Simple
Seamless Roaming
Next-generation wireless technology

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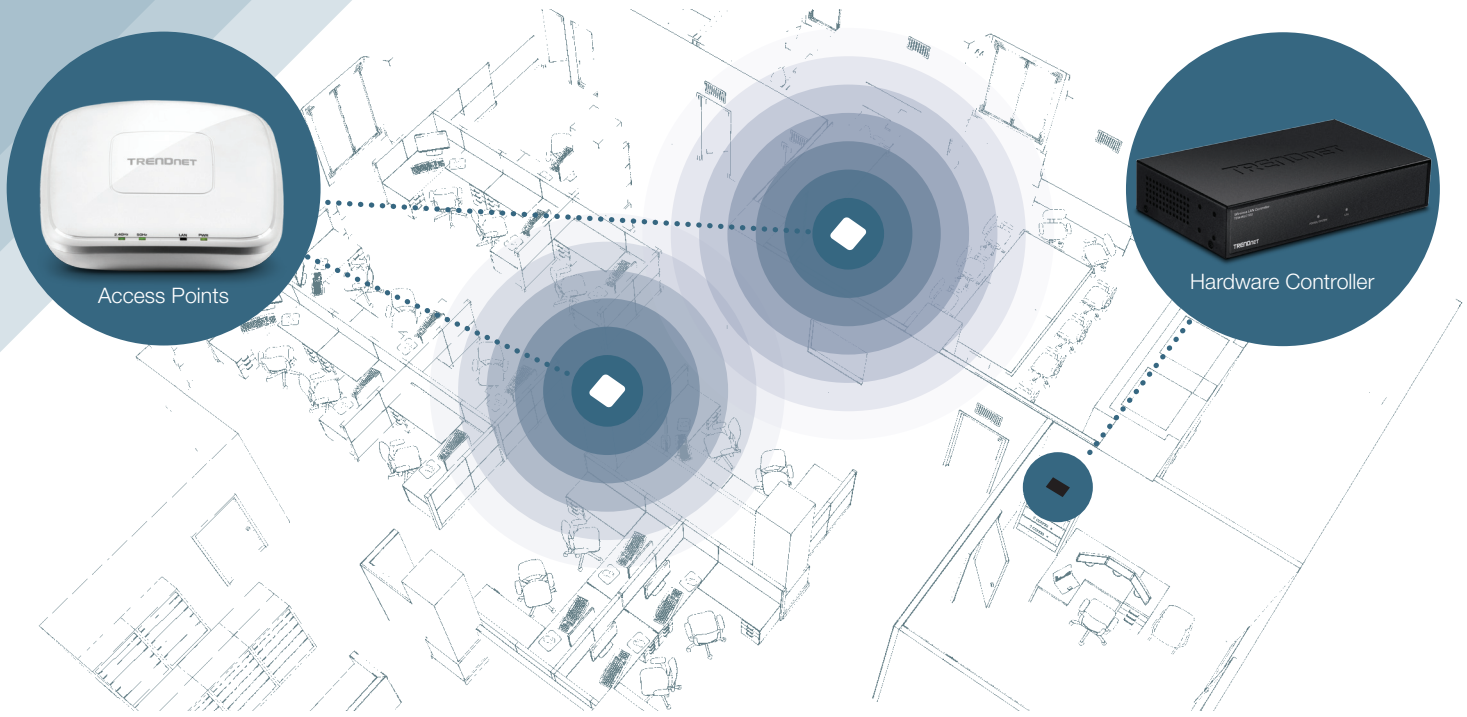
What is a wireless hardware controller?



Wireless controllers provide two primary functions, centralized AP management and seamless roaming capabilities.

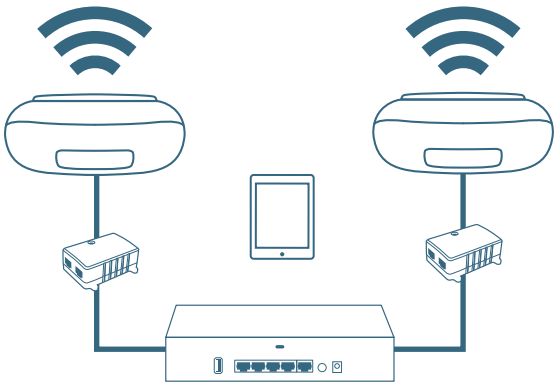
A hardware controller, wireless controller, or WLAN controller is a physical device that is usually rack mounted in a server room; it configures and manages multiple APs in a network from a single interface, and also functions as a switch for your wireless traffic.

A wireless controller eliminates the tedious task of manually configuring each AP on the network. By hooking up your wireless controller to your network, it should discover all compatible APs on that network.

A wireless controller also improves scalability since it allows network administrators to easily install additional APs onto the network while reducing complications during deployment and management.

Did you know?

A wireless controller and indoor access points can be used as an alternative to wireless mesh solutions.



