

The Hotelier's Definitive Guide to

Central Wi-Fi Authentication



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Why should I read this guide?

Free and reliable Wi-Fi is still guests' #1 most desired amenity; yet, hotels still struggle to deliver a truly gratifying Internet experience. Frustrated guests flock to TripAdvisor with negative reviews, criticizing everything from slow speeds to cumbersome login portals to unreliable connections. A reported [80% of guests will not return](#) if they have a poor technology experience.

Today, great Wi-Fi is about more than just connecting devices—it is about connecting people to your brand. People spend more than [50% of their time on Wi-Fi](#), on multiple devices using bandwidth-heavy applications. Your guest network must be able to not only handle this growing traffic, but also to recognize and engage your most loyal guests to better serve them.

The fastest growing segment of hotel guests, called Silent Travelers by [Skift](#), will rely more on technology than traditional human interaction to access the services they want, so it can be difficult to connect with this group. By leveraging their connection to Wi-Fi, hotels not only add value to their stay, but open up countless doors for engagement and brand loyalty.



“ Great Wi-Fi is about more than just connecting devices—it is about connecting people to your brand. ”

What can I expect to learn from this guide?

- ▷ What central Wi-Fi authentication is and why it should matter to you and your brand
- ▷ Market trends pointing to Wi-Fi as “the great enabler” of great guest experiences that drive loyalty
- ▷ How a central authentication platform helps you identify, engage, and reward loyal guests
- ▷ The importance of centrally managing Wi-Fi across the entire brand
- ▷ What Passpoint is and how auto-authentication is changing the Wi-Fi game
- ▷ Essential features of a robust central authentication platform
- ▷ How to monetize free Wi-Fi and drive return on your investment



PRO TIP

This icon appears throughout the guide and denotes a tip from our Wi-Fi pros.

SECTION 1

Central Wi-Fi Authentication Defined



What is central Wi-Fi authentication?

Central authentication refers to the technology that allows hotels to securely grant guests access to the Wi-Fi network from one centralized point by providing login credentials. There are a wide range of authentication options from simple name and room number verification, to social login with Facebook, Twitter, and more, to automatic authentication via Passpoint (a.k.a. HotSpot 2.0).

Central authentication provides a means to standardize the guest Wi-Fi experience from place to place via:

- » **Centralized management** of Wi-Fi performance across an entire brand
- » **Consistent guest Wi-Fi** experiences at each property
- » **More secure** connections to your guest network
- » **Enhanced visibility** across all your property's Wi-Fi
- » **Better engagement** with your most loyal guests

Central authentication allows for secure connections for guests and enables hoteliers to identify their loyalty members to deliver them the highest level of Wi-Fi performance.

How does central authentication work?

The backbone of central authentication is a service called Network Authentication, Authorization, and Accounting (AAA), affectionately referred to as Triple A. Each of the three A's asks a question of the user:

- » Authentication asks, **"who are you?"**
- » Authorization asks, **"what are you allowed to do?"**
- » Accounting asks, **"what did you do?"**

These questions enable the service to permit (or deny) access to guests based on their credentials, give them the approved level of access, take anonymous record of what was done, and then bill the guest if necessary.

Central authentication enables a consistent Wi-Fi experience across *all* properties

Historically, Wi-Fi has been managed at the individual property. Many hotel brands have come to realize that Wi-Fi is too important to guest loyalty to continue managing it in such a decentralized way. A central authentication platform allows hotel brands to deliver a consistent, reliable guest Wi-Fi experience across all properties, by enabling:

- » **Centralized control:** regardless of network integrator or hardware, hoteliers have dynamic control over the guest Wi-Fi experience
- » **Better guest experience:** automatic connection to hotel Wi-Fi without log-in portal pages via a secure, fully-encrypted connection
- » **Reporting and integration:** connect Wi-Fi data to other guest data (property management system, loyalty, etc..) to better understand and engage guests

A cloud-based central authentication platform serves as middleware between individual hotel networks and other guest information systems to provide an aggregate view of Wi-Fi performance to ensure guests have a consistently great experience.

Who should use central authentication?

There are many business functions that can benefit from central authentication:

- » **Information technology leaders:** deliver secure, high performance Wi-Fi with confidence across all properties using technology that makes complex network management simple.
- » **Hotel brand executives:** reward your most loyal guests with a truly gratifying and consistent Wi-Fi experience, every time they interact with your brand.
- » **Marketing teams:** marketers can benefit from a central authentication platform by connecting Wi-Fi data to loyalty, PMS, and social profiles for more personalized interactions.
- » **Network integrators and service providers:** provide an end-to-end hospitality guest Wi-Fi solution with pre-built integrations to the major hardware and guest information systems.

This guide focuses on hospitality, but a variety of businesses who serve guests on their Wi-Fi network, including apartment complexes, universities, senior living communities, hospitals and retail stores can benefit from a central authentication platform which enables them to centrally authenticate their guests and manage the Internet experience across all locations and properties.

What are the most common hotel Wi-Fi concerns?

Business leaders are most concerned about:

- » How do I deliver the same great Wi-Fi experience (login process, speed, look and feel) at every single property in our brand?
- » How do I avoid negative online reviews about our Wi-Fi?
- » How can I connect information from various guest systems (Wi-Fi analytics, PMS, loyalty or CRM systems) to capture data that allows the brand to deliver personalized experiences for our loyalty members?

IT executives are most concerned about:

- » How do I make sure Wi-Fi performance is consistent across properties that all have different hardware, software, and network service providers?
- » How do I protect my Wi-Fi network from an attack when I have guests logging in all day?
- » How do I manage the Wi-Fi experience at the brand level but still give some flexibility to the hotels?

Read on to learn how central authentication addresses these concerns...

SECTION 2

Market Trends: Why Does Central Authentication Matter?



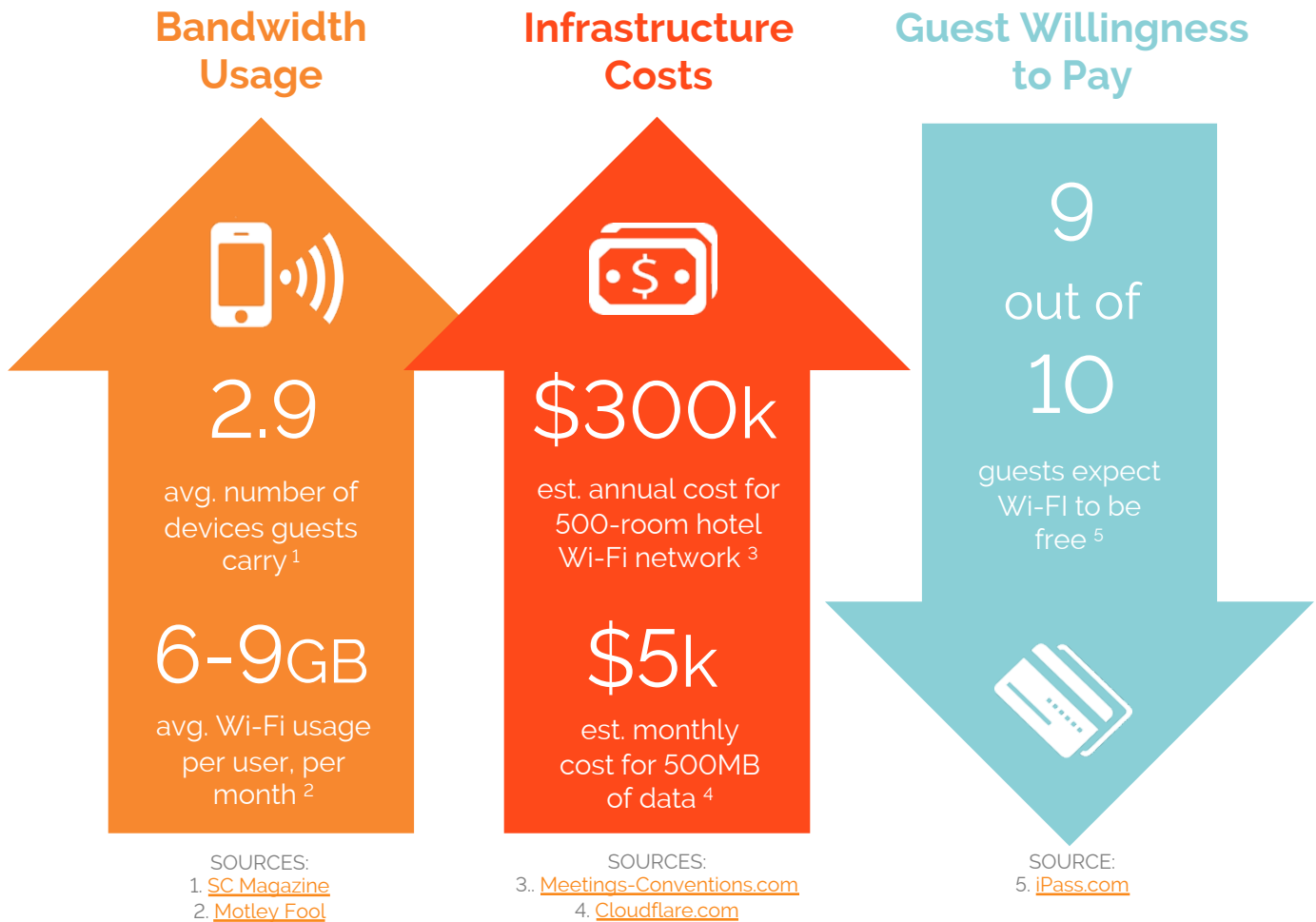
TREND #1

Explosion of bandwidth consumption

It's getting harder every day to keep up with guests voracious demand for bandwidth. First and foremost, smartphones are commonplace, [with 2/3 of Americans owning one](#). With Netflix, Snapchat, and all the other modern Internet marvels always at our fingertips, it's hard to imagine a world without smart phones, but it was just back in 2011 that only about a third of Americans had one. Today, more than [75% of people say their smart phone is critical](#) to their daily life.

