



White Paper

# 802.11ac Migration Guide

## **Summary**

The era of Gigabit WiFi is upon us. In this white paper we examine the new technology, what its arrival means for your organization, and demonstrate how the unique Meraki architecture is an excellent choice for a technology that keeps evolving like WiFi.

# What is 802.11ac?

It seems like only yesterday that deployments of 802.11n began, and today wide-scale deployments of that technology are still forging ahead. With the recent explosion in the number of devices of all kinds now using WiFi, the thirst for ever-better performance seems unquenchable, and so it was inevitable that new standards would be developed.

So, what does the future of WiFi hold? The era of Gigabit WiFi is here, and 802.11ac is the next step along the evolutionary path of

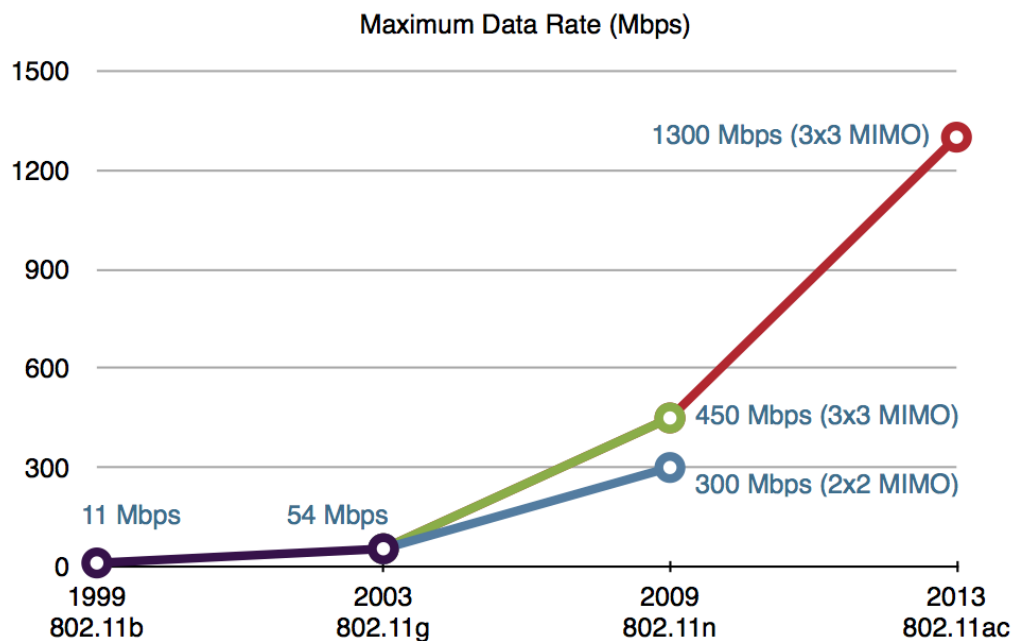
WiFi, taking us beyond the 1 Gbps speed barrier for the first time, and almost tripling the performance of its predecessor. Using a combination of wider channel bandwidth, more efficient modulation, and taking advantage spectrum less prone to interference (5 GHz), 802.11ac can reach maximum data rates up to 1.75 Gbps under Wave 1 of the standard, and potentially even higher in later iterations. Has WiFi always seemed slower than a wired connection? The gap is now narrowing to such a degree that Ethernet cables network access may not even be needed for much longer.

# How does 802.11ac impact the network?

The higher performance of 802.11ac will be welcomed by any device that consumes and share rich content, from highly visual web pages to high definition audio and video.

Fortunately, as with the 802.11 standards before it, 'ac' is backwards compatible, so today's clients will continue to work on 802.11ac

networks, operating as fast as their technology allows. 802.11ac client devices are becoming increasingly more common, from high end personal computers to the latest smart phones. Tablets are expected to closely follow suit, as their demand for video streaming and high bandwidth applications outpaces most other mobile devices.



# Deploying 802.11ac

Today, users' demands for a greatly improved wireless experience are so strong that deployments are continuing at a considerable pace. As the new standard comes to the attention of IT departments, the question of whether to deploy 802.11n or 802.11ac will inevitably arise.

Support for co-existence with older 802.11a/b/g/n client devices is built into the 802.11ac standard, and thankfully the latest generation of 802.11n APs and clients already provide excellent performance in terms of throughput, support for voice and video apps, and high client density environments. For those administrators looking for even higher capacity, 802.11ac access points are here to meet those needs.

With no physical controller to upgrade, the Meraki cloud-based architecture makes migrating to 802.11ac a plug-and-play experience. Administrators can add 802.11ac APs to their existing network with no manual configuration or added complexity, as all the settings for the APs, including security settings, access control and — crucially — radio configurations are automatically retrieved from the cloud.

Those needing the additional capacity of the new standard can upgrade from 802.11n to 'ac', or can mix-and-match, for example deploying 'n' for standard capacity needs and 'ac' where performance and density requirements are the highest. The Meraki solution makes mixed or staggered approach to deployment straightforward, comfortably accommodating management of a mixture of 802.11ac and 802.11n APs within a single pane-of-glass, the Meraki dashboard.

Meraki AP management is out-of-band, meaning that wireless traffic never passes through a controller or the cloud, so it experiences no bottleneck along its journey. The advantage of the Meraki architecture becomes greater the faster the traffic is flowing, leaving legacy architectures based on hardware controller appliances behind.

When administrators are ready for a migration to Gigabit WiFi, the benefits of the highly adaptable Meraki cloud-based architecture will enable the new technology to be rolled-out and managed in the most efficient and least disruptive way possible.

