



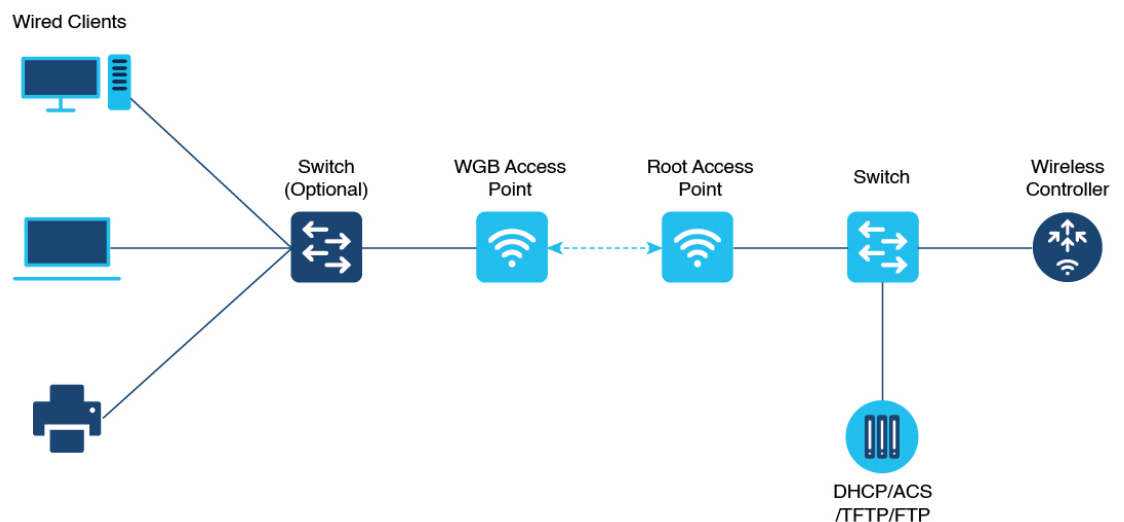
Workgroup Bridges

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Cisco Workgroup Bridges

A workgroup bridge (WGB) is an Access Point (AP) mode to provide wireless connectivity to wired clients that are connected to the Ethernet port of the WGB AP. A WGB connects a wired network over a single wireless segment by learning the MAC addresses of its wired clients on the Ethernet interface and reporting them to the WLC through infrastructure AP using Internet Access Point Protocol (IAPP) messaging. The WGB establishes a single wireless connection to the root AP, which in turn, treats the WGB as a wireless client.

Figure 1: Example of a WGB



The mode supported in WGB for Embedded Wireless Controller is:

- Flex Mode: Central authentication and local switching.

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Note Central authentication is supported on Wave 1 and Wave 2 APs, whereas local switching is supported only on Wave 2 APs.

The following features are supported for use with a WGB:

Table 1: WGB Feature Matrix

| Feature | Cisco Wave 1 APs | Cisco Wave 2 |
|---------------------------------------|---|---|
| 802.11r | Supported | Supported |
| QOS | Supported | Supported |
| UWGB mode | Supported | Supported on Wave 2 APs |
| IGMP Snooping or Multicast | Supported | Supported |
| 802.11w | Supported | Supported |
| PI support (without SNMP) | Supported | Not supported |
| IPv6 | Supported | Supported |
| VLAN | Supported | Supported |
| 802.11i (WPAv2) | Supported | Supported |
| Broadcast tagging/replicate | Supported | Supported |
| Unified VLAN client | Implicitly supported (No CLI required) | Supported |
| WGB client | Supported | Supported |
| 802.1x – PEAP, EAP-FAST, EAP-TLS | Supported | Supported |
| NTP | Supported | Supported |
| Wired client support on all LAN ports | Supported in Wired-0 and Wired-1 interfaces | Supported in all Wired-0, 1 and LAN ports 1, 2, and 3 |

Table 2: WGB Support on APs

| WGB WLAN Support | Cisco Wave 1 APs | Cisco Wave 2 APs |
|------------------------|------------------|------------------|
| Central Authentication | Supported | Supported |
| Local Switching | Not Supported | Supported |

Restrictions for WGB

- MAC filtering is not supported for wired clients.
- Idle timeout is not supported for both WGB and wired clients.
- Session timeout is not applicable for wired clients.
- Web authentication is not supported.
- WGB supports only up to 20 clients.
- If you want to use a chain of certificates, copy all the CA certificates to a file and install it under a trust point on the WGB, else server certificate validation may fail.
- Wired clients connected to the WGB are not authenticated for security. Instead, the WGB is authenticated against the access point to which it associates. Therefore, we recommend that you physically secure the wired side of the WGB.
- Wired clients connected to a WGB inherit the WGB's QoS and AAA override attributes.
- To enable the WGB to communicate with the root AP, create a WLAN and make sure that Aironet IE is enabled under the Advanced settings.

Configuring Workgroup Bridge on a WLAN

Procedure

| | Command or Action | Purpose |
|---------------|--|--|
| Step 1 | configure terminal Example: Device# configure terminal | Enters global configuration mode. |
| Step 2 | wlan <i>profile-name</i> Example: Device(config)# wlan <i>wlan-profile</i> | Enters WLAN configuration submode. The <i>wlan-profile</i> is the profile name of the configured WLAN. |
| Step 3 | ccx aironet-iesupport Example: Device(config-wlan)# ccx aironet-iesupport | Enables support for Aironet IEs for this WLAN. |
| Step 4 | no shutdown Example: Device(config-wireless-policy)# no shutdown | Restarts the WLAN. |

Verifying the Status of Workgroup Bridges

- To verify the number of WGBs, use the following command:

show wireless wgb summary

The following is a sample output:

```
Device#show wireless wgb summary
Number of WGBs: 1
MAC Address      AP Name                WLAN State      Clients
-----
7070.8b7a.7030  Ed2-JFW-AP1           1   Run           1
```

- To verify WGB details, use the following command:

show wireless wgb mac-address *MAC-address* detail

The following is a sample output:

```
Device#show wireless wgb mac-address 7XXX.8XXa.7XXX detail

Work Group Bridge

MAC Address      : 7XXX.8XXa.7XXX
AP Name          : Ed2-JFW-AP1
WLAN ID         : 1
State           : Run

Number of Clients: 1

MAC Address
-----
d8XX.97XX.bXXX
```

- To view the client details on the controller, use the following command:

show wireless client mac-address *MAC-address* detail

The following is a sample output:

```
Device#show wireless client mac-address 7XXX.8bXX.70XX detail

Workgroup Bridge
Wired Client count : 1
```

- The following is a sample output:

```
Device#show wireless client mac-address d8XX.97XX.b0XX detail
Workgroup Bridge Client
WGB MAC Address : 7XXX.8bXX.70XX
```