The exponential rise of bandwidth consumption is driven both by guests carrying more devices and by the use of higher consumption applications like streaming movies, large file sharing, online gaming and video conferencing. The average Wi-Fi user today [consumes as much as 6-9GB of data every month](#) and that number will only increase. The need for hotels to constantly upgrade their network infrastructure to meet this rising demand for bandwidth can be very costly.

The Hotel Wi-Fi Conundrum



The rate at which our collective bandwidth use is growing is staggering; it's no wonder it has been hard for hotels to keep up with guest Wi-Fi demands and expectations. The consumption isn't just limited to business travelers; leisure travelers—especially families, each person with their own device—are using up just as much bandwidth, if not more. Guest tablet and laptop use has also increased, contributing to the explosion of bandwidth consumption in recent years. While speeds and feeds are important for hotels to pay attention to, bandwidth is really just the beginning.

What further confounds the problem is that guests are no longer willing to pay for basic Wi-Fi, making it much harder to monetize and recoup infrastructure costs. Simply put, guests are demanding more for less.

Guests want a home-like Wi-Fi experience

Imagine a day when you automatically connect to Wi-Fi at any hotel in a brand—without going having to search for the network or fill out cumbersome log-in forms. Imagine then being able to easily stream your favorite content from your device to an in-room TV or printer, just like at home. Finally, imagine having your own private Wi-Fi network to share movies or photos securely with family members in the hotel or collaborate on documents or video conference with co-workers at the same property. Now, imagine that you could have that same great Wi-Fi experience seamlessly when you travel from one hotel to the next within your favorite hotel brand.

The future of hotel Wi-Fi is now. Guests expect a seamless, automatic connection to high performance Wi-Fi experience at every property they check into, from Singapore to San Francisco, Madrid to Melbourne.

Great guest Wi-Fi— always & everywhere

Hotel brands work tirelessly to deliver 5-star experiences across *all* their properties. When guests expectations match what is provided, they are more likely to come back again and again. Wi-Fi is no exception. Guests want to stay seamlessly connected across all their devices.



TREND #3

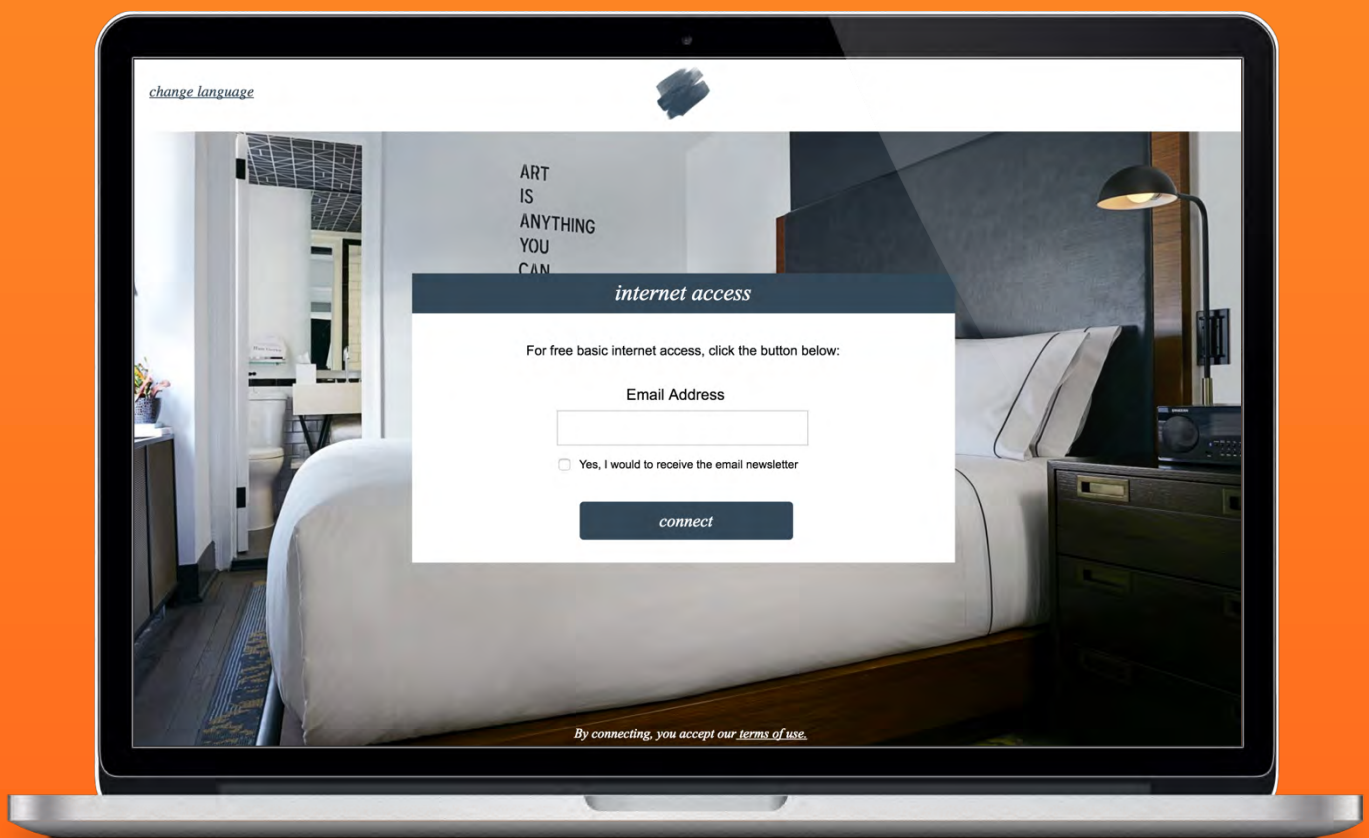
Guests expect to be rewarded for their loyalty

Hotel Wi-Fi should be viewed not just as a technology must-have but as a valuable brand asset that serves as a critical guest touch point, with an opportunity to connect every time they connect to the network. What's more, hotel guests expect to be rewarded for loyalty. It started with the major hotel brands offering free Wi-Fi to all of their loyalty members. Now, savvy brands are guaranteeing highest levels of Wi-Fi performance to their members or expanding device coverage as perks.

With a cloud-based central authentication platform, guests can be recognized as loyalty members at the point of authentication. Free Wi-Fi, service upgrades, and additional device coverage are some of today's most popular ways to increase loyalty program adoption and bring loyal guests back again and again. Branded Wi-Fi log-in pages also offer rebooking at a discount to minimize brand switching and avoid online travel agency (OTA) fees.

As hotel brand mobile app adoption increases, connection to Wi-Fi becomes the enabler of great, personalized interactions with loyalty members via push and SMS messaging to truly add value to their hotel stay.

Wi-Fi is becoming a primary way to connect with your guests



Savvy hotel brands have engaging, branded Wi-Fi login pages (also known as captive portals) that deliver valuable information—like local attractions and onsite amenity promotions—that drive revenue while increasing guest satisfaction. They leverage the Wi-Fi log-in page to invite guests to join their loyalty programs or to participate in newsletters to increase engagement.

TREND #4

“Silent Travelers” rely on technology for guest satisfaction

The ways in which guests connect and engage with your brand is changing. There is a growing segment of guests who [Skift](#) identifies as “Silent Travelers” because they prefer technology-driven guest experiences. Silent Travelers tend to be younger (but certainly don't have to be), self-reliant and highly digitally savvy. They are more likely to choose mobile services, like check-in and room keys and may *bypass the front desk entirely* in their optimal hotel stay. Silent Travelers will book their own tickets, call their own Ubers and order dinner directly from their own devices.

This means the traditional ways of building guest loyalty—friendly front desk staff, helpful concierge, responsive maintenance team—may become less effective in driving guest satisfaction. Suddenly, a robust connection to the hotel's Wi-Fi becomes even more critical to guest satisfaction. Hotels must complement traditional guest services with technology to meet the needs of today's Silent Travelers. Whether it's a room key on their smart phone, streaming their own media to the hotel TV, or ordering room services on a tablet, these tech-driven services are heavily dependent on a great Wi-Fi connection to deliver satisfying guest experiences that build loyalty.

Portrait of a Silent Traveler

“ The rise of digital has given rise to a new kind of traveler who is adept at all available online and mobile. These new travelers don't need tons of handholding, they shun human interaction, and know their way around everywhere they go. ”

39%

prefer to book their rooms online

60%

prefer mobile services (check-in, keys, etc.)

\$200B

estimated spending power of millennials

SOURCE: Forbes.com



Source for all stats and the quote on this page are from Skift unless otherwise noted.

TREND #5

Negative online reviews can devastate a brand

The risks of not delivering a truly satisfying Wi-Fi experience are considerably higher than they were even a few years ago. In the world of social media, over half of travelers read online review before booking. A single bad TripAdvisor review about your hotel's Wi-Fi can mean guests never book with you. Several bad Wi-Fi reviews or concerns about network security can be devastating and result in missed opportunities for brand loyalty.

Avoid bad reviews by delivering a more lovable Wi-Fi experience with central authentication



Poor Wi-Fi is a loyalty opportunity lost

It's a well-known fact that hotels of all shapes and sizes want to convert OTA guests into loyal customers. According to [Hotel Management](#), most business travelers would book directly if they could get free Wi-Fi. Additionally, more than half of all travelers read online reviews before booking a stay. If your online reviews reflect any negativity towards your Wi-Fi, you are sure to lose some of those direct bookings and potentially loyal guests.

Poor Wi-Fi could also lead the loss of current loyalty members. In fact, 4 in 5 guests say they would not return to a hotel if they had a bad technology experience.



TREND #6

Hotel brands want to deliver consistent Wi-Fi in all properties

Historically, the hotel Wi-Fi network has been managed at the individual property level with local IT managers selecting hardware, software and service providers to manage the guest experience. In a sense, every single hotel in a brand is its' own Wi-Fi network. Each of these has its own network hardware configuration that is being implemented and supported by what could be hundreds of network integrators or managed service providers around the globe.

