E-BOOK

# BUILDING A FUTURE READY HOTEL NETWORK

## Hotel technology is rapidly evolving. Is your network ready to handle growing demands?

Business and leisure travel in the post-pandemic era is once again on the rise with changes in guests' needs and preferences. To stand out, hoteliers must ensure that their IT network exceeds rising guest expectations.

A study conducted by Econsultancy and Adobe discovered that 65 percent of hospitality companies agree or strongly agree that customer expectations are further ahead than their organizations' current digital capabilities.[1] A powerful and scalable network is essential for delivering on technology's promise. This e-book will help you prepare to meet your hotel's evolving network connectivity requirements and position you to attract greater market share.

**Inside this e-book**





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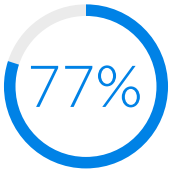
# Section 1: Identify your needs

## WiFi

Guests are bringing multiple personal devices during hotel stays. And whether they're posting on Instagram, replying to emails or streaming movies, they expect fast, reliable connectivity throughout your property. Here are some questions to ask as you evaluate your current and future WiFi needs.




of North American consumers agree or strongly agree that self-service hotel technology will be an important tool to get assistance and minimize the infection risk related to COVID-19.[2]

**Self-optimization:** *Does your WiFi infrastructure have built-in intelligence that continuously optimizes performance, so users receive the best experience possible?*
The latest generation of WiFi technology improves network performance in high-demand environments such as meeting rooms and lobbies. An automated solution dynamically adapts channel selection and width to match user demand among staff and guests.

**Load balancing:** *Does your WiFi infrastructure automatically distribute users evenly across access points to prevent network congestion?*
Advanced WiFi technology automatically transfers users in high-density areas to controllers and access points with less of a load. This ensures seamless connectivity in real time as guests move throughout your property with their devices.

**Multi-tenancy:** *Does your WiFi infrastructure let you create separate, secure wireless networks from shared access points?*
Comprehensive WiFi technology allows you to establish separate networks for both back-of-house and guest-facing applications using the same WiFi access points. As a result, you experience better network security and efficiency, lower the cost of WiFi deployment and have less RF-signal interference.


of hotel guests cite the ability to access WiFi as "very important."[3]

**Seamless failover:** *Does your wireless network have the ability to switch users over to another controller or access point in the event of a failure, so service continues uninterrupted?*
If a network device fails, advanced WiFi technologies automatically synchronize high-priority sessions — such as voice and video — between active and standby devices. The system seamlessly switches users to another network device in real time, with no disruption in service. Another benefit, staff isn't burdened with guest complaints or help requests.

**Scalability:** *Is your WiFi network flexible and scalable, able to evolve to meet changing business requirements and guest demands?*
Plan ahead for future expansion and increasing guest demand by investing in a modular network solution. You can easily add more capacity to your wireless network as your needs change, without having to overhaul or build an entirely new network.

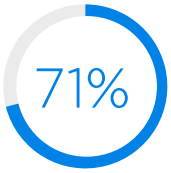
**Take action**

**Conduct a site survey**
Designing a wireless environment can be complex. Hoteliers must account for possible signal interference, like how walls and property layout may affect wireless signal range. A site survey done by an experienced provider can help you plan for reliable coverage.

## Bandwidth

Bandwidth demand is on a consistent growth incline, with hotels constantly struggling to determine how much bandwidth is enough. You must be able to avoid latency, maximize coverage and meet the fluctuating bandwidth demands of your ever-connected guests and staff. Here are some considerations when determining your bandwidth needs.

**Expanding demand:** *Do you have enough bandwidth to meet the expectations of your guests, as well as increasing numbers of non-guests?*
Hotels are transforming lobbies and underutilized spaces — and offering fast, free WiFi — to attract non-guests: gig economy workers who can provide new revenue sources at on-site coffee shops, bars and restaurants. The latest WiFi technology helps hotels meet these expanding bandwidth demands.




of event planners said they will continue to employ a digital strategy even after live events return.[4]

**Flexibility:** *Is your WiFi flexible enough to handle the fluctuating demands of your group business?*
Sixty-seven percent of convention planners said that hybrid is the future of events, and 71 percent said they will continue to employ a digital strategy even after live events return.[5] Group business poses unique challenges for WiFi networks because short-term bandwidth needs of event attendees, exhibitors, vendors and contractors can vary by hundreds or thousands of Mbps. A flexible WiFi solution lets you allocate the appropriate bandwidth depending on event or occupancy needs and peak usage times.


of people want a mobile app to manage their entire stay without having to interact with a person.[6]

**Future ready:** *Does your network bandwidth offer the ability to adapt to future advances in hospitality technology?*
Keeping up with the latest hotel technology trends is essential for hoteliers to differentiate their property through more engaging guest experiences. Hotels with an advanced WiFi solution can quickly scale to implement innovations such as guest-facing mobile apps, artificial intelligence, beacon and internet of Things (IoT) technologies — while still providing consistent coverage in a seamless user experience.

