

The Evolution of Hotel Wi-Fi



INTRODUCTION

A Culture of Constant Connection

It's hard to believe that there was a world before smartphones and Wi-Fi. In reality, it was less than 20 years ago that Wi-Fi was first available in our homes and just over 10 years since the first iPhone came out. We have quickly become accustomed to the world at our fingertips.

In just a decade, our habits and lives are forever changed—many of us no longer travel with maps, we can answer almost any question in mere seconds, and we can connect with people on the other side of the globe in an instant.

Wi-Fi has also since become ubiquitous in hotels and other public spaces, in response to the expectation that we are connected always and everywhere. But for many reasons, the industry has not always been able to keep up with the demand for more and better Wi-Fi.

In this eBook, we take a look at how Wi-Fi has evolved and will continue to adapt to the way people want to connect, not how the technology tells them to. We'll cover:

- **Past:** brief history of Wi-Fi technology
- **Present:** current state of hotel connectivity
- **Future:** what's coming for hotel Wi-Fi



19 Years

Since Wi-Fi was first available in homes

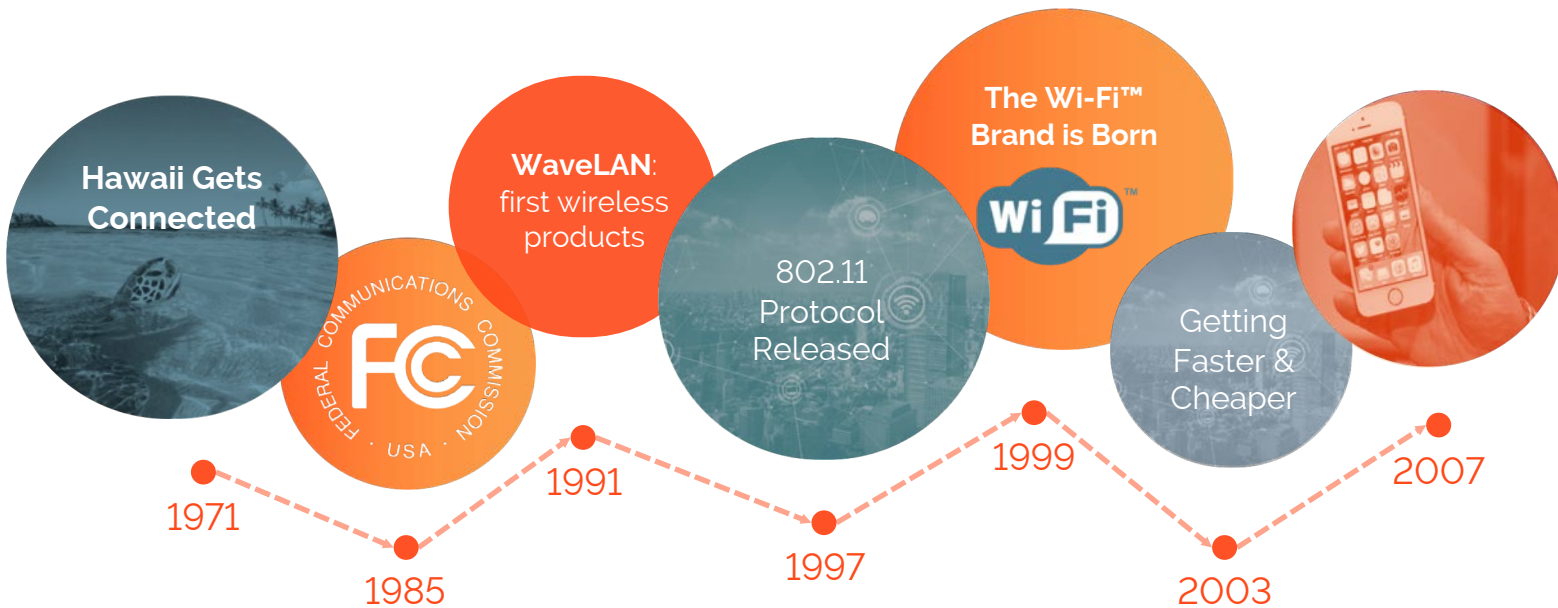


11 Years

Since the first iPhone came out



A Brief History Of Wi-Fi Technology



1971: ALOHAnet was an early forerunner to Ethernet and the ALOHA protocol preceded the 802.11 protocols.

1985: The FCC allows unlicensed spread spectrum in the ISM bands, which sets the stage for Wi-Fi as we know it today.

1991: credited with inventing Wi-Fi, NCR Corporation and AT&T Corporation invented the precursor to 802.11, which was intended for use in cashier systems. The first wireless products were under the name WaveLAN.

