



 Meraki

Actionable Insights with Dynamic, Location-Based Analytics

October 2020

Cisco Meraki wireless access points and security cameras
use built-in analytics to deliver insights at scale

Why location-based services matter

Our world is teeming with connected mobile devices — from laptops, to smartphones, to smart watches and fitness wearables, to asset-tracking beacons — all of which are designed to connect wirelessly using protocols like Wi-Fi and Bluetooth Low Energy (BLE) to relay and receive information. Gleaning actionable insights about how these devices — and the people who carry them — interact in physical space can give organizations a competitive advantage and enable them to differentiate as a business.

For industries that compete heavily with online counterparts for wallet share (think: brick-and-mortar retail vs. Amazon), gaining insights about customer foot traffic finally levels the information playing field. Online competitors have always had access to web-based metrics that provide insights into who visits their website, for how long, and who returns later — enabling targeted marketing as well as testing opportunities to optimize the online shopping experience. By making their websites more user-friendly, personalized, and enjoyable to browse, online competitors have been able to craft tailored web experiences that feel both personal and relevant — an experience that can easily scale to millions of website visitors.

Now, with Cisco Meraki MR access points (APs), brick-and-mortar organizations can leverage their wireless infrastructure alongside technologies like BLE to deliver a more personalized, tailored experience in real life and at scale. Brick-and-mortar shops can finally ascertain patterns in foot traffic and customer visits, onsite dwell time, and repeat visit rates just like their online competitors. When deployed with BLE and custom-built mobile applications, Meraki APs can deliver location-aware experiences such as targeted marketing offers or wayfinding instructions on a dynamic map.

Cutting-edge examples of how organizations are using location analytics to deliver results include:

- The hospitality industry has turned to custom loyalty applications, location analytics, and BLE to provide location-based experiences that differentiate their brands in a highly-competitive market. For example, hotels can identify underperforming bar, dining, and spa facilities by comparing guest dwell times and repeat visit rates across properties and date ranges. This also provides opportunities to send location-based promotional offers to guests to improve experiences and engagement rates. Theme parks can identify the most popular rides at different times of the day, providing opportunities to alert visitors of rides nearby with shorter lines and supply wayfinding navigation to help them get there.
- Meraki technology has been the global brand standard for InterContinental Hotel Group (IHG) for over 2 years,¹ deployed at over 5,300 properties and in 800,000 hotel rooms, and is the backbone for providing a personalized guest experience across their properties.

¹ https://www.cisco.com/c/en/us/about/case-studies-customer-success-stories/ihg-case-study.html?utm_source=meraki&utm_medium=whitepaper&utm_campaign=pmm_collateral

- Retailers know that smart wireless networks let them glean actionable insights into customer foot traffic patterns, time spent in store, and repeat visits. This kind of data allows for proximity-based marketing², enabling businesses to make better offers or experiences available to customers at appropriate times (e.g., Prada partners with Cloud4Wi and Cisco Meraki to transform in-store customer experience in over 500 stores³ worldwide). Retailers like Ladbrokes,⁴ the world leader in betting and gaming with over 2,700 outlets across Europe, also rely on Meraki wireless' built-in Location Analytics for dynamic footfall data across their stores.
- Organizations are collecting foot traffic data to better understand queue lengths and wait times at cashier stations and service desks – to see where clients are congregating within their physical spaces – and using this data to improve operational efficiency and staffing during peak busy hours.
- Schools and universities are using location analytics for wayfinding across large campuses and during first year student orientation, to locate students during school safety incidents, and to better understand foot traffic through libraries, auditoriums, and sports stadiums.
- Manufacturers⁵ are relying on wireless networks and (BLE) beacons to assist with asset tracking of inventory in warehouses and in identifying the location of key employees on the factory floor if a problem requires their immediate attention.
- Sports stadiums, auditoriums, theaters,⁶ and other events venues must compete with at-home viewing options and inspire return visits, so they are leveraging wireless networks and location-based services to provide more interactive experiences for fans and attendees. For example, Capital FM Arena,⁷ which can seat 10,000 and is one of the UK's premier concert venues, New York's Red Bull Arena, and Barcelona's Wizink Center⁸ (formerly Barclaycard Center) rely on Meraki wireless to improve sports fan engagement.
- Hospitals can streamline clinical workflows and save significant time and money by using wireless location analytics and BLE to track and locate key pieces of medical equipment, optimize inventory levels, and better predict staffing needs at service desks based on historical patterns. Patients and their guests can receive better in-hospital experiences with wayfinding apps and proactive patient alerts.

2 https://create.meraki.io/guides/retail-solution-architecture/?utm_source=meraki&utm_medium=whitepaper&utm_campaign=pmm_collateral

3 https://www.youtube.com/watch?v=ZGYOL1E_iCM&utm_source=meraki&utm_medium=whitepaper&utm_campaign=pmm_collateral

4 https://youtu.be/wrEjp8BHRGE?utm_source=meraki&utm_medium=whitepaper&utm_campaign=pmm_collateral

5 https://meraki.cisco.com/customers/industrial-manufacturing?utm_source=meraki&utm_medium=whitepaper&utm_campaign=pmm_collateral

6 <https://meraki.cisco.com/customers/event-venues/castro-theatre>

7 https://meraki.cisco.com/customers/event-venues/capital-fm-arena?utm_source=meraki&utm_medium=whitepaper&utm_campaign=pmm_collateral

8 https://www.sporttechie.com/new-york-red-bulls-first-professional-sports-team-in-north-america-to-use-cisco-meraki/?utm_source=meraki&utm_medium=whitepaper&utm_campaign=pmm_collateral

Why Meraki?

Meraki revolutionized the networking industry over a decade ago by removing the need for controllers and command line and inventing the future: cloud-managed IT. With nearly **5 million Meraki devices** currently under management, the Meraki cloud architecture is the largest, most heavily tested, and most relied-upon in the world for mission critical, cloud-managed deployments.

