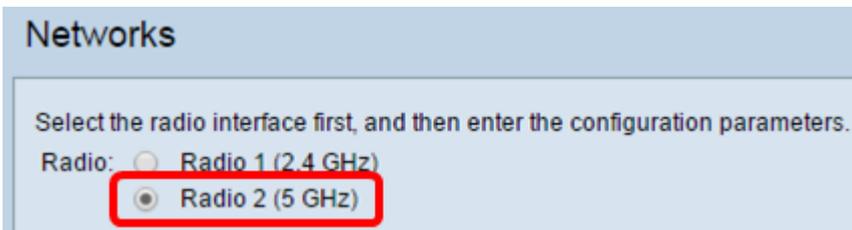
Important: Make sure that your wireless network has been configured before proceeding with the configuration steps.

Step 1. Log in to the access point web-based utility then choose **Wireless > Networks**.



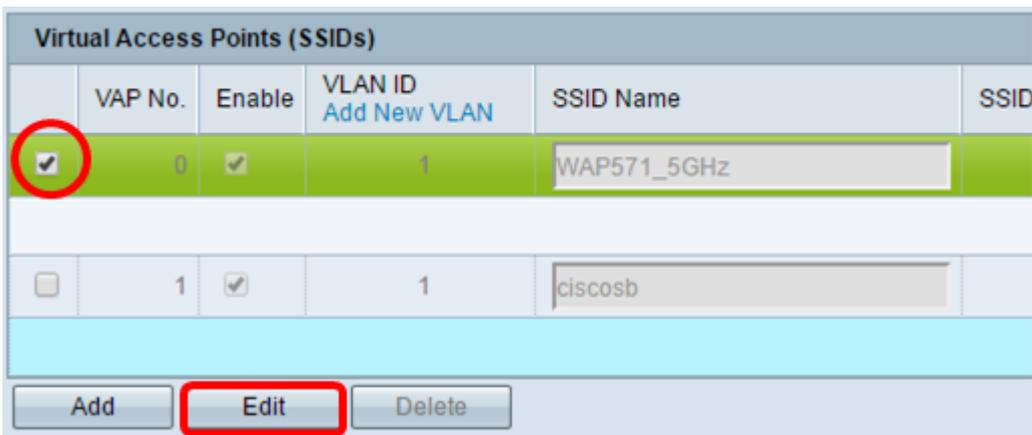
Step 2. In the Radio area of the Networks page, click to choose a radio where your Service Set Identifier (SSID) is configured. Radios may vary depending on the WAP model that you have. In this example, Radio 2 (5 GHz) is chosen.

Note: If you have a WAP551, skip to [Step 3](#). WAP551 is a single-band access point.



Step 3. Under the Virtual Access Points (SSIDs), check the check box of the SSID that you want to configure then click **Edit**.

Note: In this scenario, WAP571 is used.



Step 4. Click **Show Details**.

SSID Name	SSID Broadcast	Security	MAC Filter
WAP571_5GHz	<input checked="" type="checkbox"/>	WPA Personal ▼	Disabled ▼
Show Details			
ciscosb	<input checked="" type="checkbox"/>	WPA Personal ▼	Disabled ▼
Show Details			

Step 5. In the WPA Versions area, check the **WPA2-AES** check box.

Security	MAC Filter	Channel Isolation
WPA Personal ▼	Disabled ▼	<input checked="" type="checkbox"/>
Hidden Details		
WPA Versions: <input type="checkbox"/> WPA-TKIP <input checked="" type="checkbox"/> WPA2-AES		
Key: <input type="text" value="....."/> (Range: 8 - 63 Characters)		
<input type="checkbox"/> Show Key as Clear Text		
Key Strength Meter: <input type="text" value=" "/> Weak		
Broadcast Key Refresh Rate <input type="text" value="86400"/> Sec (Range: 0 - 86400, 0 = Disabl		
MFP: <input type="checkbox"/> Not Required <input checked="" type="checkbox"/> Capable <input type="checkbox"/> Required		

Step 6. (Optional) If the WPA-TKIP check box is checked in the WPA Versions area, uncheck to show the MFP options. The WPA-TKIP security does not support the MFP feature.