**Take action**

**Understand your bandwidth needs**
Test your current bandwidth usage to identify your needs. Use a network monitoring tool and study usage reports to identify key trends, peak usage times and bottleneck sources.

## Wide area network

Your wide area network (WAN) should be highly agile, scalable and adaptable — capable of expanding to meet the changing needs of one or all of your properties. As you evaluate your WAN's readiness for the future, here are some key questions to guide you.

**Capacity:** *Does your network have the capacity to meet users' needs now and into the future?*
Consider how many total users you'll have — guests, non-guests and staff — what applications they'll be using, and how many IoT devices they will connect to your network over the next several years. You need a network that can handle the load without becoming congested during peak usage times.

**Resiliency:** *Is your WAN designed to withstand a cut cable or other outage to a critical network connection? Do you have failover protections in place?*
Loss of a network connection can be extremely disruptive to daily operations without sufficient backup capabilities. Building a resilient network involves planning for the worst and having alternate routes available for your network traffic in case something goes wrong.

How many total users and IoT devices will connect to your network over the next several years?

**Flexibility:** *Can your network easily accommodate your changing needs?*
Does your network infrastructure give you the flexibility to easily make adjustments, such as modifying bandwidth? An agile network gives you more control, allowing you to respond quickly to changing needs.

**Visibility:** *Are you able to see data traffic patterns across your network?*
To make smart decisions based on network performance, you need to understand network status at any given time. Having both real-time and historical insight allows you to monitor performance and adjust policies as needed.

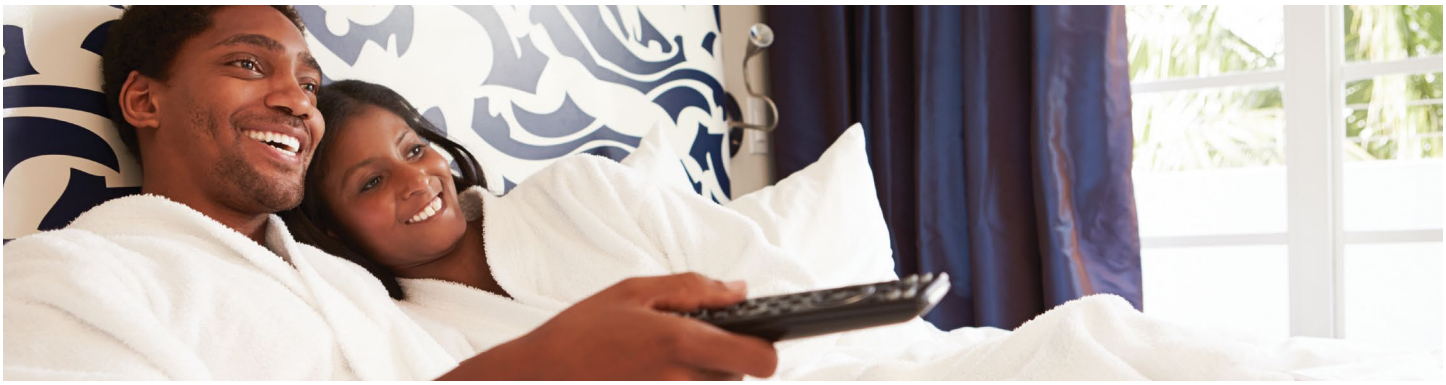
**Take action**

### Conduct capacity testing

Capacity testing measures network speeds and throughput, and identifies current (or potential) bottlenecks. This helps you know if you need to add bandwidth or upgrade your network infrastructure to meet future demands.

## Network security

The wealth of personal and financial data hotels collect has made them tempting targets for hackers. And some of the industry's biggest operators have reported data breaches in recent years. Having a powerful, high-speed and scalable network does no good if the network is paralyzed by an attack. As you assess your security needs, here are some key questions to ask.



**A firewall with unified threat management (UTM):** *Can you administer and manage multiple security functions from a single console?*
Choosing a firewall solution that combines features such as intrusion detection and prevention, antivirus software, deep packet inspection, application layer control and advanced security reporting within a single solution can simplify network security while saving time and money. There are fewer products to configure and maintain, and network administrators can achieve a single, holistic view of network threats.

**DDoS protection:** *Can you protect your network from a distributed denial of service (DDoS) attack?*
In a DDoS attack, a hacker takes control of multiple computers to target a set of servers, overwhelming the network with traffic and taking it offline. DDoS attacks are fairly easy to carry out, and can disrupt day-to-day operations. The best defense is a cloud-based security solution that can intercept the onslaught of malicious traffic attacking your network and scrub it before it even reaches your servers.