Meraki cloud-managed APs can be installed in minutes and provide out-of-the-box location analytics and heat maps that automatically provision the moment a wireless SSID is enabled. Most Meraki APs also sport a dedicated Bluetooth BLE radio¹, capable of both advertising and scanning, that allows the APs to be used as battery-less Bluetooth beacons or as asset trackers.

Having BLE and wireless location analytics built right into the Meraki wireless platform – at no additional cost – reduces the significant complexity and overhead of dealing with an overlay solution for analytics, especially across tens, hundreds, or thousands of sites where manual configuration would become onerous. Scaling these “battery-less beacons” is limited only by the number of APs in a given network, and Meraki currently supports multiple production customer networks deploying networks of all scales to more than **100,000 Meraki devices**.

In addition, because all Meraki APs connect back to the Meraki cloud, it’s trivial to view analytics across multiple APs, networks, groups of networks, and sites. With built-in dashboard functionality, you can benchmark one Meraki wireless network against all the rest in an organization, benchmark a specific network against a group of networks, compare two specific wireless deployments, or (thanks to network tagging) compare unlimited variations of batched network groupings. It’s even possible to drill down to the AP level to compare and contrast specific AP location analytics and perform⁹ trend analysis over custom or pre-specified time intervals.

Finally, Meraki makes raw analytics scanning data available through application programming interfaces (APIs), primarily through a Scanning API,¹⁰ which detects and aggregates real-time data on wireless and BLE clients. This enables wireless customers to create their own custom-built applications to extend the capabilities of the Meraki dashboard for their own environments. Today, Meraki’s platform supports **over 25 million daily API calls** from over 20,000 API integrations.

For customers that prefer to purchase turnkey solutions rather than build their own in-house, Meraki has also cultivated a strong and growing developer/partner ecosystem¹¹ that, to-date, has created more than 50 API-based turnkey solutions that seamlessly integrate with our platform. This means Meraki is truly a “one-stop” shop for dynamic location-based services of all kinds.

⁹ Check Meraki models and specs for details – some APs, like the MR20 and MR70, do not support BLE.

¹⁰ <https://create.meraki.io/build/scanning-api-docs/>

¹¹ <https://create.meraki.io>

Out-of-the-box insights using Meraki location analytics

Meraki's built-in location analytics are available from the moment an SSID is defined and enabled. When mobile devices searching for Wi-Fi networks send probes, Meraki APs detect them regardless of whether those mobile devices actually associate to a broadcasting SSID. MR access points with quad-radio architectures have a dedicated, dual-band scanning radio that will continuously monitor the environment across all channels for these types of probes, providing the most comprehensive data set possible to evaluate client location metrics.

Viewing metrics for a single network

Navigating in the Meraki dashboard to Organization > Location analytics will bring up the analytics comparison tool for a given wireless network. In one centralized view, IT administrators can quickly see trends in proximity (i.e. passersby and visitors), engagement (i.e. dwell time), and loyalty (i.e. repeat visits) over time for the specified network. The Meraki cloud performs computations in real time to calculate the various client states represented in intuitive graphs like those displayed below.



Location analytics data in the Meraki dashboard.

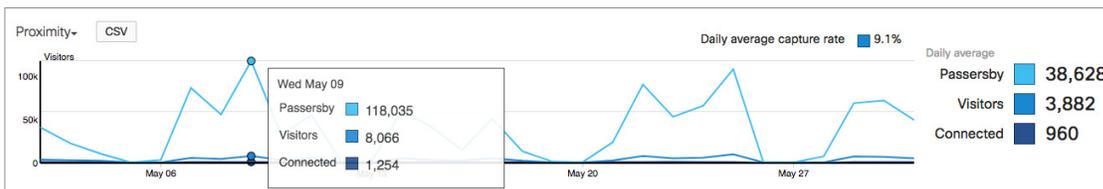
The time window for analysis can be adjusted from a granular, hour-by-hour view of the previous day's activity, to a zoomed-out, custom time frame. This flexibility allows anomalous spikes or dips in traffic to be quickly identified and investigated.



A custom range over multiple months can help identify anomalous data trends, like this unusual spike in nearby foot traffic on January 26th.

Passersby vs. visitors

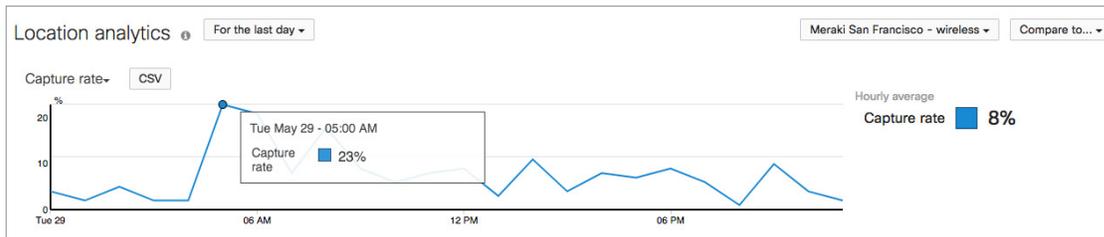
Once a Meraki AP has identified a nearby mobile device, it algorithmically determines whether that device briefly passed by the access point – in which case, the device is deemed a “passerby” – or whether it lingered for a while in the AP’s vicinity at a certain minimum signal strength (RSSI) – in which case the device is classified as a “visitor.” Visitors that associate and connect to broadcasting SSIDs on a Meraki network are considered “connected.”



Proximity measures the number of passersby, visitors, and connected clients.

Proximity metrics allow IT staff to see how many visits a physical location is receiving that could be considered valuable versus quick “hits” where people arrive and then immediately leave – presumably without interacting with the onsite brand.

Capture rate, defined as the percentage of visitors (i.e. valuable traffic) to total clients seen by an AP, can be displayed by selecting the proximity drop-down menu.



Selecting a day’s worth of data allows hour-by-hour analysis of capture rate trends. Here, there appears to be a spike in visitors at 5:00 AM, significantly larger than the hourly average.

It’s also possible to see what hours of the previous day have the most footfall and, visitors – information that can be used to better optimize in-venue staffing or marketing decisions.