1997: the 802.11 protocol is released, this is the technology that will come to drive what we now know as Wi-Fi today.

1999: the Wi-Fi Alliance® launches the Wi-Fi brand. Like Band-Aid or Kleenex, it's now a household name.

2003: faster speeds become more widely available and start to catch up with wired speeds at affordable rates.

2007: the first iPhone comes out, changing the game and is a precursor to the world of the Internet of Things (IoT).



Commoditization of Wi-Fi & The Rise of Freemium

Upon the emergence of smartphones, Wi-Fi shifted abruptly from a cutting-edge amenity to a non-negotiable commodity. Hoteliers were (and still are) expected to replace or overhaul their network infrastructure to support an influx of wireless devices. At the same time, hoteliers were losing a revenue stream from the in-room telephones, leaving many in the industry looking for ways to recoup their costs.

Charging for *all* access to Wi-Fi did not last long. Around 2012 is when we saw the emergence of the tiered or "Freemium" model. Hotels began to offer a free basic level of Wi-Fi and charge for higher performance. This tiered access model continues to be a viable approach to match connectivity needs and monetize Wi-Fi. In fact, we have found that just 12% adoption for a premium plan can pay for a property's monthly Wi-Fi costs.

Today, guests are even more likely to understand the value of Wi-Fi performance. Some guests only want to check email or surf the web, while others want to share large files, conduct video conferences or play interactive games, and most understand the difference. Half of millennials say they would pay 5% of their annual salary for super-fast Wi-Fi.



50%

50% of millennials said they would pay 5% of their annual salary for super-fast Wi-Fi

Source: eWeek Millennials Willing to Pay More for High-Speed Web Access, May 2016



THE CURRENT STATE OF HOTEL WI-FI

Fragmented & Frustrating Guest Experience

Many guest networks are managed at the individual property level with local IT managers selecting hardware, software, and service providers to manage the guest experience. Each with its own network hardware configuration 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 experience each time they check-in. Wi-Fi network names (SSIDs) are not uniform, captive portals and log-in processes vary, and Wi-Fi performance may vary widely from place to place. This poor guest experience creates a significant challenge for brands.

A typical Wi-Fi network 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 spaces (lobby, pool, etc.). Then factor in all the 3rd party systems we want to talk to each other to create a great Wi-Fi experience—from property management systems (PMS) to loyalty databases. Then multiply that by the number of properties in a brand's portfolio. It's no wonder why creating a great guest Wi-Fi experience across multiple properties and providers is difficult.

SSID names are not uniform across a brand

Cumbersome login process (or none at all)

Captive portal doesn't work on all devices

Unreliable speed & performance

Inconsistent experience property to property

Separate pricing for each property

Forced to login several times throughout a stay

Unable to connect or cast to in-room TV

Nothing special for loyalty members

Stronger Emphasis on Security & Privacy

Historically, the industry has talked about security as an intangible idea that we need to address, but no one was sure how. Recently, we have seen the technology finally starting to catch up. From GDPR to the California Privacy Act to Mark Zuckerberg's 4-hour testimony in front of senate, online privacy and Wi-Fi security has become more important—and more visible— than ever.

GDPR (General Data Protection Regulation) is a regulation dealing with the protection of the personal data of EU citizens and replaces the Data Protection Directive of 1995. It was officially enacted into EU law in May of 2018 and consists of 173 recitals and 99 articles.

Applying to any organizations doing business with the EU, the fines for non-compliance are up to 4% of global turnover. The good news is it has forced the entire world to think more strategically about security and privacy for the long-term.

In the next section of this eBook, we'll discuss how Hotspot 2.0 is the future of hotel Wi-Fi and is poised to enhance public network security for years to come.



THE FUTURE OF HOTEL WI-FI

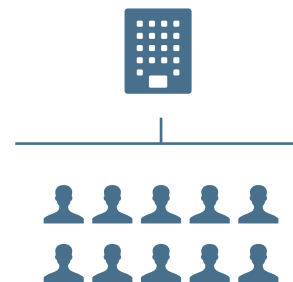
Hotspot 2.0: Automatic & Secure Connectivity

Hotspot 2.0 (HS 2.0) provides loyalty guests with instant lifetime access to Wi-Fi across all properties in a brand. Granting Passpoint profiles to guests is a unique incentive for travelers to join a brand's loyalty program or download a mobile app. Enhanced security is the other main benefit of HS 2.0. By leveraging enterprise-grade WPA2 encryption, Passpoint networks provides a much higher level of security than traditional Wi-Fi networks.