Security	MAC Filter	Channel Isolation	Be
WPA Personal ▼	Disabled ▼	<input checked="" type="checkbox"/>	
Hidden Details			
WPA Versions: <input checked="" type="checkbox"/> WPA-TKIP <input checked="" type="checkbox"/> WPA2-AES			
Key: <input type="text" value="....."/> (Range: 8 - 63 Characters)			
<input type="checkbox"/> Show Key as Clear Text			
Key Strength Meter: <input type="text" value=" "/> Weak			
Broadcast Key Refresh Rate <input type="text" value="86400"/> Sec (Range: 0 - 86400, 0 = Disable,			

Step 7. In the MFP area, check the **Required** MFP check box.

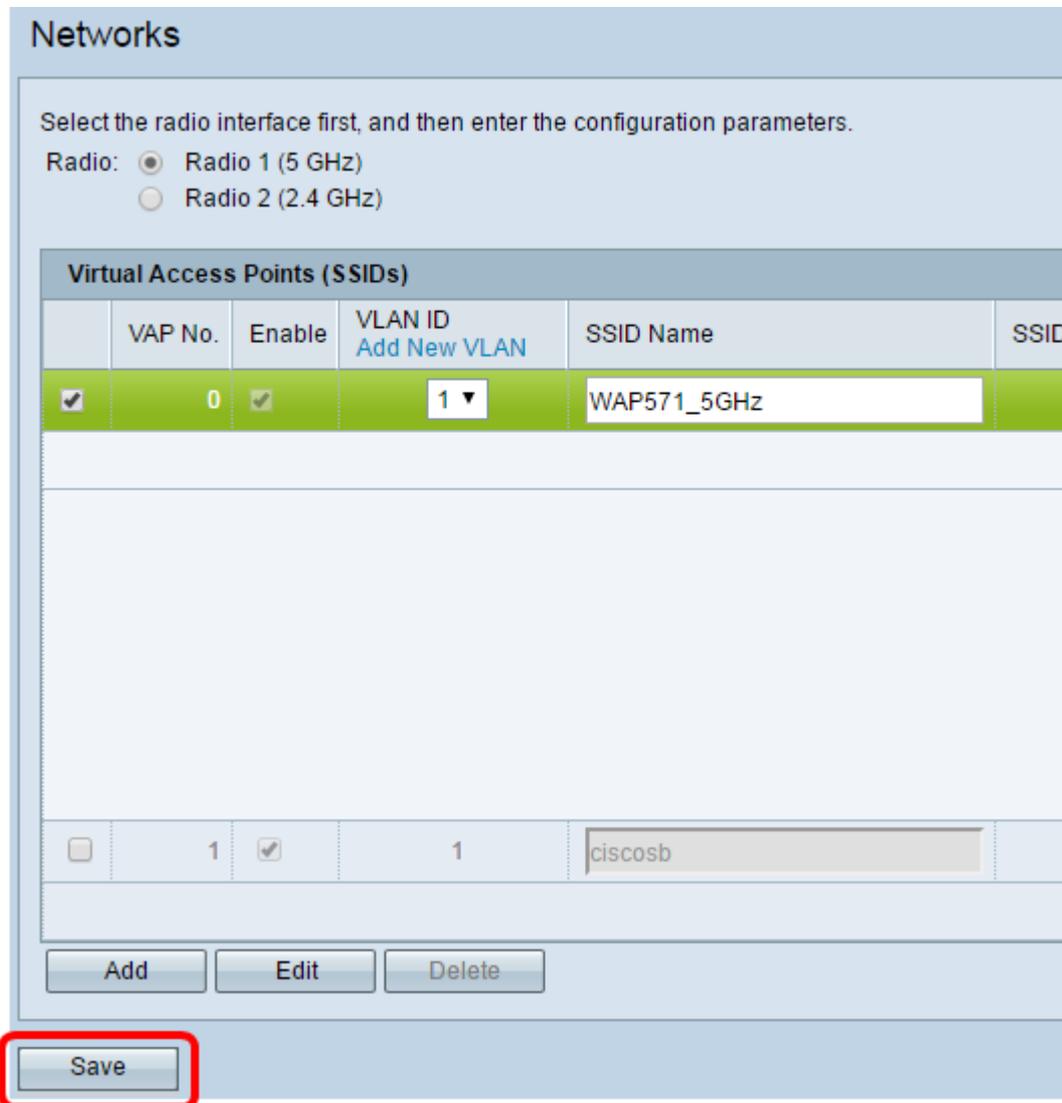
Key Strength Meter:	<input type="text" value=" "/>	Weak
Broadcast Key Refresh Rate	<input type="text" value="86400"/>	Sec (Range: 0 - 86400, 0 = Disable,
MFP:	<input type="checkbox"/> Not Required <input checked="" type="checkbox"/> Capable <input checked="" type="checkbox"/> Required	