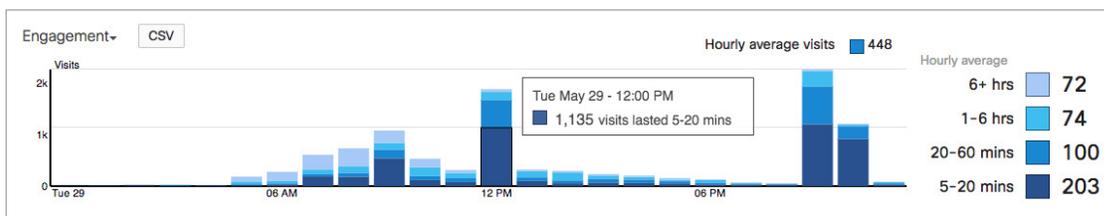
For example, take a hypothetical coffee shop that opens at 8:00 AM and sees a consistently average 8% capture rate over several weeks or months – meaning 8% of identified mobile clients actually linger long enough in the vicinity of the coffee shop that they could be considered visitors (i.e., potential patrons). Exploratory analysis of data at the hourly level may reveal that there is a significant spike in foot traffic at 7:00AM, presumably outside the coffee shop on the street. This is actionable data: for example, the coffee shop could experiment with opening at 7:00 AM and note any impact in top-line revenue growth. Or perhaps the coffee shop will attempt various marketing campaigns – perhaps a new window display – targeted at those early morning passersby to incentivize them to return once the shop is open.

Lone Star Texas Grill¹² is an example of a customer that evaluated Meraki wireless at their flagship restaurant and then decided to globally deploy MR access points to address persistent WiFi connectivity problems. Today, the restaurant chain uses Meraki’s out-of-the-box location analytics along with a turnkey partner solution from Cloud4Wi to do everything from identifying traffic patterns and adjusting operating hours accordingly, to leveraging Meraki’s integrated Facebook login for guest wireless to garner “likes” and extra social media promotion, to using a captive portal to promote its own mobile loyalty app and offer promotional codes. In fact, since rolling-out the Cisco Meraki and Cloud4Wi solution, Lone Star has “collected 24,000 opted-in emails and Facebook profiles, drawn 18% of outside foot traffic inside [their venues], and seen 41% returning customers.”

12 <https://meraki.cisco.com/customers/retail/lone-star-texas-grill>

Engagement: How long are visitors staying (or waiting)?

Engagement, or dwell time, is a measure of how long a visitor stayed within range of a Meraki wireless AP. Access point radio settings (including transmit power and RX-SOP¹³) can be adjusted – either on an AP-by-AP basis or using templates to configure groups of APs – to better overlay wireless networks within geographic boundaries and more accurately represent venue foot traffic.



Engagement measures how long visitors stay in the vicinity of your network.

Taking the previous coffee shop example, it’s easy to determine in the Meraki dashboard at what hours during the day wireless visitors linger the longest. Presumably, these times are when customers are enjoying the atmosphere of the coffee shop and (hopefully) buying additional drinks and snacks.

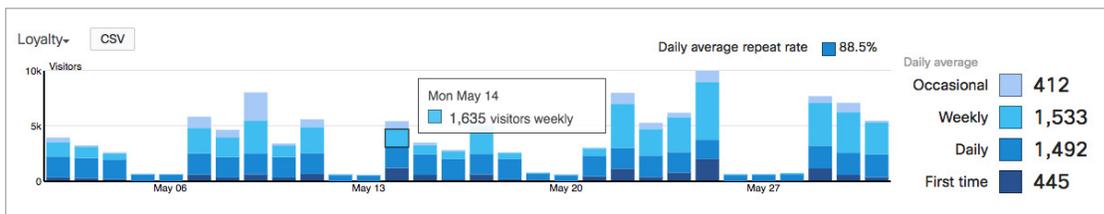
This is also actionable data: for example, the coffee shop may want to increase the average order value per visit for customers staying over an hour in the venue. Once the longest dwell times have been pinpointed, IT administrators can either leverage the built-in client visibility within the Meraki dashboard to identify wirelessly connected devices and the duration of their Wi-Fi association (a lengthier, manual process) or they can leverage Meraki’s Scanning API to program additional functionality that ascertains which specific devices linger the longest, and whether these devices are repeat visitors. Integrated captive portal functionality available to all Meraki wireless customers could then be configured to require a splash page form submission before making guest wireless available – and this data could be synced back to existing CRM databases, helping to identify owners of these lingering devices.

Now, the coffee shop would have a better understanding of which specific customers return and spend the most amount of time onsite. Any number of hyper-local marketing offers could then be attempted to increase the average order value per visit of that targeted subset of guests: for example, in-app mobile alerts containing onsite promotional offers, or perhaps email promotions sent out at a later time (if consent was given in the guest Wi-Fi splash page form).

¹³ <https://meraki.cisco.com/blog/2018/02/introducing-wireless-health-and-rf-profiles/>

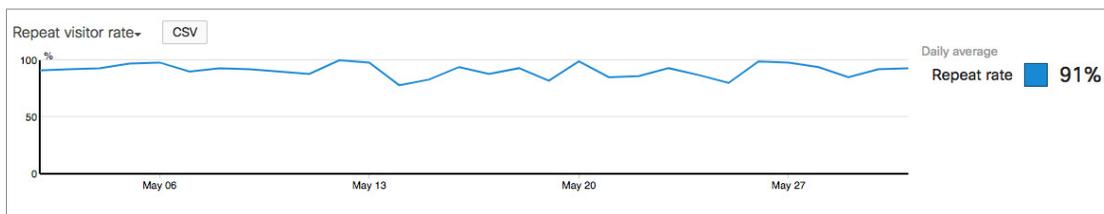
Loyalty: How often do visitors return?

One of the most critical metrics for brick-and-mortar organizations is customer loyalty, also called the repeat visitor rate, which measures how frequently visitors return to a given location. Meraki’s built-in location analytics can identify first-time visitors, daily visitors, weekly visitors, and occasional visitors for a specified time frame.



