

Wireless Distribution System (WDS) Bridge Configuration on WAP551 and WAP561 Access Points

Objective

This article explains how to configure a WDS bridge on the WAP551 and WAP561 Access Points. A Wireless Distribution System (WDS) bridge enables access points to communicate with each other using the wireless medium. This, in turn, allows seamless roaming of the wireless devices or clients connected to the WAPs. Multiple WAPs can be connected through WDS.

WAP551 or WAP561 can be set up as a single point-to-point mode access point, point-to-multipoint bridge, or a repeater. In the point-to-point mode, a single WAP device accepts connections from clients and other repeaters in the network. In a point-to-multipoint bridge mode, a single WAP device behaves as a central link between many access points. WAP device can also act as a repeater, where it can establish a connection between access points which are far apart from each other.

The configuration differs slightly for the WAP551 and WAP561. This is because the WAP561 has two radio interfaces, while the WAP551 has only one. The variation in the configuration is described below.

Applicable Devices

- WAP551
- WAP561

Software Version

- 1.0.4.2

Wireless Distribution System Configuration

For two devices to communicate successfully with each other through WDS they must have same settings for radio, IEEE802.11 mode, Channel Bandwidth and Channel(audio not recommended). For further information check the radio settings. This applies to both WAP551 and WAP561. If you have not already configured the basic radio settings and need to do so, refer to the article [Radio Settings on WAP551/WAP561](#).

Step 1. Log in to the web configuration utility and choose **Wireless > WDS Bridge**. The *WDS Bridge* page opens:

WDS Bridge

Spanning Tree Mode: ☒ Enable

Local MAC Address:

WDS Interface: ☐ Enable

Remote MAC Address: (xxxxxxxxxxxx)

Encryption:

WDS Interface: ☐ Enable

Remote MAC Address: (xxxxxxxxxxxx)

Encryption:

WDS Interface: ☐ Enable

Remote MAC Address: (xxxxxxxxxxxx)

Encryption:

Step 2. To enable Spanning Tree Mode, check the **Enable** check box in the Spanning Tree Mode field. Spanning Tree Mode prevents switching loops.

WDS Bridge

Spanning Tree Mode: ☒ Enable

Radio: ☒ Radio 1 ☐ Radio 2

Local MAC Address:

WDS Interface: ☐ Enable

Remote MAC Address: (xxxxxxxxxxxx)

Encryption:

Step 3. This step is applicable to WAP561 only. WAP561 requires you to choose between two radio interfaces. Click one of the **Radio 1** or **Radio 2** radio buttons. To look up which radio is configured on the device check radio settings. If you need to configure radio settings refer to the article [Radio Settings on WAP551/WAP561](#).

Note: On the WAP551, the radio field is missing as seen in the first picture. One other difference between the two access points is that the local MAC address field which displays the MAC address of the WAP, is shown only once, below the Spanning tree Mode field, on

the WAP551. On the WAP561 however, it is shown multiple times. The rest of the configuration utility looks the same.

WDS Bridge

Spanning Tree Mode: ☒ Enable

Radio: ☒ Radio 1
☐ Radio 2

Local MAC Address: [Greyed out address]

WDS Interface: ☒ Enable

Remote MAC Address: [Empty field] (xxxxxxxxxxxxxxxx)

Encryption: None

Step 4. Check the **Enable** check box to enable the WDS Interface. A maximum of four WDS Interfaces can be added.

Local MAC Address: [Greyed out address]

WDS Interface: ☒ Enable

Remote MAC Address: [Greyed out address] (xxxxxxxxxxxxxxxx)

Encryption: None

Step 5. In the Remote MAC Address field, enter the MAC address of the destination access point (the access point on the opposite end of the WDS bridge).

WDS Interface: ☒ Enable

Remote MAC Address: [Greyed out address] (xxxxxxxxxxxxxxxx)

Encryption: [None | WPA Personal]

Radio: ☒ Radio 1
☐ Radio 2

Local MAC Address: [Greyed out address]

Step 6. Choose the desired option from the Encryption drop-down list. This field shows the type of encryption which can be used for the WDS link.

- None — No encryption is used. Only use this if you are not concerned about security or have devices that do not support WPA. Skip Step 7 if this is chosen.
- WPA Personal — Each user on the network authenticates with the key generated from the password through the use of WPA. WPA uses a pre-shared key to authenticate between two access points. It is recommended that you configure security on each remote access point you add.

WDS Interface: ☒ Enable

Remote MAC Address: (xx:xx:xx:xx:xx:xx)

Encryption: WPA Personal ▼

WDS ID: (Range: 2-32 Characters)

Key: (Range: 8-63 Characters)

Step 7. If you have chosen WPA Personal in the step above enter the WDS ID and Key for authentication of WAP in the WDS ID and Key fields that appear. This information should be same on all the WAP that connect to a Wireless Distribution System. WDS ID can consist of any alphanumeric combination of two to 32 characters while the Key may be 8-63 character long string made of upper/lower case letters, numbers and special characters.

Step 8. (Optional) Repeat Steps 3 through 7 for the other access points that you would like to connect to the WDS Bridge. You can add up to four access points in four WDS interfaces that are available.

Step 9. Scroll down to the bottom of the page and click **Save**.

Conclusion

You should now have a WDS bridge configured on your network. If you are looking for more information, click on the following links:

- [Connect Multiple Access Points Together through Wireless Distribution System \(WDS\)](#)
- [Configure Workgroup Bridge on a Wireless Access Point \(WAP\)](#)
- [Set up a Wireless Network using a Wireless Access Point \(WAP\)](#)