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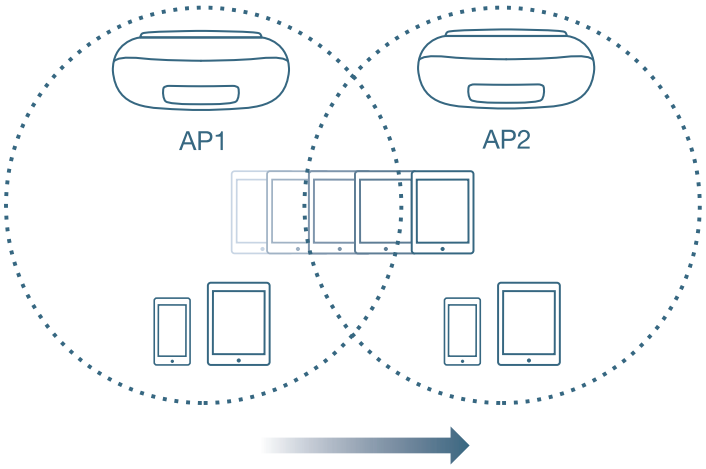
Seamless Roaming



Seamless roaming allows client devices to move across a network while never losing connectivity. As users and devices transition from one AP to another, seamless roaming technology prevents dropped connections.

Client devices, such as your mobile phone or laptop, are designed to stay connected to the original AP they connect to, regardless of whether there is a closer or stronger AP in your range. Staying connected to the original AP, especially at a distance, will reduce bandwidth for that client device significantly.

Hardware controllers come with varying levels of features. Be sure you select a hardware controller that meets your needs. Not all seamless roaming applications are the same. There are several different industry standards and technologies that can assist to improve the seamless roaming functionality. Read about some of the most important technologies below.

Note that some companies may use different terminology to describe the same technology. Read product descriptions carefully to get full details on features.

Intelligent Radio Resource Management (802.11k)

Intelligent Radio Resource Management provides a more efficient WiFi roaming environment by intelligently managing neighboring APs and passing mobile clients off to the next best access point.

Fast BSS Transition (802.11r)

Fast BSS Transition or fast roaming ensures optimal roaming conditions for your mobile WiFi clients. Note that the client device must also support the 802.11r standard to take advantage of the fast roaming feature.

Opportunistic Key Caching (OKC)

OKC pre-authenticates WiFi clients with neighboring APs, making for a much faster and seamless transition. An additional benefit to OKC technology is that it does not require the client device to support it for the technology to function properly.

Airtime Fairness

This smart WiFi feature calculates and determines which clients have priority over others. Clients that are faster and closer to the AP will have the highest priority while clients that are slower and farther away will have lower priority, freeing up WiFi resources.

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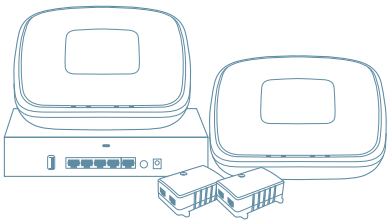
Frequently Asked Questions



What is the difference between a Thin AP and a Fat AP?

Fat APs, also known as thick or intelligent APs, have the ability to manage wireless clients. Thin APs require a controller for configuration and management, but saves on cost and time.

What's the difference between 5GHz dual band and 2.4GHz? Are there any benefits to using dual band over 2.4GHz?

The 5GHz band provides faster speeds at shorter distances, however, 2.4GHz covers a farther range, but the performance may be slower. The 5GHz band also supports Band Steering technology, which alleviates network congestion by automatically directing wireless devices from the oversaturated 2.4GHz band to the 5GHz band.

Do you need to connect all the APs directly to the controller?

No, you should be able to connect your controller anywhere on your network. It will locate and identify any compatible access points. However, some users prefer to connect certain APs directly to the controller.

What is the maximum number of APs a controller can manage?

Ranges can vary from 8 to 128.

Will the controller monitor all APs?

Yes, you should be able to monitor all APs from a centralized interface. Monitoring each access point and ensuring a solid connection status of network devices is very important to ensuring your network is in good standing.

Are you able to create group profiles?

Yes, group profiles help to reduce AP deployment time to provision multiple APs simultaneously.

Are you able to upgrade firmware easily?

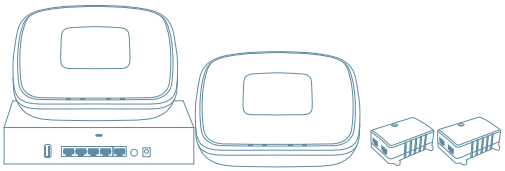
Check to see that you can perform simultaneous firmware upgrade on multiple APs. Otherwise, you'll still need to perform updates manually, and one by one.

Can it be used for a public hotspot application, such as at a hotel or coffee shop?

Ensure that the controller supports Captive Portal for public hotspot applications.

Need help placing your APs?

Some APs allow you to upload floor plans for a visual overview of each access point's location, such as TRENDnet's WAP Maps™ feature.



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Common Applications

VoIP / Video Conference Streaming

Seamless roaming is especially crucial for environments with bandwidth intensive applications such as video conferencing or VoIP voice calls. In previous applications, users would be disconnected before they could connect to a new AP. This short disconnection could lead to excessive buffering or dropped connections.

Captive Portal

For environments that offer a public WiFi hotspot and manage wireless usage, such as at hotels or coffee shops, captive portal support allows you to create a custom web portal for users to authenticate access.

Easy End-User Usability

For controllers that include pre-authentication features, users will not have to reauthenticate their credentials as they move from AP to AP in a network. The connection and usage should be simple and seamless.

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