Loyalty measures how frequently visitors return to a vicinity.

The repeat visitor rate can also be viewed to better understand whether efforts to improve visitor loyalty are working, and whether there have been any significant dips in return frequency that may be correlated to a specific event or action.



Ideally, a growing repeat visitor rate would correlate with increased customer patronage.

Taken together, these measures of new versus returning visitors allows organizations to better understand whether their core potential clientele may already be familiar with their brand and venue space (which might necessitate different types of marketing efforts than if targeting new customers).

Returning to the coffee shop example: management might look at engagement and loyalty metrics to better understand whether there may be distinct customer segments they can nurture or experiment with vis-a-vis marketing efforts. Specifically, the coffee shop might investigate patterns around dwell time, repeat visitor rate, and days of week or times of day. They may find that a large number of daily visitors come into the shop between 8:00AM and 9:00AM, but only stay for a few minutes, whereas a second wave of customers arrives around 4:00PM and stays for over an hour – on average – during weekdays. These may constitute two very different customer types, visiting the shop for different reasons. Correlating this data with point-of-sale

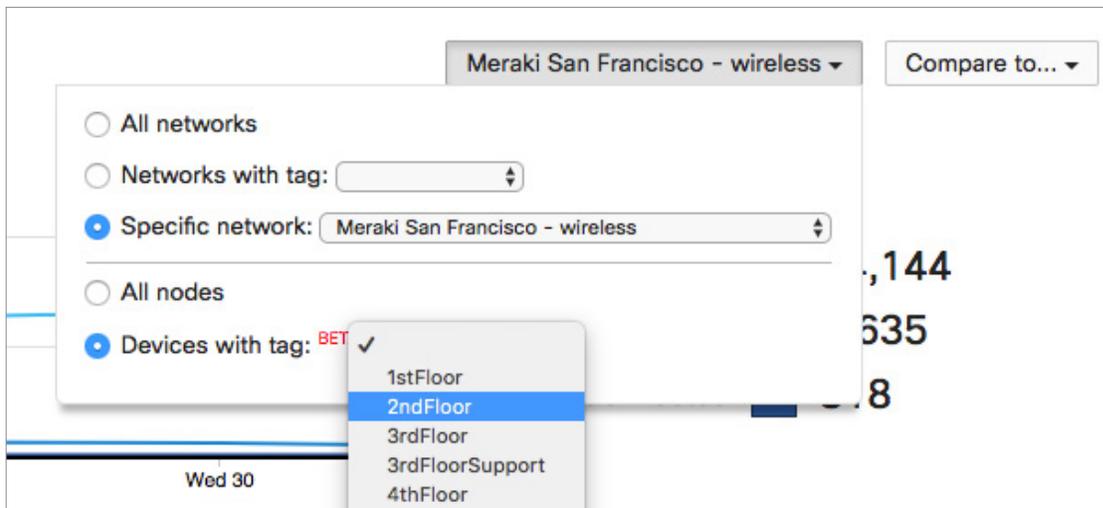
information about the number and types of beverages and snacks being purchased may expose interesting patterns about these potential customer segments (e.g., the morning customers buy one coffee on average while the afternoon customers buy 1-2 coffees along with multiple pastries).

Exploring whether one type of customer is more profitable might enable the coffee shop to focus resources on nurturing that segment over the other. In this case, the coffee shop may want to experiment with whether it can attract more of the type of customer who will buy multiple food items between the hours of 9:00AM and 4:00PM, or expand operating hours into the evening to encourage that customer segment to stay longer and purchase more in a single visit.

Comparing metrics across multiple networks

While examining location metrics over different time periods within a given network is certainly useful, the real power of Meraki's built-in analytics shines through when comparative analyses are done. The Meraki dashboard can run comparisons such as:

1. Site A versus Site B
2. Site A versus all sites
3. Site A versus Group B networks
4. Group A networks versus Group B networks
5. AP-level comparisons (e.g. AP 1 vs AP 2)
6. Group A APs versus Group B APs



The Meraki dashboard enables multiple comparisons.

In this way, a large variety of comparative analyses can be run.

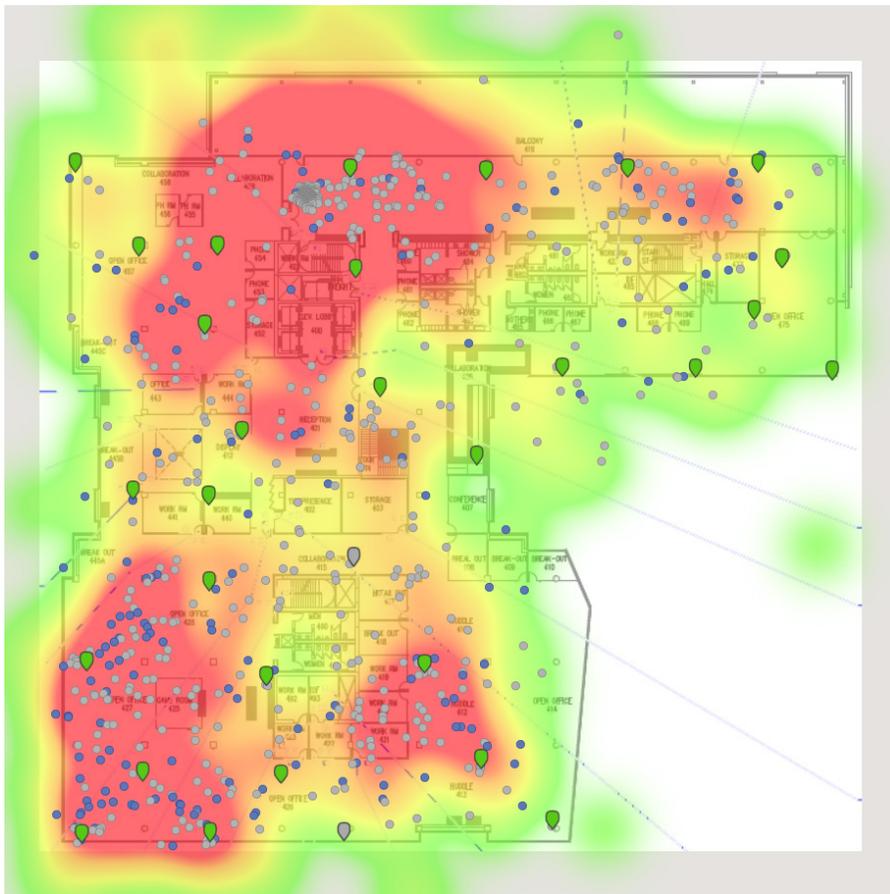
Tags can be used to create logical hierarchies to help with comparative analyses. For example, looking at the coffee shop again, if this were one shop within a chain of stores located across the United States, the network administrator may have tagged all the California networks with a tag of “Cali” and all the Georgia networks with a tag of “Georgia.” They may also have added additional tags to these networks to delineate cities (e.g. “SF” vs. “LA,” or “Atlanta” vs “Athens”). Finally, they may have tagged the APs in each individual store with that store’s unique ID. This would allow comparative analyses between stores in the same city, between networks in different cities, or between networks in different states.