The options are:

- Not Required – Disables the client support for MFP.

- Capable – Allows both MFP-capable and clients that do not support MFP to join the network. This is the default MFP setting on the WAP.
- Required – Clients are allowed to associate only if MFP is negotiated. If the devices do not support MFP, they are not allowed to join the network.

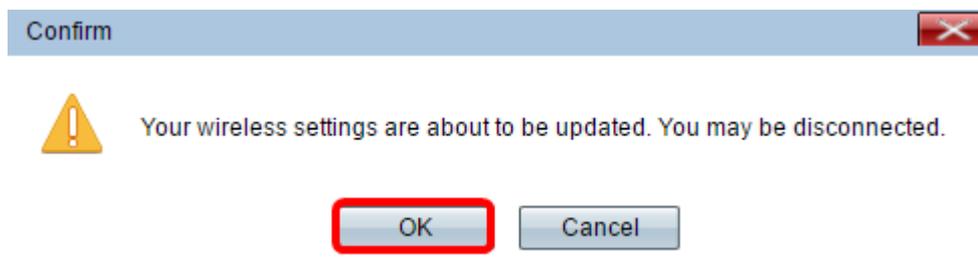
Step 8. Click **Save**.



The screenshot shows the 'Networks' configuration page. At the top, it says 'Select the radio interface first, and then enter the configuration parameters.' Below this, there are two radio buttons: 'Radio 1 (5 GHz)' (selected) and 'Radio 2 (2.4 GHz)'. The main section is titled 'Virtual Access Points (SSIDs)' and contains a table with the following columns: 'VAP No.', 'Enable', 'VLAN ID', 'SSID Name', and 'SSID'. The table has two rows. The first row is highlighted in green and has the following values: a checked checkbox, '0', a checked checkbox, a dropdown menu showing '1', 'WAP571_5GHz', and an empty field. The second row has a unchecked checkbox, '1', a checked checkbox, '1', 'ciscosb', and an empty field. Below the table are three buttons: 'Add', 'Edit', and 'Delete'. At the bottom left, there is a 'Save' button, which is highlighted with a red rectangle.

	VAP No.	Enable	VLAN ID Add New VLAN	SSID Name	SSID
<input checked="" type="checkbox"/>	0	<input checked="" type="checkbox"/>	1	WAP571_5GHz	
<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	1	ciscosb	

Step 9. Once the Confirm popup window appears, click **OK**.



The screenshot shows a 'Confirm' popup window. It has a title bar with the word 'Confirm' and a close button. Below the title bar is a yellow warning triangle icon. To the right of the icon is the text: 'Your wireless settings are about to be updated. You may be disconnected.' At the bottom of the window are two buttons: 'OK' and 'Cancel'. The 'OK' button is highlighted with a red rectangle.

You should now have configured MFP on your access point.

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