For guests, this means having a different guest Wi-Fi experience at every property in a brand. Wi-Fi network names (SSIDs) are not uniform, and it is hard to figure out which one to connect to. Captive portals and log-in processes vary. Worse yet, Wi-Fi performance may vary widely from property to property. Loyalty members cannot count on their hotel brand to guarantee them consistent, familiar high performance Wi-Fi as they travel from place to place.

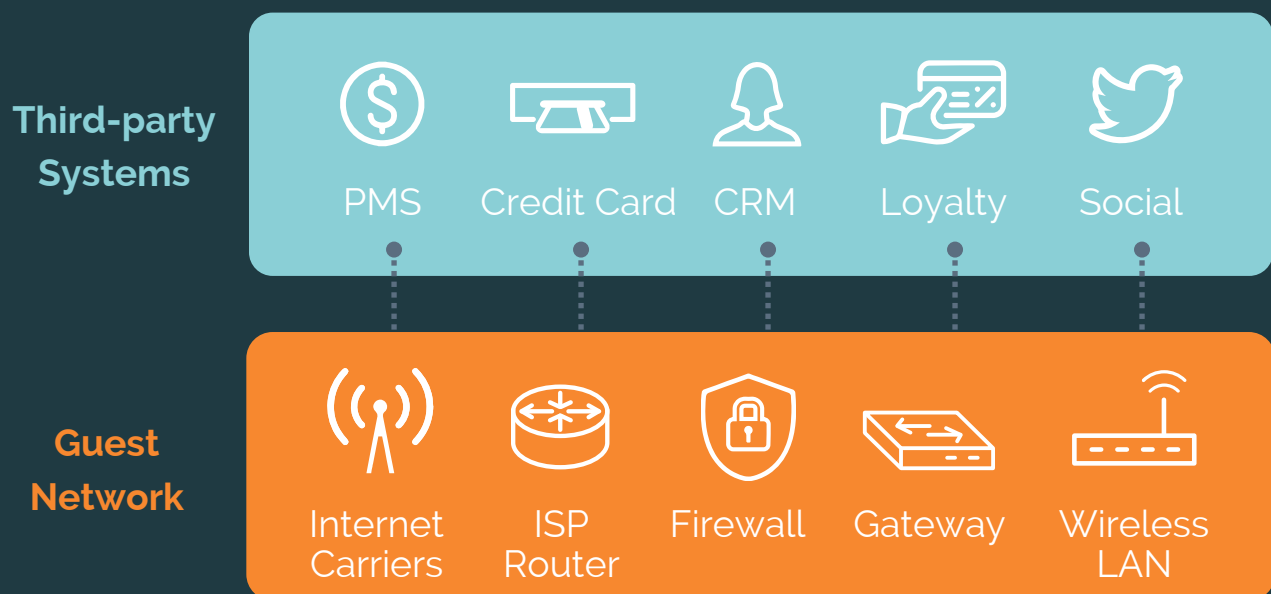
Today, hotel guests expect a familiar log-in experience and predictable, high performance Wi-Fi- at every hotel they visit within your brand. This creates a significant challenge for hotel brands to stitch together various hardware and software platforms and align various service providers to standardize the Wi-Fi experience across each location worldwide.

What's more, most brands do not capitalize on economies of scale when it comes to Wi-Fi system procurement and service. Imagine letting each one of your general managers select his or her own soaps and towels. Crazy, right? Not only is it inefficient and inconsistent, there's no way to negotiate better rates for equipment or volume discounts on service. The same is true for Wi-Fi. In fact, it's more important given the ongoing costs of upgrading your infrastructure to meet demand for bandwidth.

Why is it so hard to create a consistent guest Wi-Fi experience?

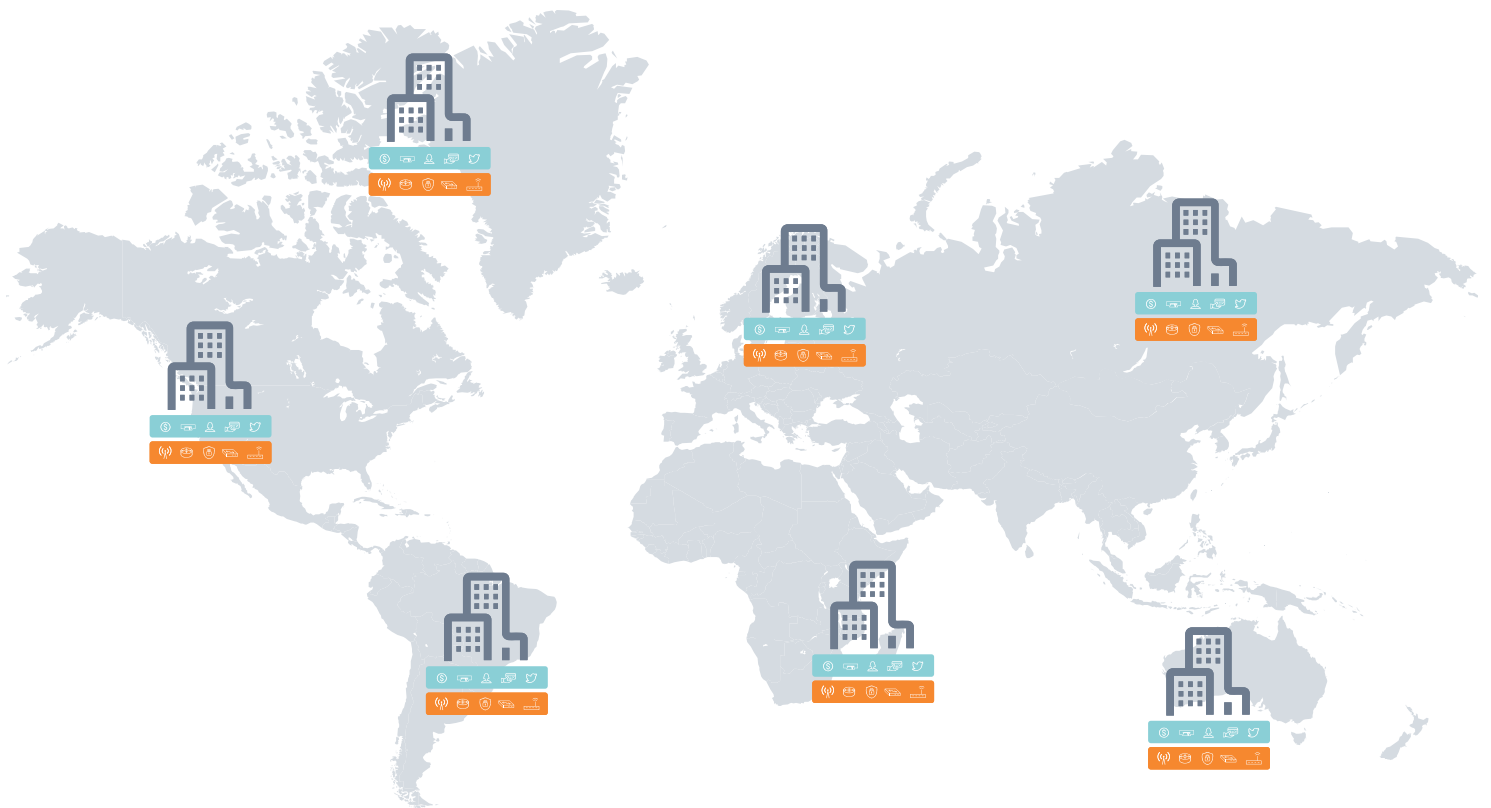
Creating an aggregate view of Wi-Fi performance across all hotel properties in a brand seems virtually impossible. A typical Wi-Fi network (like the one at your house) typically requires a piece of hardware and a service provider to work. At a hotel, multiply that by your room count and add in your meeting rooms and other shared space (lobby, pool, bar, etc.). Then let's factor in all the third-party systems we want to talk to each other to create a great Wi-Fi experience—from property management systems (PMS) to loyalty databases. Now we've really started to weave a tangled web.

Now multiply this times all of your hotel locations, and it's even more difficult to create a consistent experience across the myriad systems, providers, and hardware. Hospitality is uniquely challenging with its various guest information systems. What is needed is a layer of middleware between the network and other systems that allows you to provision Internet service, use standard log-in portal templates and create consistent Wi-Fi experiences that guests love.



Central authentication standardizes the Wi-Fi experience

Historically, guest Wi-Fi was something that was managed at the property level with local information technology or general managers selecting the hardware and service provider to manage the experience. This practice resulted in different experiences at each location within a brand. Today, a cloud-based guest Wi-Fi management platform can help you manage Wi-Fi through an easy web interface at the property level or across all of the properties in your brand portfolio. Pre-built integrations to the leading hardware and hospitality PMS and loyalty systems and relationships with hospitality service providers become a must to simplify the work for the hotel brand.



SECTION 3

Essential Central Authentication Features



What should I look for in a central authentication solution?

Hotel brands of all sizes seeking to create a seamless Wi-Fi experience across their various properties will need to consider a central guest Wi-Fi platform to offset the challenges of disparate systems and service providers worldwide. The core capabilities of central authentication are:



Authenticate

Centrally authenticate and recognize valuable loyalty members



Manage

Easily manage Wi-Fi performance from a single cloud-based dashboard



Engage

Better engage and reward loyal guests with personalized experiences

Read on as this section dives into greater detail on all the various must-have features that fall into these capability sets.

Flexible authentication options



A central authentication platform makes it easy for guests to log onto the hotel Wi-Fi network with flexible options for doing so. There are various motivations behind a hotel brand's choice of authentication options:

- » **Speed and convenience:** some hotel brands want to offer a simple, yet secure login experience with agreement to terms of service (click and go) or short forms which ask for name and room number.
- » **Data capture:** many brands see Wi-Fi authentication as an opportunity to gather guest information like email address for future engagement opportunities. Social authentication via Facebook and other networks allows the hotel brand to access rich guest profile information to create better, more personalized experiences delivered via the Wi-Fi.
- » **Automatic connection:** brands who wish to create that home-like Wi-Fi experience are introducing ways to automatically connect to the network across properties with simple MAC address authentication or with Passpoint profiles guests can download for instant identification and automatic Wi-Fi connection.

