

# Fastlane+ Frequently Asked Questions

## Q What is Fastlane+?

A Cisco's and Apple's Fastlane+ is a solution that significantly improves the experience of any Wi-Fi 6 capable Apple iPhones or iPads connected to a [Cisco® wireless Wi-Fi 6](#) network. By leveraging Wi-Fi 6's Orthogonal Frequency-Division Multiple Access (OFDMA) technology, Fastlane+ provides users with an incredible voice and video streaming quality for iOS 14, iPadOS 14 and above clients under even the most congested RF environments. Fastlane+ enhances the existing Fastlane solution, optimizing iOS client roaming with adaptive 802.11r and allowing users to prioritize specific voice and video applications.

## Q How does Fastlane+ work?

A When a Wi-Fi 6 capable iOS 14 and above iPhone or iPadOS 14 and above decides to use a voice or video application in a network environment with 60% or higher channel utilization, the client device will first send an Advanced Scheduling Request (ASR) trigger (802.11 Action Frame) to the access point. This ASR trigger consists of information such as the periodicity of the traffic and the traffic bit rate. At this point, an ASR session will form between the network and the client. Using information from this ASR trigger and the fact that voice and video traffic typically operates at predictable bit rates, traffic patterns, bandwidth, and latency requirements allows the network to intelligently estimate the client's Buffer Status Report (BSR). Fastlane+ is enabled at 60% channel utilization because the network is always trying to maximize airtime efficiency. At around 60% channel utilization, a regular OFDMA device's BSR polling becomes less effective, and at that point Fastlane+ can begin to benefit the user.

## Q How does Fastlane+ enhance Wi-Fi 6 and OFDMA?

A OFDMA is BSR based, meaning the access point must periodically poll for the BSR from the joined client devices to understand the type of traffic they plan to send next. In a high channel utilization environment, polling becomes a large overhead and increases the already high latency of the network. In the case of Fastlane+, rather than having the access point poll for the BSR, the iPhones and iPad will automatically send an ASR trigger that provides the access point with information allowing it to estimate the BSRs instead, lowering latency and improving user experience.

## Q What Cisco WLC hardware and software supports Fastlane+?

A All Cisco [Catalyst® 9800 Series controllers](#) and [Embedded Wireless Controllers](#) on Cisco IOS® XE 17.4.1 or later software, and all AireOS controllers and Mobility Express supporting 8.10.142.0 or later software.

## Q What Cisco access points support Fastlane+?

A Today, only the [Catalyst 9130AX Series](#) access points support Fastlane+; however, additional access points may support this solution in the future.

## Q What Apple hardware and software supports Fastlane+?

A All Wi-Fi 6 capable iPhones (iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max, iPhone SE, iPhone 12, iPhone 12 Pro, and iPhone 12 Mini) and iPads (iPad Pro and iPad Air) running iOS 14 or later.

## Q What's the difference between Fastlane+ and Fastlane?

A

The original Fastlane solution has two prominent use cases:

- Optimized roaming for iOS and iPadOS devices with Adaptive 802.11r.
- The ability to prioritize business applications on iPhones and iPads using the Apple configurator app or Cisco Meraki® device management software to whitelist an application.

Rather than requiring specific applications to be whitelisted, as is done in the original Fastlane solution, Fastlane+ improves the experience of all voice and video applications in general for Wi-Fi 6 capable iPhones and iPads in a high channel utilization network environment.

## Q What are the benefits of Fastlane+?

A

The following are the benefits of a Fastlane+ enabled network:

- A 40% increase in the Mean Opinion Score (MOS) for VoIP traffic, providing users with higher-quality voice and video content.
- A 30% decrease in latency and a 10% decrease in jitter, optimizing the wireless network to be more reliable.
- A 20% increase in throughput, allowing users to stream high-definition voice and video content.

## Q What are examples of voice and video applications that will trigger Fastlane+?

A

Any voice or video application should trigger Fastlane+. The list of applications includes Cisco Webex® and FaceTime.