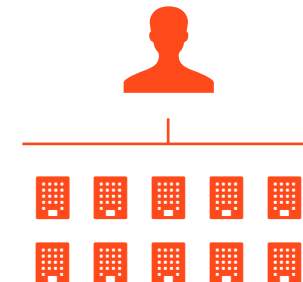


Hotspot 2.0 was developed by the Wi-Fi Alliance® and the Wireless Broadband Association to enable the seamless handoff of traffic between cellular and Wi-Fi networks without requiring additional user sign-on and authentication. **Passpoint** is the brand for the Hotspot 2.0 certification program operated by the Wi-Fi Alliance.

Before HS 2.0



After HS 2.0



With HS 2.0, we see a paradigm shift to a more guest-centric concept for hotel connectivity. Before, we considered Wi-Fi to be one hotel network with many guests travelling through and connecting to that network. Now, we build Wi-Fi strategy based on one guest traveling to many hotels. We believe Passpoint is a key component to the future of guest connectivity.



THE FUTURE OF HOTEL WI-FI

5G Will Complement Wi-Fi, Rather Than Replace It

The qualities of 5G networks—low latency, faster speeds, better availability—have the potential to really change the game for connectivity. Over the next decade, 5G is expected to almost triple the annual gain in wireless capacity compared to the past 20 years¹. But while it's an important improvement in connectivity, we don't expect it to replace Wi-Fi now or in the foreseeable future.

Instead, Wi-Fi and 5G will coexist in our increasingly connected world and travelers will use them interchangeably, likely without noticing (or caring about) a difference as long as they're connected always and everywhere. One place Wi-Fi still beats 5G is indoors. There are significant challenges that come with using the high-frequency bands that 5G does, particularly indoors. Simply put, it is much harder for the higher-frequency radio waves to penetrate obstructions, like walls.

The Wi-Fi market is estimated to be worth \$15B+ by the year 2022—indicative of a market that is growing, not slowing. Wi-Fi still has its place in the world of connectivity, particularly for enterprises.



\$15.6 BILLION

Estimated worth of the Wi-Fi market by 2022





30 BILLION

*Estimated number of
connected devices by 2020*

THE FUTURE OF HOTEL WI-FI

Intelligent Networks & Proactive Monitoring

As more technology moves to the cloud and becomes smarter, we will start to see more proactive diagnosis and self-healing of networks, especially in the enterprise. This would include:

- **Monitoring:** better visibility and real-time data
- **Diagnosing:** getting to the root cause faster
- **Alerting:** get the right info to the right person at the right time
- **Remediating:** faster fixes and possible self-healing
- **Scoring:** we could see a 'Guest Wi-Fi Index' in 2019
- **Predicting:** know there's an issue before your guests do

By the year 2020, the number of connected devices is predicted to surpass 30 billion¹. As the Internet of Things (IoT) grows, more and more devices are coming online and the risk of technology failure increases. That's why the need for smarter networks and technology is higher than ever. With the rise of machine learning (ML) and artificial intelligence (AI), self-healing and proactive diagnostic tools are completely possible.



CONCLUSION

The Next Generation of Hotel Wi-Fi: Fast, Free, Frictionless, Familiar & Focused

Wi-Fi is a crucial touch point between hoteliers and guests. As we learn from our history and look to the future, we identified 5 F's of the next generation of hotel Wi-Fi:

1. **Fast:** high-performance and reliability are key
2. **Free:** basic access should be free for all guests
3. **Frictionless:** no hassle, it should "just work"
4. **Familiar:** works just like it does at home
5. **Focused:** attention on the guest experience

A central authentication platform allows hoteliers to recognize not just the device that connects to the Wi-Fi, but the person using it. 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 brand loyalty.

With a Wi-Fi management platform, guests can be recognized as loyalty members at the point of authentication. Direct integration with the Customer Relationship Management (CRM), Loyalty, or Property Management System (PMS) system enables hotels to understand not just what device but who has accessed the network to ensure loyalty members receive the highest level of service.

As hotel brand mobile app adoption increases, connection to Wi-Fi becomes the enabler of a great guest experience for your most loyal guests. **Wi-Fi becomes a way to empower guests to connect to what they need, when they need, wherever they are.**





ElevenOS: The #1 Guest Wi-Fi Management Platform

We are Eleven, hospitality's trusted Wi-Fi management leader for 15+ years. Our smart Wi-Fi platform, ElevenOS, provides centralized cloud management for frictionless connectivity and works with leading network infrastructure to simplify the process of authenticating guests and managing Wi-Fi performance across multiple devices, properties, and service providers. We provision more than 100 million authentications per month at over 800,000 guest rooms in more than 5,000 properties across the globe.



Signup for a free Wi-Fi consultation
at [**www.elevensoftware.com**](http://www.elevensoftware.com).