The Authentication Spectrum

The authentication spectrum illustrates the most common ways to authenticate guests onto the Wi-Fi.

Access Codes



Hotels should have the ability to quickly and easily create codes for guests to access specified Wi-Fi networks. This simple option is especially useful for groups and conferences.

Short Form



Connect with your property management system (PMS) to authenticate guests using last name and room number or swap free/enhanced Wi-Fi for email addresses.

Social Sign-in



Enable guests to use an existing online identity to access Wi-Fi simply and securely. Gather social data to create rich guest profiles for more personalized experiences.

MAC Authentication



Offer guests the option to check a box that allows the system to remember device(s) using the MAC address. Next time they return, they will be automatically connected.

Passpoint (Hotspot 2.0)



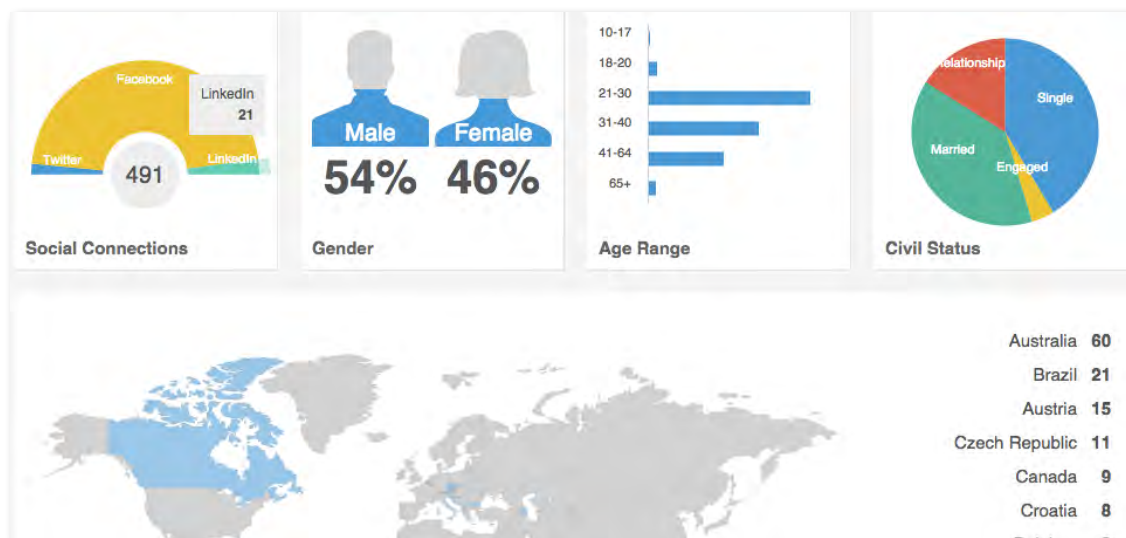
Automatic authentication is the future of guest Wi-Fi. Guests sign up once and will be recognized and connected to the network at every property in a brand for life.

ESSENTIAL FEATURE

Social authentication

Today, four out of five Internet users surveyed dislike traditional registration forms and [73% prefer to log-in with their social media accounts](#). Guests do not want to fill our cumbersome forms or have to remember yet another password when logging on to the hotel network. Facebook leads the social log-in race in travel/hospitality [with 65% market share](#), nearly 3 times higher than second place Google+, followed by Twitter and LinkedIn.

While social authentication improves the guest Wi-Fi log-in experience, it also permits the hotel brand to gain valuable information about their guests from their social profiles. Information about gender, age, nationality and relationship status help the hotel to better understand guests' preferences and create engaging experiences to build loyalty. Personalized messaging directly on the log-in page drives guest loyalty and increases re-booking.



ESSENTIAL FEATURE

Automatic Authentication

MAC re- authentication



Guests want a seamless, automatic connection to the hotel network. They want to avoid the hassle of searching for a network or logging on via cumbersome portal pages. What's more, they expect the same level of Wi-Fi performance and security they get at home. Finally, they want to be rewarded for their loyalty with perks like free Wi-Fi and the highest level of performance. Today, hotels can truly offer their loyalty members seamless, automatic connection to the Wi-Fi network without portal pages at any location.

The simplest way to automatically connect guests to the Wi-Fi network is by recognizing the media access control (MAC) address on the guest's device. The MAC address is a unique 12-character identifier assigned to the network adapter located in the guest's device. MAC authentication has been available for many years and simply requires a guest to opt-in once to have to have their device "remembered" by the network for future connections..

Advantages

- » **Ubiquitous:** MAC authentication works on all devices, from smartphones to laptops to tablets, regardless of manufacturer.
- » **Simple:** guests follow the standard log-in procedure and are asked with one time to agree to have their device remembered by the network.

Challenges

- » **Security:** MAC addresses can be easy to detect and spoof creating potential fraud risk for the guest.
- » **Device continuity:** MAC addresses are permanently assigned to a device, so they are difficult to manage when guests change devices due to loss, replacement etc.

ESSENTIAL FEATURE

Automatic Authentication

Passpoint, a.k.a. Hotspot 2.0



Wi-Fi Certified Passpoint™ is the brand name for a new standard of public Wi-Fi that enables seamless connection. Passpoint certification is based on the [Wi-Fi Alliance](#) Hotspot 2.0 specification (for simplicity's sake, we will refer to the technology just as Passpoint moving forward). Passpoint allows guests to install a profile on their device one time and then the hotel network automatically authenticates them based on the stored credentials. This technology allows guest devices to automatically connect to the hotel's network whenever and wherever they are in range.

Passpoint automates the authentication process by enabling a seamless connection between hotspots and devices, while delivering WPA2™ security. Passpoint also addresses the challenges of decentralized Wi-Fi including inconsistent brand experience and disparate equipment and service providers. Enabling a more cellular-like experience, Passpoint gives way to a modern Wi-Fi experience that delights guests and rewards loyalty members.

Advantages

- » **Once-in-a-lifetime:** guests authenticate devices just one time and then auto-connect at any property, anywhere in the world
- » **Enhanced security:** Passpoint provides a more secure connection via WPA2 encrypted wireless communication.
- » **Personalized loyalty perks:** because guests are recognized at the point of authentication, rewarding them with free or enhanced Wi-Fi.

Challenges

- » **Not yet ubiquitous on all devices:** Like any new technology, Passpoint adoption is growing but may not yet be available on all device types.
- » **Guest adoption:** Since Passpoint requires the one-time download of a profile to the guest's device, the process will need to be easy and secure to drive adoption.



How to choose an automatic authentication solution

MAC Address Authentication and Passpoint are two ways to address guest demand for seamless, automatic connection to hotel Wi-Fi. Early adopter hotel brands are implementing one or both capabilities based on their individual needs and priorities:

- » **Speed to market:** while both technologies are available, MAC address authentication is ubiquitous today across any device.
- » **Guest convenience:** both capabilities require a simple level of permission from the guest which is incorporated into the first-time log-in process. Passpoint does require a bit more work upfront, but will save time down the road.
- » **Security and privacy:** MAC authentication does not address the age old issue of open public networks which do present the risk of being hacked. For the first time, with Passpoint, hotels can truly offer secure, fully-encrypted automatic connection to Wi-Fi at every location.

Today, our Wi-Fi pros recommend that hotels implement both MAC address authentication and Passpoint to allow for maximum flexibility as the market evolves. Passpoint adoption will truly accelerate with broader adoption by:

- » **Network hardware manufacturers:** most are ahead of the curve with Passpoint already built in.
- » **Device manufacturers:** the biggest obstacle today is handsets; as manufacturers implement Passpoint in all of their devices, adoption will increase.
- » **Carriers:** adoption will require carriers to fully deploy Passpoint on their implementations of devices, including Internet of Things (IoT) devices.

CASE STUDY

Starwood pilots Passpoint with great success

starwood
Hotels and
Resorts

The Brand

With more than 1,300 properties in 100+ countries worldwide, Starwood distinguishes its brands through design leadership and innovation.

Since Wi-Fi is arguably the most important amenity to guests, Starwood set out to reinvent guest Wi-Fi to create a home-like experience with special rewards for SPG loyalty members at every Starwood property.

Guest Challenges

- » Difficult to find and connect to the right network
- » Cumbersome log-in process
- » Need to login repeatedly during stay
- » No consistency in Wi-Fi performance or log-in process
- » Security concerns

Hotel Concerns

- » Wasted time configuring each hotel separately
- » Interoperability with existing infrastructure
- » Difficulty with complex implementation
- » Disruption for associates having to troubleshoot problems

In Their Words



Brennan Gildersleeve

VP, Guest Technology
Starwood Hotels & Resorts
Worldwide

"We really wanted to figure out a way to create a simplified, awesome Wi-Fi experience for our guests. We're leveraging Passpoint to create an automatic seamless, effortless connection."

STARWOOD CASE STUDY: SOLUTION & RESULTS

The Solution

Starwood partnered with Eleven to pilot Passpoint in 13 hotels for their SPG members. The ElevenOS guest Wi-Fi platform leverages Passpoint technology to deliver automatic authentication and fully-encrypted connectivity to the Wi-Fi network.

Guest Benefits

Any SPG member who downloads the Passpoint profile to their device will automatically be recognized and seamlessly connected to the hotel Wi-Fi for a home-like experience at every Starwood property worldwide. As a reward, SPG members are guaranteed the highest level of Internet performance at every Starwood location.

Hotel Benefits

Starwood is able to offer what guests crave—once in a lifetime Wi-Fi authentication to automatically connect at any property, anywhere in the world. There are not many loyalty perks much more compelling than that. Starwood will also be able to recognize guests at the point of authentication and offer unique benefits to their most loyal customers.