## Q What are some key deployment considerations for Fastlane+?

A

The following are three key deployment considerations for Fastlane+:

- The benefits of Fastlane+ are best observed in a network environment with 60% channel utilization and above.
- For Fastlane+ to be effective, the network environment must

have a significant number of Fastlane+ supported Apple clients (Wi-Fi 6 capable iPhone and iPad on iOS 14 and iPadOS14 and above).

- Fastlane+ optimizes the user experience of voice and video application traffic.

## Q Does Fastlane+ add extra Information Elements (IEs) to the beacons?

A

No, Fastlane+ uses existing Cisco vendor-specific IEs.

## Q Is a Fastlane+ equivalent feature available for other wireless clients?

A

Not at the moment; this feature is currently exclusive between Cisco and Apple.

## Q How is Fastlane+ enabled on a Catalyst 9800 Series WLC?

A

Fastlane+ is enabled on a per-WLAN basis through the WebUI, Command-Line Interface (CLI), or Cisco DNA Center.

- WebUI: Follow the steps below in sequence to enable Fastlane+ (PMF and ASR).
  1. Navigate to the WLAN page and click on the WLAN you'd like to enable Fastlane+ on.
  2. Click the Security tab and set PMF (Protected Management Frame) to either Optional or Required.
  3. Click the Advanced tab and click the check box next to Advanced Schedule Request Handling.
- CLI: Run the following commands in sequence to enable Fastlane+ (PMF and ASR).

```
config terminal
wlan <WLAN Profile Name>
scheduler asr
```

This command enables ASR.  
exit

```
security pmf <optional or required>
```

This command enables PMF.

```
show wlan <WLAN ID>
```

This command displays whether ASR is enabled or disabled.

- Cisco DNA Center: Follow the steps below to create a template that you can provision to your WLC to enable Fastlane+ (PMF and ASR). (These steps assume you already have a Catalyst 9800 Series WLC assigned to a site within Cisco DNA Center.)

1. Open the menu and navigate to Tools > Template Editor.
2. Click the + button, and click Create Project, then provide a unique project name.
3. Click the + button and click Create Template.
4. For Name, input a unique Template Name; for Project Name, input the name of the project created in step 2; for Tags, input a unique tag name; for Device Type(s), select Cisco Catalyst 9800 Series Wireless Controllers or Cisco Catalyst 9800 Series Wireless Controllers for Cloud (depending on which one you're using), and for Software Type, select IOS XE. Click Update.
5. Add the following lines to the template:
 

```
wlan {{ wlan_name }} {{ wlan_id }} {{ ssid_name }}
security pmf {{ PMF_required_or_optional }}
scheduler asr
{{ shut }}
```
6. Within the Action drop-down menu, click Save, then Commit.
7. Open the menu and navigate to Design > Network Profiles.
8. Click Add Profile, select Wireless, and click Add next to Attach Template(s).
9. For Device Type, select Cisco Catalyst 9800 Series Wireless Controllers or Cisco Catalyst 9800 Series Wireless Controllers for Cloud (depending on which one you're using); for Device

Tag, select the tag you associated to your template created earlier, and under Template, choose your template name created earlier. Click Save.

10. Open the menu, navigate to Provision > Inventory, then navigate to the WLC you'd like to provision.
11. Select the check box next to the WLC you'd like to provision, click Tag Device at the top, select the tag added to the template earlier, and click Apply.
12. Select the check box next to the WLC within the Actions menu, then click Provision > Provision Device.
13. Click Next > Next > Next, then click the name of the WLC within the Advanced Configurations page.
14. Provide the following inputs in the fields:
  - WLAN Name: <unique WLAN name>
  - WLAN ID Number: <unique WLAN ID>
  - SSID Name: <unique SSID name>
  - PMF\_required\_or\_optional: <input either "required" or "optional">
  - Shut: no shut
15. Click Next, then Provision.



### How is Fastlane+ enabled on an AireOS WLC?

Fastlane+ is enabled on a per-WLAN basis and is done through the CLI.

- CLI: Run the following commands in sequence to enable Fastlane+ (PMF and ASR).
 

```
config WLAN asr {enable | disable} <WLAN ID>
```

 This command enables ASR.
 

```
config wlan security pmf <optional or required>
```

 This command enables PMF.
 

```
show WLAN <WLAN ID>
```

 This command displays whether ASR is enabled or disabled.