This tagging scheme would allow data comparisons at the state level, city level, or even intra-metropolitan level. Specific shops could be compared against all the others in their respective cities, or even benchmarked against all the other coffee shops in their (or other) states.

This makes it easy to identify best- and worst-performing venues within given regions across proximity, engagement, and loyalty metrics. It also allows experiments to be run in various locations and any correlated changes in footfall metrics to be quickly identified and explored.

Viewing where visitors go once inside venues

Meraki's out-of-the-box location analytics functionality includes a heatmap view showing how visitors move within a given space. Heatmap color densities are calculated using two metrics: the number of devices that were detected during a specified time period, and their dwell time. Areas that are dark red indicate either lots of detected devices, or a few devices that all stayed in a specific area for a significant time.

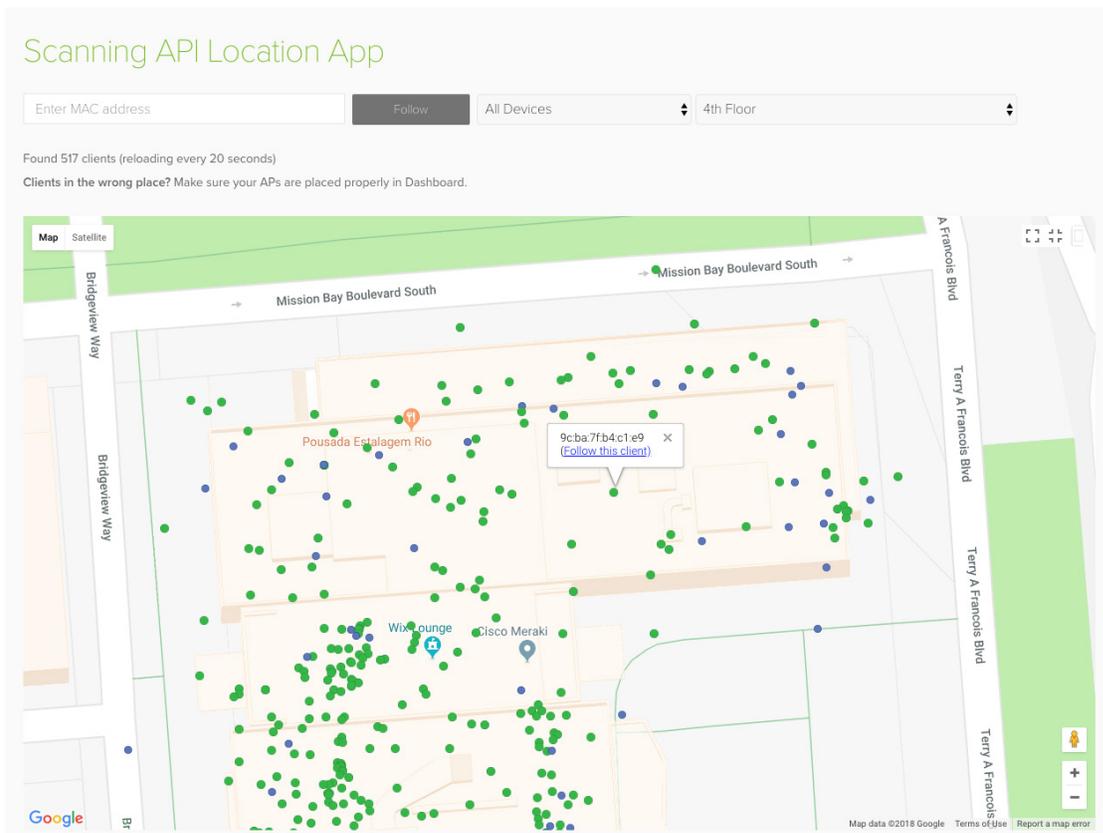


The built-in heatmap view shows patterns in foot traffic in a physical space over time.

The heatmap view allows IT to quickly see where additional APs may be needed due to client density, whether certain areas seem to be experiencing congestion (or, conversely, are hardly visited), and how foot traffic moves throughout their physical space. This data could help inform a retailer about how best to optimize store layout, for example.