On the technology side, the WPA encryption makes Passpoint one of the most secure ways to authenticate users and devices onto a public network. Additionally, this solution enables Starwood to address challenges of decentralized Wi-Fi by enabling consistency across captive portal login, service providers, network equipment and more.

“ There have been no adverse effects or issues by adding this configuration layer to our existing networks. **It just works.** ”

2,000 

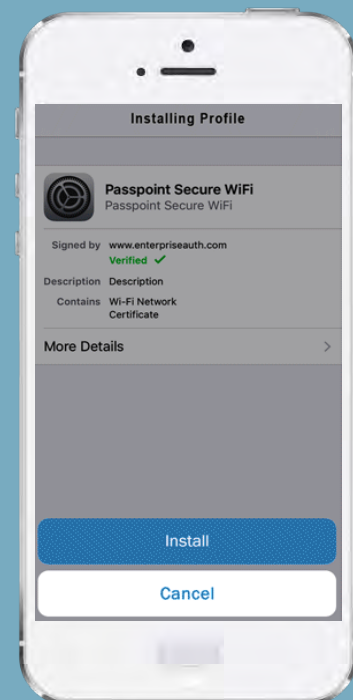
SPG members signed up for Passpoint in the first 60 days, despite limited marketing

1,000+ 

unique devices have successfully connected to the Wi-Fi via Passpoint

Guests  it

Reported feedback has been very positive (“I’ve longed for this type of hotel Wi-Fi...”)



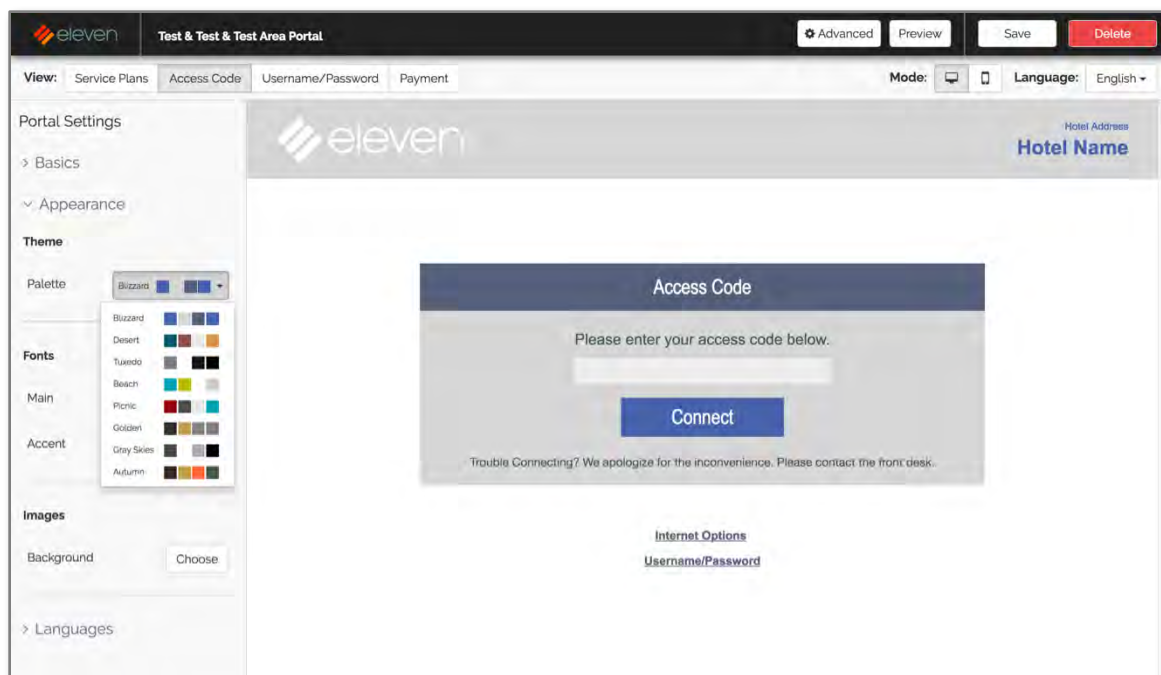
Installation of the Passpoint profile is simple and only needs to be done once on each device

ESSENTIAL FEATURE

Captive portal and template management



Even though authentication options continue to evolve, it is still important for a central authentication platform to include a user-friendly captive portal editor even with automatic authentication. The portal is still a great way to engage guests while still adding value to their stay. Hoteliers should be able to build templates and allow staff to create compelling, branded portals in local languages with consistent promotions and messaging.



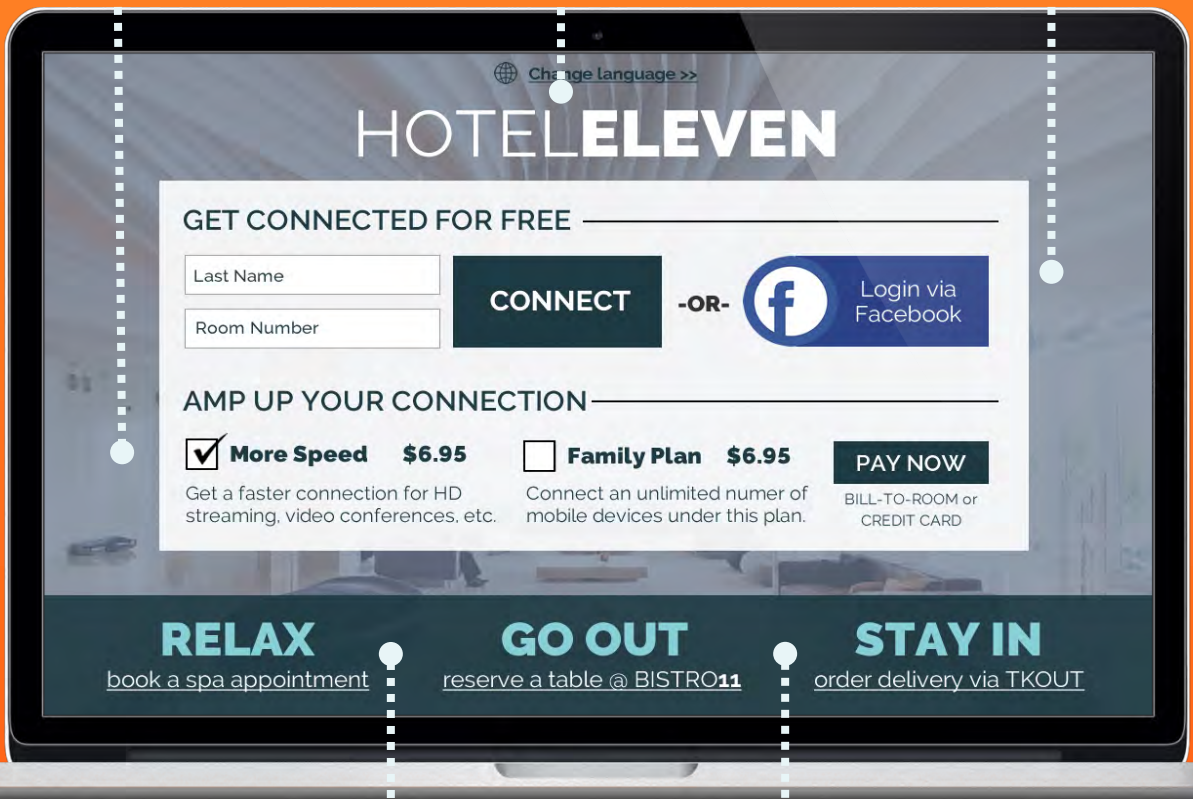


Leverage your captive portal as a guest touch point

Offer Tiered Services

Use Templates for Brand-wide Consistency

Gather Rich Guest Data



Promote Onsite Amenities

Add Value with Third Party Links

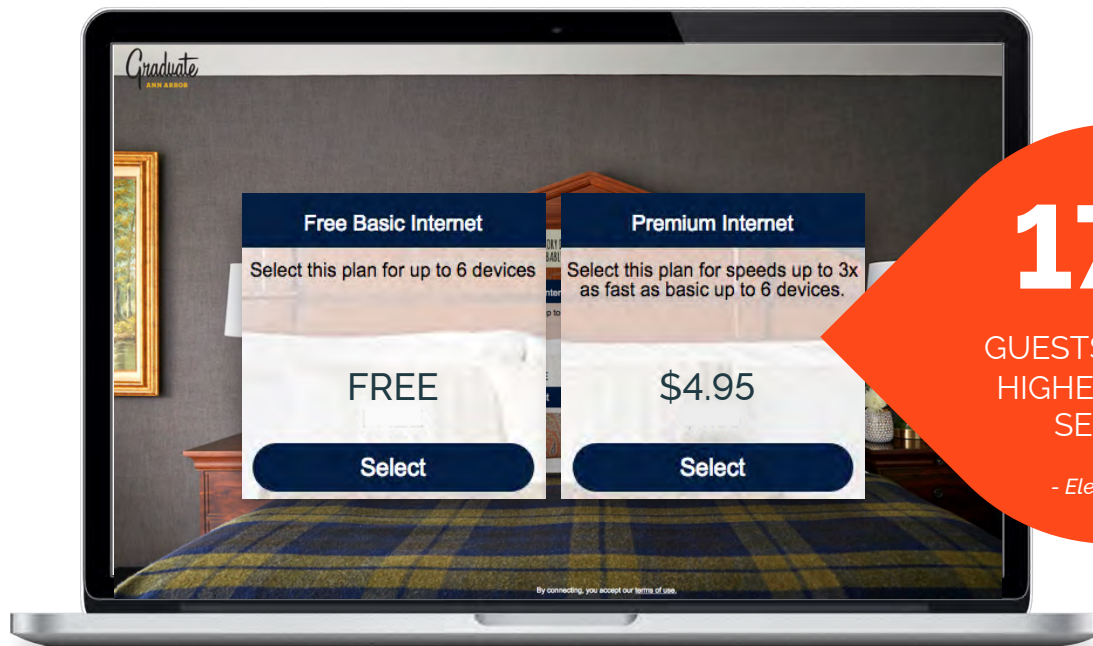
Dynamic options for free & paid Internet plans



Cloud-managed Wi-Fi makes it easy for hotel brands to manage tiered Internet service plans across all properties or allow for customization within individual properties. Create and edit free and/or for-charge Internet plans to allow guests to make choices based on the level of service they need. Select credit card billing or bill-to-room with pre-built integration with leading PMS providers. Real-time reporting helps you understand guest usage and revenue to optimize your services and create right experience for your guests.



Add value with Wi-Fi packages to meet all guest needs



It's important that you, your staff, and meeting planners have control over the Internet service offered to various audiences, including hotel guests, conference attendees, and loyalty members.

Not only is it valuable for guests to be able to choose their own plan, you can also recoup some of your network costs this way. A recent Eleven study showed that 17% of guests chose a higher tier of Internet service when given the option to help them access higher levels of bandwidth for streaming HD content, gaming, sharing large files and adding devices.

Integration with guest information systems



To harness the true power of central authentication, the platform must integrate with leading guest information systems like PMS (property management systems), loyalty databases and social networks. Rich Wi-Fi data can then be combined with loyalty status, social preferences, hotel services used, and revenue generated to create customer profiles to better understand their needs.

With an open central authentication, Wi-Fi becomes the great enabler of the modern guest experience. From mobile check-in to iPad room service, many of the emerging amenities today's guests crave are first and foremost reliant on a sturdy Wi-Fi network that can easily connect with all the necessary systems that make this tech possible.



Add color to your most loyal guests

Jane Jones

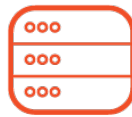
PORTLAND, OR janejones@me.com


GOLD status


Room: #205 **Length of Stay:** 3 days

Services Used: Free premium Wi-Fi

Connected: iPhone 6s by the pool

 **PMS & CRM**

 **Loyalty Database**

 **Central Authentication**

Leveraging Wi-Fi data for even richer guest profiles allows you to deliver a better, more personalized Wi-Fi experience that truly delights guests and drives loyalty.

Personal Area Networks for secure sharing



Personal Area Networks are defined as seamless connection between individuals, devices, and groups in a secure, defined area enables shared, interactive experiences. The ability to create "micro personal networks" within a hotel will delight leisure and business travelers alike. Personal network IDs (SSIDs) can be seen only by authorized users where content can be shared between user devices. Personal area networks also allow users to interact with hotel devices to personalize their own stay. This feature will help you deliver the home-like Wi-Fi experience guests crave.

Turn your hotel rooms into living rooms by enabling guests to securely stream movies to the smart TV, play interactive games, or share photos with each other. Better serve business guests and groups with secure collaboration options, shared documents, and easier video conferencing within a private network.



Enable guests to securely share content with other users and devices

Upload a PAN Mapping

For setting up PAN behavior, you can upload a file which maps rooms to the appropriate VLANs. You may download an [example mapping CSV file here](#) to make sure it's in the correct format. Uploading a new mapping will replace the existing mapping below but you will have a chance to review it before saving.

[Upload CSV](#)

Edit PAN Mapping

[Save Changes](#) [Cancel](#)

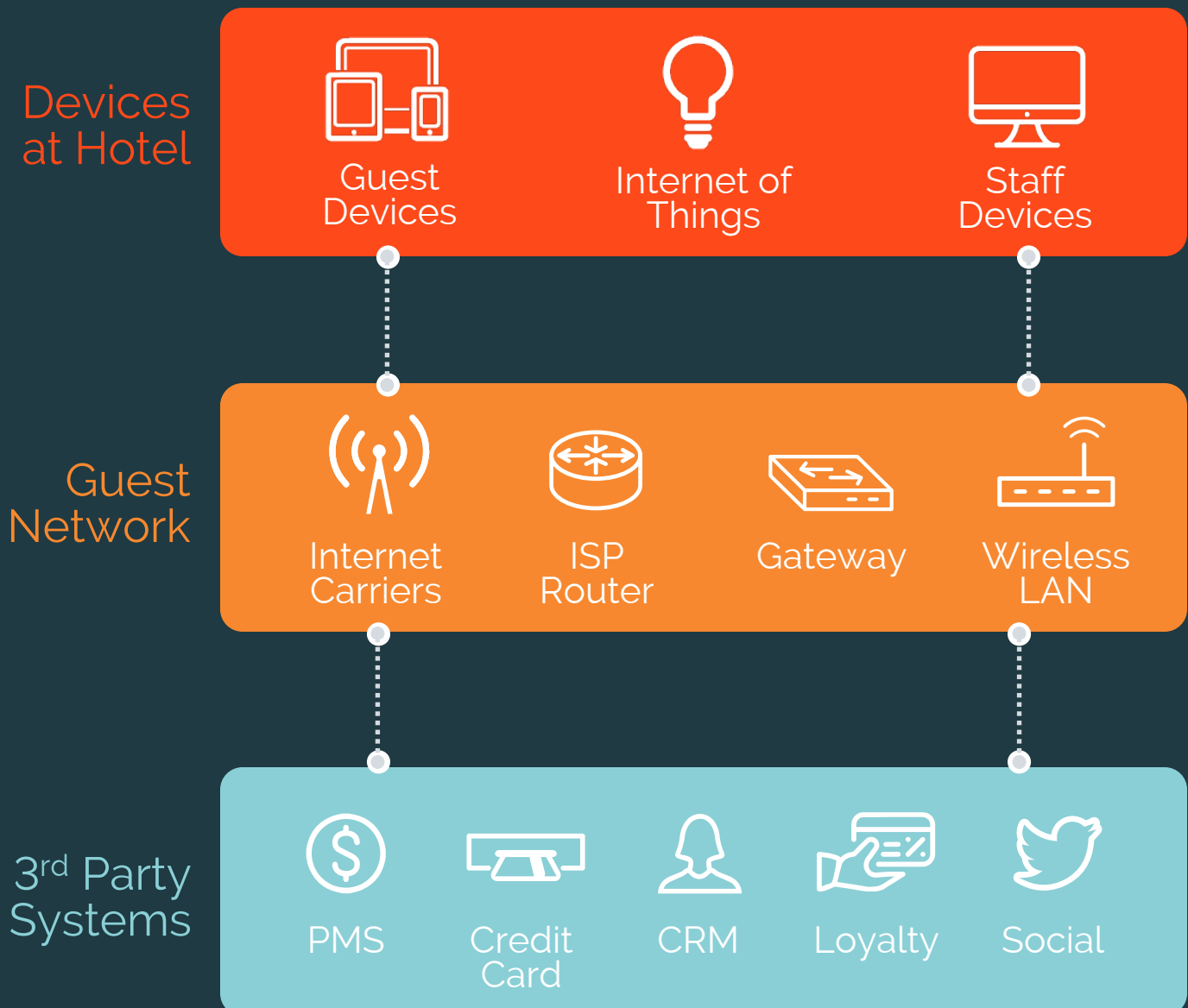
Room ↕	VLAN ↕	
<input type="text"/>	<input type="text"/>	+ Add
105	1035	
104	1034	
103	1033	
102	1032	
101	1031	
100	1030	

Example use cases include:

- » **Bring-your-own-content (BYOC):** enable guests to stream their content to the in-room TV via Apple TV, Chromecast, etc.
- » **Business presentation collaboration:** empower business travelers to securely create a presentation or other document together.
- » **Travel photo sharing:** allow guests to easily share their trip photos with each other via their own in-room network

Hotel Network Information Flow

There are several moving pieces when it comes to connecting the many devices at a hotel to the Wi-Fi and other guest information systems.



ESSENTIAL FEATURE

Smart network management



Central authentication eases the complexity of simultaneously managing Wi-Fi for guest access, back-of-house system access, and staff or associate access.

Manage your guest network in real-time with Internet service plan provisioning, bandwidth optimization, and creation of unique access codes and permissions. Analyze the network at the individual property level or across all of the properties in your brand to ensure consistency and overall performance.

In addition to the guest side of the network, you can also better manage the back-of-house networks. With device management, you can ensure a secure, reliable connection for internal systems, like kitchen management, housekeeping, and procurement. Staff and associate devices should also be managed from the same place, but connected to their own virtual network (VLAN) for better security.



Get more out of the bandwidth you have

A screenshot of a Wi-Fi management dashboard. At the top, there is a slider control for bandwidth, with 'Slow' on the left, 'Medium' in the center, and 'Fast' on the right. The slider is currently set to a point between 'Medium' and 'Fast'. Below the slider, there are several configuration options:

- Upload/Download Speed:** A text input field containing '55 Mbps'.
- Apply Bandwidth Limits to:** Two radio buttons, 'Individual' and 'Group', with 'Group' selected. A question mark icon is to the right.
- Concurrent User Limit:** A text input field containing '8' and a dropdown menu set to 'users'. A question mark icon is to the right.
- Email Addresses for Alerts:** A text input field containing 'info@elevenwifi.com'. A question mark icon is to the right.
- Conference Traffic Priority:** A dropdown menu set to 'Premium'.

For many hotels, the answer to slow performance problems has been to just pay for more bandwidth. With a Wi-Fi management platform, you can start with better managing the bandwidth you currently have and evaluating capacity from there. Create limits on concurrent devices and bandwidth caps for uploads and downloads to ensure sufficient Wi-Fi performance across all areas of the hotel, including guest rooms, public spaces and conference areas. Save time by optimizing performance across multiple locations and providers from one cloud-based dashboard and ensure the brand is optimizing performance and maximizing ROI.

Bandwidth Guide for Guest Internet Plans

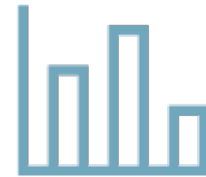
The following is a list of recommendations for bandwidth speeds based on guest activity.