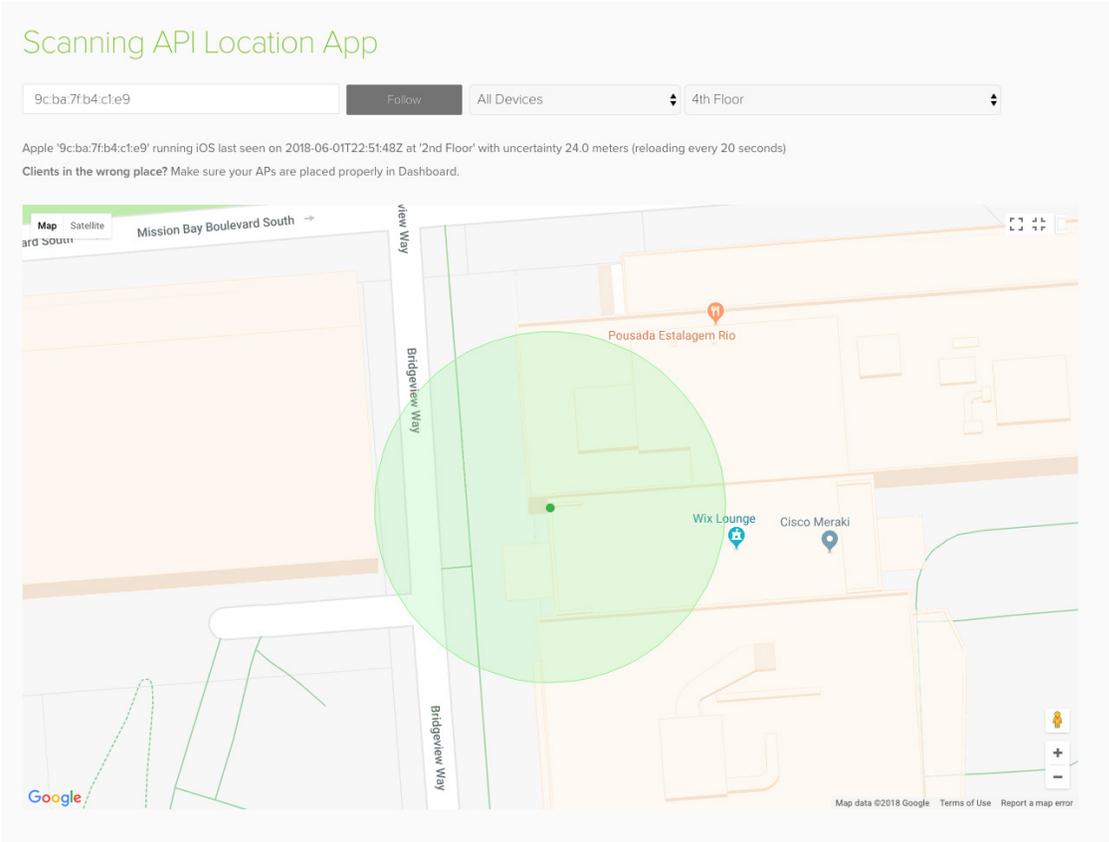
In addition to the heatmap view, Meraki's scanning API can be leveraged to grab raw location data, making it possible to develop additional functionality and tools on top of the map's basic functionality.

For example, Meraki engineers have created a proof-of-concept demo¹⁴ wherein it is possible to select specific clients moving throughout a space and follow their movements (in this demo, the map updates every 20 seconds).



Unique mobile devices detected by Meraki APs in the San Francisco office.

¹⁴ <http://live-map.meraki.io/>



A specific mobile device selected to be shown as it moves throughout the office.

It's easy to imagine this being a VIP coffee shop customer, whose name and favorite coffee would ideally pop up on a barista's tablet — thanks to integrations between the Meraki platform and the shop's CRM database — allowing for the customer to be greeted personally and offered their usual drink, just the way they like it. This would provide a unique, personal experience for the customer that differentiates the coffee shop's brand from the rest.

Going beyond Wi-Fi: Integrated Bluetooth

In addition to the wireless location analytics mentioned above, higher-end Meraki MR access points that come with a dedicated Bluetooth Low Energy (BLE) radio will display asset tracking information about identified Bluetooth devices like fitness trackers, portable beacons, headphones, and more. The AP's dedicated BLE radio has the ability to transmit, receive, and scan for BLE beacons, meaning that a Meraki AP can integrate seamlessly within a broader Bluetooth overlay network for deploying more granular location-based services like wayfinding, hyper-local marketing offers, and more precise asset tracking within a physical space.

Bluetooth clients for the last two hours ▾

Tag ▾ Search... 246 Bluetooth clients

<input type="checkbox"/>	Status	Description ▾	Last seen	Last seen by	Manufacturer	Connectivity	Tags
<input type="checkbox"/>		vivosmart HR	Jul 20 08:19	5.07		<div style="width: 100%; height: 10px; background-color: green;"></div>	
<input type="checkbox"/>		vivoactive	Jul 20 08:16	5.16		<div style="width: 90%; height: 10px; background-color: green;"></div>	Wearables
<input type="checkbox"/>		tkr	Jul 20 08:19	3.32		<div style="width: 100%; height: 10px; background-color: green;"></div>	
<input type="checkbox"/>		s-wNOR4Vcp	Jul 20 08:01	3.50	IEEE Registration...	<div style="width: 80%; height: 10px; background-color: green;"></div>	
<input type="checkbox"/>		matt-morgan-mbp	Jul 20 07:47	3.14	Apple	<div style="width: 70%; height: 10px; background-color: green;"></div>	Macbook

The current online status, description, manufacturer, and connectivity statistics of Bluetooth devices are displayed within the Meraki dashboard for APs with BLE enabled.

Bluetooth beacons are often attached to high-value items, like mobile hospital carts carrying expensive diagnostic equipment or large manufacturing tools whose whereabouts need to be monitored. They can also be placed in stationary locations – like specific museum exhibits, university campus locations, or in various sections of a retail store – to engage with custom mobile applications on visitors’ phones, to assist with navigation or to deploy location-based alerts and content.

From within the Meraki dashboard, it’s also possible to configure email alerting for individual devices, so that when the devices enter and/or leave the vicinity of Meraki’s BLE-enabled access points an alert is generated.

[Clients](#) › [estimote](#)

Status: currently visible

Device name: estimote

Mac: F4:94:FC:68:F9:A8

Manufacturer: Unknown

Last seen: Jul 18 13:11

Access point last seen by: 3.67

Alerts

Send an email when a device becomes visible again: Off

Send an email when a device is no longer visible: Off

[edit alerts »](#)

It’s possible to configure email alerting within the Meraki dashboard for BLE-capable devices.