Bandwidth	Description	Example Apps
1 to 3 Mbps	Recommended for checking email, social media, and other general web surfing	Facebook, Gmail
3 to 5 Mbps	Recommended for streaming standard video, VOIP, and downloading large files	Netflix, Skype
5 to 8 Mbps	Recommended for high-definition streaming, video conferencing, and gaming	GoToWebinar, Vudu

Differences between upload and download speed are often negligible, but typically download speed is prioritized. Central authentication platform will allow hotels to experiment with varying levels for better guest satisfaction.

ESSENTIAL FEATURE

Real-time reporting & analytics



Monitor Wi-Fi performance in real-time and understand guest usage and revenue trends. Centralized guest Wi-Fi management allows you to monitor performance at the individual property level or aggregated across all locations in your hotel and all properties in your brand.

With advanced reporting features, you can also tie in third-party analytics for better Wi-Fi visibility via aggregate analytics. An example of this is to bring in service provider support statistics for better information on network performance from a property or guest standpoint. Perhaps from a technical perspective your network is top-notch shape, but some aspect of the login process is confusing so your staff has to be intervene and call your service provider for support—connecting this support data will allow you to see this and adjust processes or other details as needed.

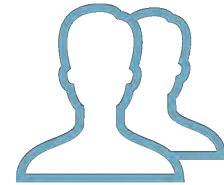


Make better business decisions with Wi-Fi analytics



Stay on the pulse of Wi-Fi performance across all devices, users, areas of the hotel and properties in your brand. Understand who is using the network with integrated data from a centralized authentication platform and other guest information systems. If you charge for premium Wi-Fi, run revenue reports for single properties or across all to see how much incremental revenue you are bringing in. Customizable dashboards help you stay on top of the metrics that matter to you.

Conference & group Internet management



Simplify the job of event planners and conference managers with unique functionality for scheduling and managing the Wi-Fi for conferences, meetings, or conventions. It's important for a central authentication platform to have group functionality that enables hoteliers to manage and prioritize bandwidth and services across various groups and present reports for future planning.

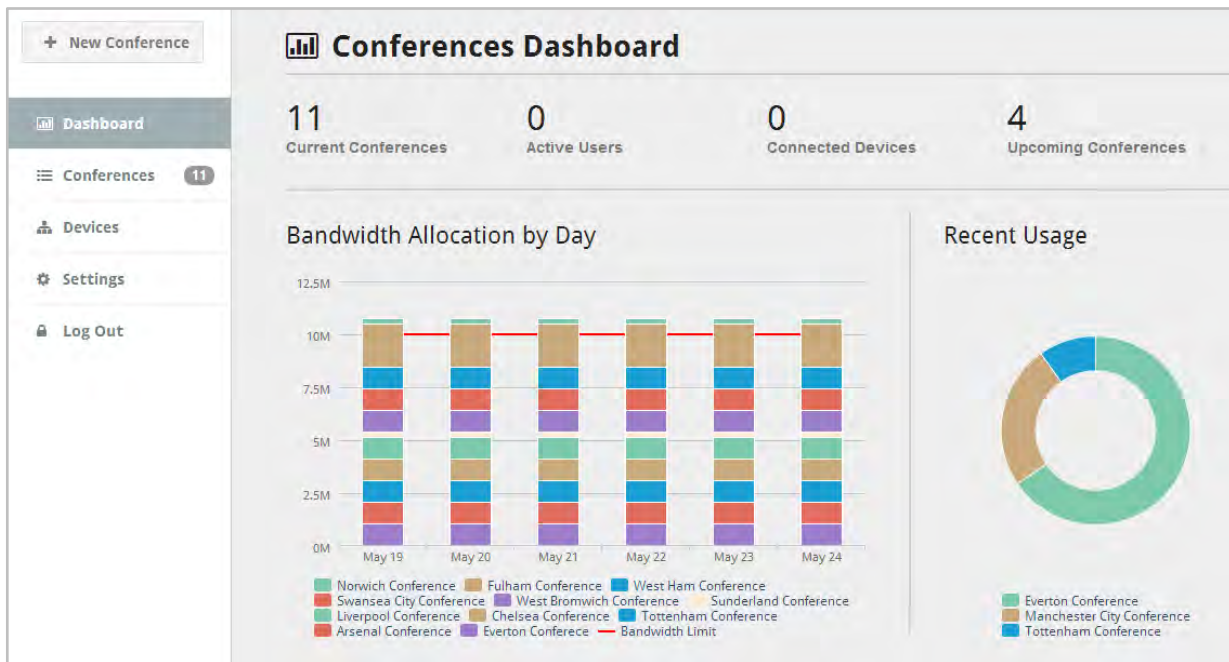
With a conference Wi-Fi management tool, hotel sales and catering staff can easily configure advanced connectivity options for conferences. Staff can easily setup custom vanity wireless SSIDs so that each conference can have a unique, branded connection point. Additionally, they can set up many often-requested options that used to require a call to the help desk, such as mapping wired ports for conference access, configuring network security options, and IP address assignments.



Empower planners to manage Wi-Fi and win more conference business

With nearly 2/3 of conferences offering a mobile app—which rely on high-performance Wi-Fi—it’s no surprise that [Skift](#) named “Fluid Connectivity” the top trend for conferences and conventions. A robust central authentication platform empowers planners to do the heavy lifting on their Wi-Fi management instead of burdening front desk staff. They are able to easily:

- » Manage and **prioritize bandwidth** on the fly
- » Create unique event **landing pages**
- » Access group Wi-Fi **analytics and reports**



SECTION 5

The Future of Central Authentication



Central authentication as the “great enabler”

Guest access to the Wi-Fi network is just the beginning of central authentication. As technology drives more and more aspects of the guest experience, a robust network is critically important to *all* aspects of a hotel brand's strategy.

The magic of central authentication is in its role as the identifier. By utilizing central authentication as the middleware between guest-facing technology and the guest, we begin to tie technology together with a single thread, creating a more frictionless guest experience.

Much of “big data” today is static, passive, or even inaccessible. Using the central authentication platform as the connection point between the network and users, devices, and staff—we begin to make this data more manageable and actionable. For example, if the mini-bar starts using more than average bandwidth, IT gets notified that there's likely a problem., or if a VIP guest checks in, the concierge is notified to make a special call to welcome them.

Wi-Fi, more specifically central authentication, will enable the modern experience guests crave. Read on to learn about our top 3 predictions for the future of guest Wi-Fi and central authentication.

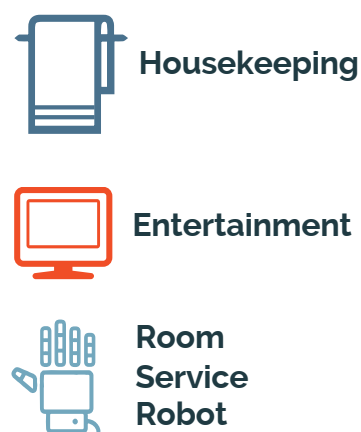
Better connectivity for the Internet of things (IoT)

As Silent Travelers look more to technology for great hotel experiences—from housekeeping delivered via IP-enabled carts to restaurant ordering on a tablet—the modern guest experience will rely even more heavily on a secure, robust network. Central authentication will serve as the middleware between your network and all of the devices that require a connection, facilitating better management, visibility and security with your IoT.

Guest-Facing



Back-of-House



Central
Authentication
Platform

Enhanced on-property location services

Once you know who is connected to your network, you know who is currently in your hotel, not just who is checked in. Take for example this scenario: a guest goes out to explore the city on day 3 of their stay—when they return, their phone automatically connects to the Wi-Fi when they walk in the door, at which point you can push a message to them with a promotion for a refreshment in the lounge to rest their tired feet. It doesn't get much more personalized than that.

As location services get smarter, you begin to know *where* they are in your hotel. If they're connected in the restaurant, push a free appetizer coupon, if they're passing by the spa, invite them to come check out the service menu. Beyond the individual level, you can even begin to see trends based on how guests travel through your hotel and use that data to inform better business decisions,

Revenue opportunities via roaming

One of the biggest revenue opportunities for Wi-Fi is roaming. Roaming refers to when a third-party provider (cellular, Wi-Fi or hotspot services) partners with a hotel to allow their users to "roam" onto the hotel's network for a fee. This practice is becoming more popular as services like Boingo and iPass pickup more subscribers and is already quite popular in retail venues (i.e. Starbucks).

The benefit for hotels is, of course, an added revenue stream, without affecting your guests' experience. Devices securely roam and off your network without the user ever noticing. The challenge will be ensuring appropriate bandwidth levels for everyone—a central authentication platform enables hoteliers to monitor usage and decide if the roaming deal makes sense financially.

SECTION 4

The Business Case for Central Authentication



Why the secret to guest loyalty is Wi-Fi

Brand loyalty is more important than ever given the rising costs of customer acquisition and influx of new competitors, like Airbnb. Given that it's the #1 desired amenity, free and enhanced Wi-Fi is a must-have component of your loyalty program. Feather pillows and free drinks will not drive loyalty the way free Wi-Fi can. Central authentication makes it easy for you to provision great Wi-Fi across your entire brand.

Wi-Fi also acts as another crucial touch point between you and your guests. Capture guest insight and behavior analytics to steer your sales and marketing strategy.



POP QUIZ!

Is your guest Wi-Fi lovable?

How do guests access Wi-Fi at your hotel(s)?

- With a password we give them at check-in **1**
- With their last name and room number **2**
- With a social login (Facebook, Twitter, etc.) **3**
- It's just a free, open network **0**

Do guests have to pay for the Wi-Fi?

- Yes **0**
- No **1**
- We have both free and paid options **2**

Does your Wi-Fi support streaming media?

- I don't know **0**
- Yes; guests can choose to pay for an upgraded speed **2**
- No **0**

Is your captive portal mobile-friendly?

- Yes **3**
- No **0**
- We don't have one **0**

Can guests access the Wi-Fi with multiple devices?

- Yes **3**
- Kind of; they have to sign in with a new Wi-Fi plan on each device **1**
- No **0**

Do groups get their own network and splash page?

- Yes but we have to contact our network admin to set it up **1**
- Yes; it's easy to set up! **3**
- No **0**
- N/A

Take the quiz online to get your result in just 3 minutes!

[TO THE QUIZ >>](#)

GET YOUR GRADE

Is your guest Wi-Fi lovable?

Tally up your points from your answers on the previous page to determine your result.

10 to 16 points ❤️

Congrats, your guest Wi-Fi is quite lovable

Nice work, guests must love staying connected at your hotel! Did you know you can make your Wi-Fi *even* better with features like seamless connectivity and central authentication. Read on to learn more about ROI and the Eleven platform.

0 to 9 points ❤️

Your guest Wi-Fi could use a little love

Never fear, a robust central authentication can help! Keep reading to learn more about the ElevenOS Guest Wi-Fi Platform provides secure central authentication options to engage guests with great internet experiences. It's Wi-Fi you and your guests will love.

Monetizing Wi-Fi (without nickel & diming)

When the idea of “monetizing Wi-Fi” comes up we often hear a lot of groans. That’s because, historically, this basically meant egregious hourly or daily rates for Wi-Fi that barely even works. And that’s certainly not a great guest experience. However, we all need to make money to keep our doors open. That’s why it’s important to restructure the way we think and talk about Wi-Fi.

Wi-Fi is a business asset, not a cost center. Thinking of it this way allows us to think outside the box when it comes to monetization. Here are a few ways Eleven customers leverage central authentication to subsidize network infrastructure costs:

- » **Tiered Internet plans:** an Eleven study showed that 17% of guests will pay for enhanced Wi-Fi service if it’s available. Don’t miss out on revenue by offering only one plan. Make payment easy with credit card and bill-to-room options.
- » **Portal advertising/promotion:** our favorite third party advertising examples involve services that truly add value to your guests stay:
 - ▶ Promotion of your hotel’s onsite amenities
 - ▶ Food delivery services for hotels without restaurants
 - ▶ Popular news subscriptions to keep guests in the know
 - ▶ Excursion services for unique guest experiences
- » **Premium conference Internet:** because of the more complex nature of networks for conferences and groups, this is still an area people are willing to pay for Wi-Fi and advanced management.
- » **Roaming:** since roaming technology does not affect the guest experience, it’s a low-barrier option for many hotel brands; although forward-looking, it’s worth incorporating into your plan now.

The ROI of central authentication

When deciding if a central authentication platform is right for you, ask yourself:

- » Do you have more than one property in your brand/franchise?
- » Do you get complaints about Wi-Fi performance?
- » Does Wi-Fi disrupt front desk staff in serving guests?
- » Has it been more than 2 years since you had a network evaluation?
- » Do you want to move to a one-time auto connection?

If you answered *YES* to one or more of the questions above, chances are you are ready for a central authentication platform. There are also factors to consider as far as time and cost savings after implementing a central authentication platform:

- » Time and headcount it takes to manually manage your Wi-Fi
- » Unnecessary bandwidth upgrades
- » Expensive network integrations

It's time we start looking at bandwidth as a business asset; as a place where we can meet guests where they already are. An investment in central authentication is an investment in guest loyalty.

Cost Comparison

Wi-Fi vs. Shampoo



In-room toiletries

\$2.60

Average monthly
cost per room



World-class Wi-Fi

\$2.80

Average monthly
cost per room

And delivering world class Wi-Fi doesn't need to cost a fortune. Guests won't checkout if they don't like your shampoo, but they they'll never return if they experience bad Wi-Fi at your hotel. For about the same as it costs to provide in-room toiletries like soap or conditioner, hotels can deliver world class Wi-Fi that delights and engages your guests.

Your guests will agree, great Wi-Fi outshines shampoo.

SECTION 6

Eleven's Central Authentication Solution



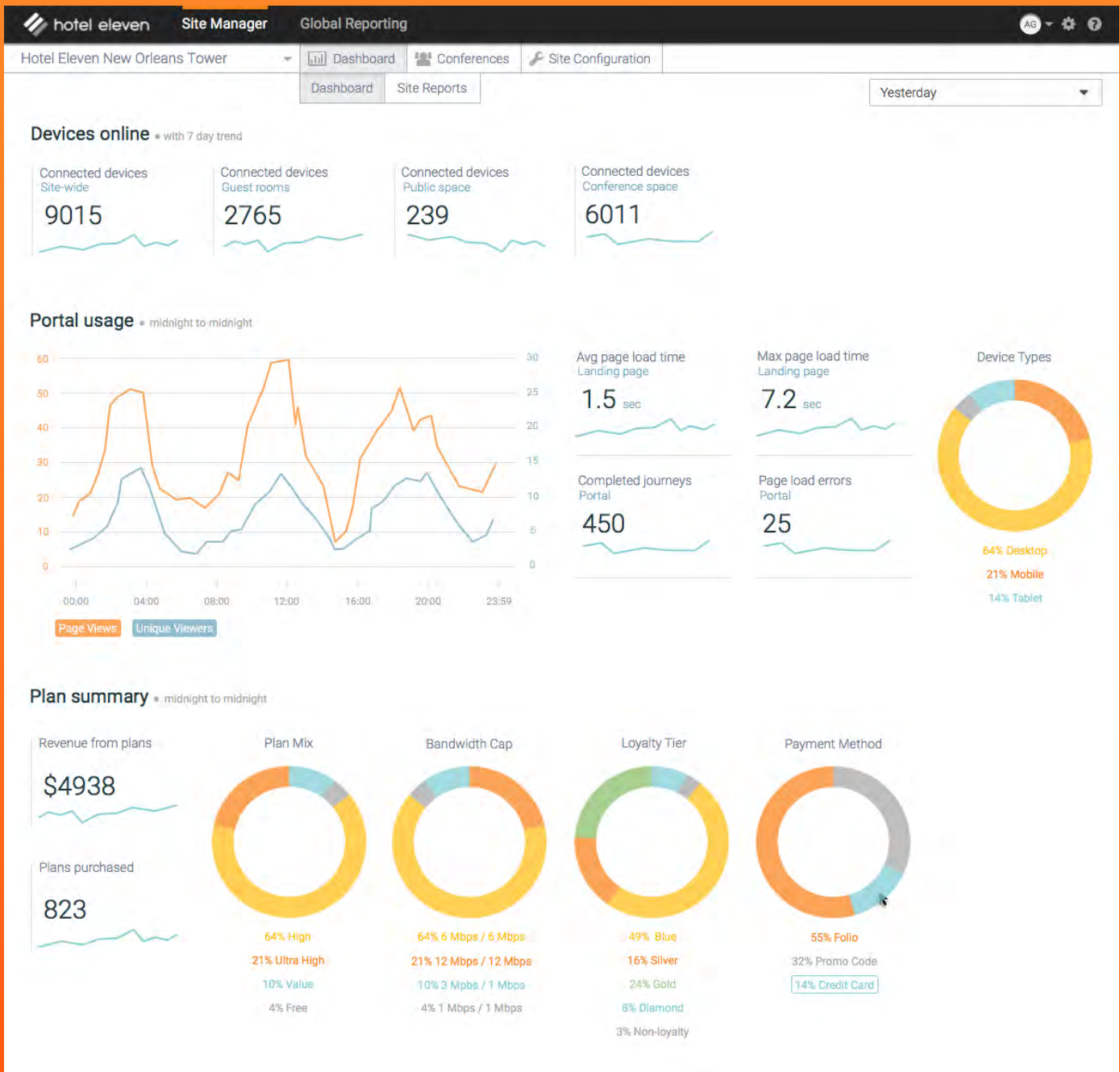
Core Capabilities of the ElevenOS Platform

The ElevenOS central guest Wi-Fi platform gives you all the tools you need to deliver a consistent, high performance guest Wi-Fi experience across your brand to engage guests and build loyalty. ElevenOS cloud-based platform allows hotels to securely authenticate guests with flexible options including short forms, social, MAC address and Passpoint. Integrate with PMS and loyalty databases to better understand guest needs. Build custom portals with free or for-charge Internet plans. Create personal area networks for secure sharing in a defined area. Manage the network in real-time to optimize ongoing



Better visibility with cloud-based dashboards

Unique reporting dashboards in ElevenOS allow you to monitor Wi-Fi performance in real-time, understand guest usage, and analyze revenue trends. Centralized guest Wi-Fi management allows you to monitor performance at the individual property level or aggregated across all of the properties or brands within your brand.



ElevenOS Connects Guest Info Systems for Data Capture

ElevenOS integrates with leading guest information systems like PMS (property management systems), loyalty databases and social networks. Combine loyalty status, social preferences, hotel services used and revenue generated with Wi-Fi data to create rich guest profiles to better understand and engage your most loyal guests.



Trusted Hospitality Wi-Fi Leader for 15 Years

We are Eleven, hospitality's trusted Wi-Fi leader for nearly 15 years. Our ElevenOS central guest Wi-Fi platform helps hotels deliver a great guest Wi-Fi to more than 9 million unique guests per month across multiple devices, locations, properties, and service providers. Our software is trusted by the industry's leading brands and boutiques



2,200+ properties served
each month



300k+ guest rooms
served each month



17M+ authentications
each month

See our central authentication software in action!

REQUEST A DEMO

CONCLUSION & TAKEAWAYS

There you have it. All you wanted to know about central authentication (and hopefully more). It's a lot of information (68 pages worth to be exact), so we boiled it down to our top 6 takeaways.

1. Great Wi-Fi is about more than just connecting devices—it is about connecting people to your brand.
2. Wi-Fi management is complex; managing it at the brand level eases pain points and realizes economies of scale.
3. Automatic authentication with Passpoint is changing the Wi-Fi game *today*—don't get left behind.
4. Offer both free and paid Wi-Fi service plans tailored to your guests' distinct needs.
5. Connect Wi-Fi data with other guest information systems to enable more personalized guest experiences.
6. Central authentication enables brands to reward loyal guests with what they want most: great Wi-Fi.



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