How can this technology be applied in real life? The imaginary coffee shop, for example, could create its own loyalty app and encourage customers joining the cafe's guest wifi network to download it via the welcome splash page. This loyalty app might enable patrons to pre-order their lattes and pastries ahead of time (alleviating some of the operational difficulties with serving the 8:00AM to 9:00AM crowd).



When a patron who has placed a pre-order arrives onsite, her phone will “see” the Meraki BLE-enabled access point, notify the cafe’s computer systems and staff, and prompt an alert to be sent to her phone informing her that her order is either ready for pickup or being prepared now that she’s inside the shop. There might be a designated pickup location for these sorts of digital orders, and a Bluetooth beacon placed there allows the customer’s mobile app to know when she’s actually picking up her order – prompting another alert thanking her for her business and requesting a review and/or tip.

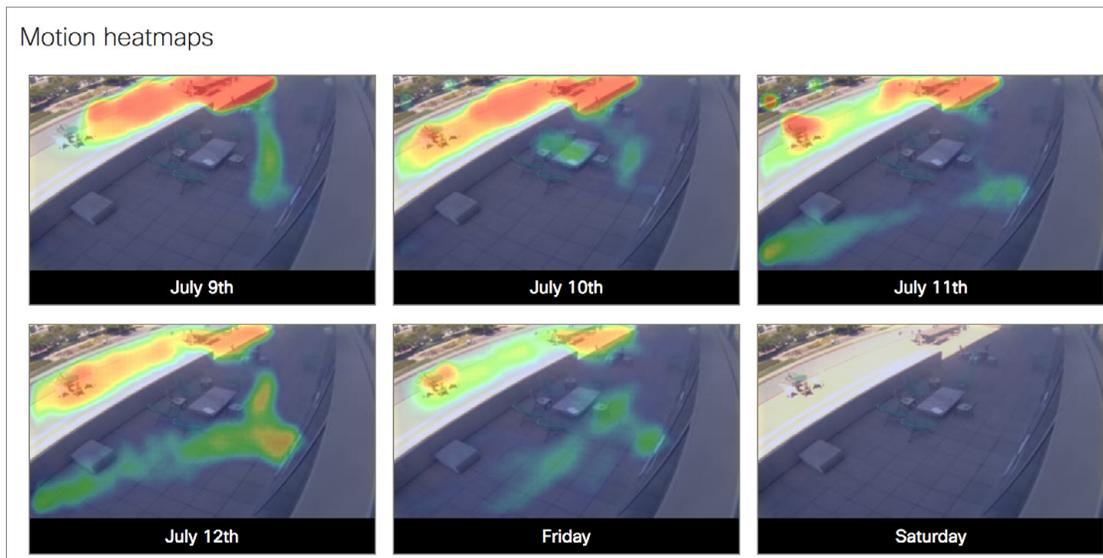
Going beyond wireless access points: MR + MV smart cameras

While Meraki wireless access points provide useful traffic and counting data at a macroscopic level, across an entire building or network, sometimes there's a need for more granular information. Meraki MV smart cameras can provide room-level visual analytics which, when combined with a Meraki wireless deployment, can provide a comprehensive picture of traffic patterns through spaces large and small.

Using on-camera, or "edge" processing, MV cameras are able to perform varying levels of visual analytics without the need for dedicated servers. This unique architecture allows Meraki cameras to simultaneously act not just as surveillance devices, but also as optical sensors providing valuable insights:

Heatmaps

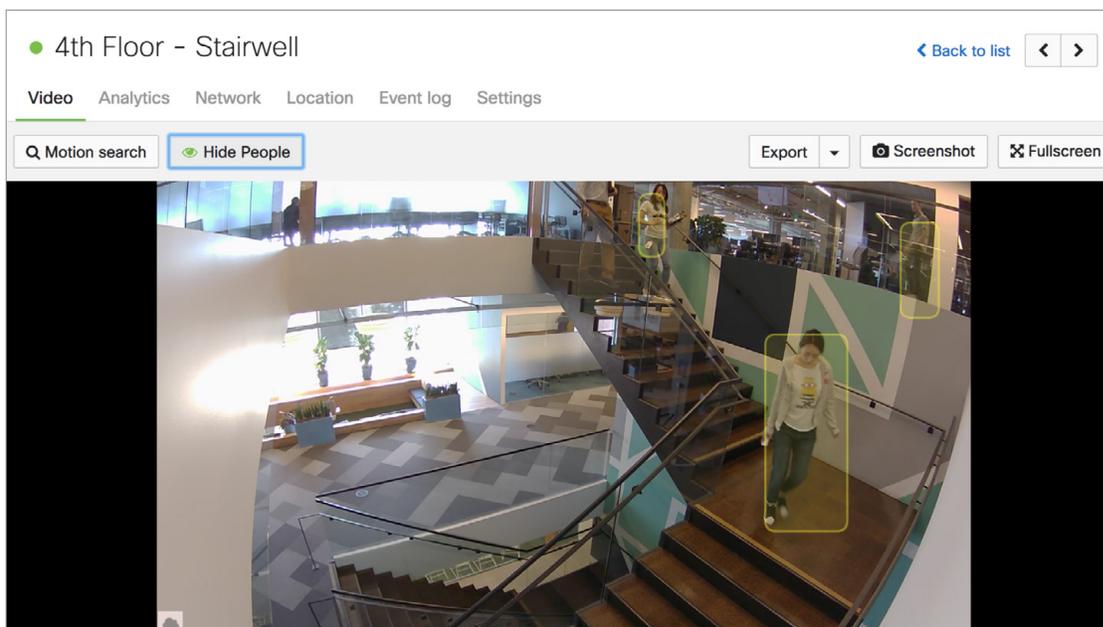
Motion heat maps aggregate motion data over a chosen time period in a particular field of view. These images can be viewed in hourly or daily increments, allowing users to compare and contrast high level motion patterns.



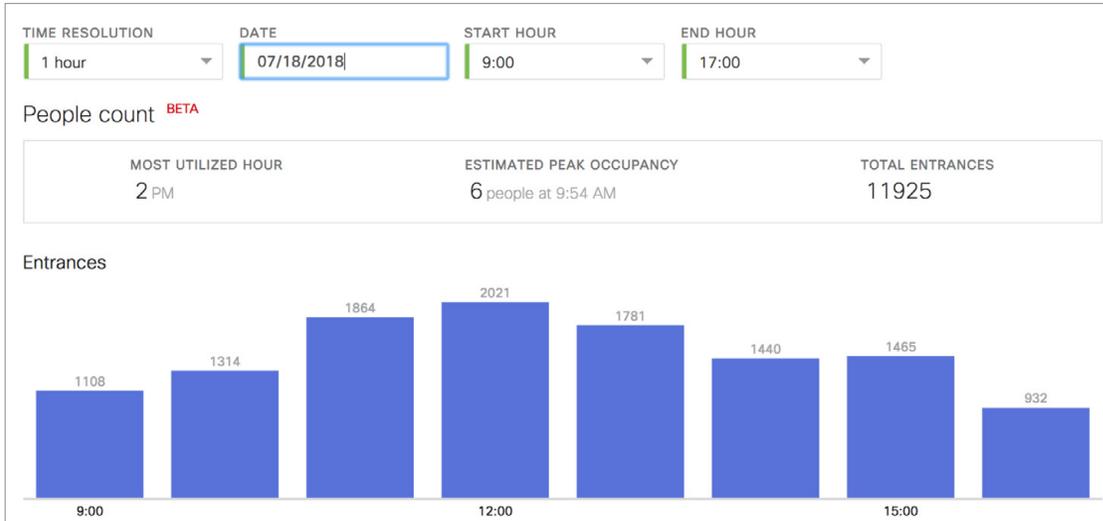
Person detection/counting and machine learning

With advanced analytics at the edge using mobile-grade processors, users can take advantage of tools such as person detection and people counting, where the cameras are able to anonymously classify people in recorded video as people, not just pixels. Providing person detection based on surveillance footage and computer vision technology means users can omit the standalone hardware and software infrastructure typically required for people-counting, like tripwires and costly, single-purpose cameras.

Machine learning built into the camera software means that it will increase in accuracy over time. Training data is pulled from cameras representing a diversity of deployment type, helping cameras to better understand what a person looks like from a 10 foot mounting height versus 30 feet, for instance. This constantly evolving process means an investment in this analytics tool remains future-proof.



The MV smart camera can detect people as they move across the frame.



The dashboard displays the number of people detected by the MV smart camera over time.

Smarter data for better business with MV Sense

Utilizing the advanced processors and built-in machine learning onboard each second generation MV camera, MV Sense returns valuable insights that would typically require complex onsite servers, and lets users build custom business solutions via API. MV Sense is a powerful analytics tool that gives access to three types of video data insights:

- **Historical aggregate:** How many people were in a given area at a specified time, and where were they in the frame, exactly?
- **Current snapshot:** How many people are in a given area right now, and where are they in the frame, exactly?
- **Real-time subscription:** A feed of the number of people and their exact location in a frame, pushed out in sub-second intervals

This gives users the ability to do things like build a custom application for department store employees that alerts them when there are more than five customers in a particular department, ensuring a high-touch customer experience. Or, multi-media displays in various types of venues can be enabled to coincide with certain levels of foot traffic. Just as with MR, the possibilities for custom integrations are countless and varied, but all translate to increased operational efficiencies, better end-customer experiences, and other improvements that help to increase the bottom line.

Wireless and camera analytics: bringing it all together

The deep insights and value gained through using the Meraki suite of location-based analytics tools span a range of organization types:

In retail

At the same time that MR access points can track general traffic flow and wireless usage through a brick and mortar location, MV cameras can provide deeper insight into which product displays attract the most foot traffic and quickly redirect users to that place in the historical video feed. The outcome is a comprehensive picture of customer behavior patterns from which Marketing, HR, Operations, and Loss Prevention teams alike, can benefit.

Marketing teams will love the ability to understand which parts of the store are attracting a lot of foot traffic, but ultimately not converting into actual sales. Operations teams can better understand how to arrange and stock store locations. And Loss Prevention teams will appreciate being able to find theft incidents in a matter of minutes, instead of hours or days, using MV's person detection capabilities.

In schools and universities

Educational institutions have many obligations to their students, from providing high-quality, relevant learning environments, to ensuring student and faculty member safety.

Not only does Meraki wireless lay the groundwork for exciting and innovative technology to be used in classrooms and lecture halls, but MR location analytics can help administrators understand foot traffic throughout campus, ensuring dead spots are a thing of the past. Plus, with Bluetooth Beacons, administrators can provide timely and personal experiences to students depending on where they are on campus.

Meanwhile, Meraki cameras help to improve the safety and security of a school or campus, while providing advanced analytics for school-wide decisions. With optical-based location analytics, schools can better staff cafeterias, libraries, and bookstores based on when student traffic is highest. With MV Sense, schools can create custom solutions and integrations that connect disparate systems to provide increased security for students.

The Cisco Meraki portfolio of products, including MR wireless access points, MV smart cameras, and custom business solutions built atop these products, continues to lead the industry in both accessibility and innovation. Providing a mix of turnkey and custom analytics options leaves a world of possibilities open for users both in today's world, and for the future. Meraki enables customers to harness their wireless and surveillance infrastructure for deep insights, providing immense business value across industries.

The takeaway

About Cisco Meraki

Founded in 2006, Meraki has grown to become the world's most scalable, feature-rich, and reliable cloud-managed IT solution. Over 250,000 unique customers and nearly 4 million Meraki devices are under management around the world. Our comprehensive set of solutions includes wireless, switching, security, endpoint management, and smart cameras, all centrally managed from Meraki's intuitive web-based dashboard interface. This gives network administrators visibility and control, without the cost and complexity of traditional architectures.

To learn more, please visit our website at meraki.cisco.com or join us for a live webinar at meraki.cisco.com/webinars and receive a free Meraki wireless access point and cloud management license so that you can experience the Meraki magic in your own environment.