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people had their data compromised from cyberattacks against U.S. organizations in 2020.[7]

**Vulnerability testing:** *Are you regularly scanning your network for potential weak spots that hackers can exploit?*
As a general rule, you should test your network at least quarterly to find and correct possible weaknesses in your security defenses. Ideally, this testing should be performed by a certified third party.

**Other best practices:** *Have you adopted other industry-recognized best practices for keeping your network secure, such as network segmentation?*
Segmenting your network involves separating groups of systems or applications from each other either physically or virtually. This limits communication between various systems, which limits how much damage a hacker can do on your network.

**Take action**

**Perform a security audit**
A network security audit can help you understand potential network vulnerabilities. A security audit identifies all network assets and determines whether their operating systems are up to date. It also reviews firewall configuration and assesses the biggest risks to your network security, so you know which potential threats are most important to address.

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## Section 2: Owned vs. managed services

As you plan your network infrastructure needs, one aspect to consider is whether you want to own and support all of it yourself. Here are some key factors to think about when making this decision.

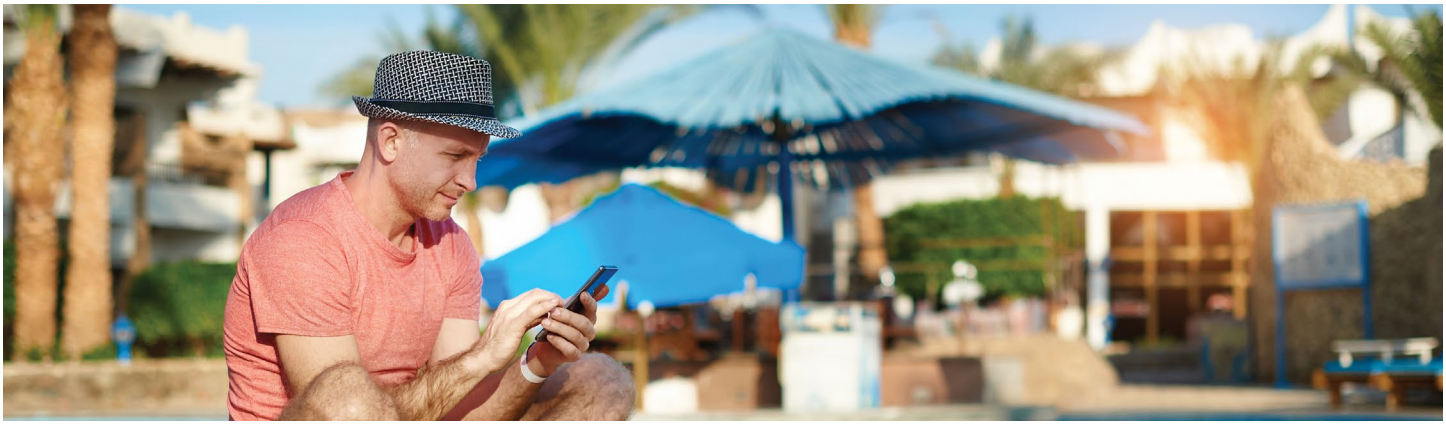
Consider the hidden costs that come with managing your own equipment.

**Flexibility:** When you buy your own equipment, you're investing in a specific network infrastructure with a fixed capacity. If your needs change faster than you anticipated, or if you underestimated the demands on your network from the outset, you'll have to invest more money and time to upgrade. If flexibility is a priority, a managed solution lets you add capacity as desired. It also assures you that as technology evolves, you'll have access to the latest innovations.

**Reliability:** When you own your network equipment, you're responsible for all maintenance and repairs. How might this affect the reliability of your network? With a managed solution, you have the peace of mind from a service level agreement (SLA) that guarantees network uptime and issue resolution response times.

**Budgeting:** Do you prefer large up-front expenses or monthly recurring charges? Some hoteliers choose the single capital outlay of buying and installing their own equipment; for others, a fixed monthly managed service rate makes budgeting easier. Of course, if you invest in your own network infrastructure, you'll still have to set aside funding for maintenance and support — expenses that can add up quickly.

**Staff capacity:** Does your staff have the capacity to maintain and troubleshoot your network, while also leading hotel technology innovation? Can you effectively support the network and meet other IT needs? If so, then owning your network infrastructure might make sense. But a growing number of hoteliers are finding that a managed solution that can deploy technicians 24/7/365 in the event of any problems frees staff from performing routine maintenance tasks. So, they can spend more time on strategic initiatives that support the overall hotel business plan.



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## Section 3: Choose the right partner

Your choice of service provider matters. The right partner can help you at every step in your project, ensuring the success of your network upgrade. You want a service provider that is not just a technology vendor, but a partner with extensive hospitality industry experience and is fully invested in your success. Spectrum Enterprise helps its hospitality partners thrive through our portfolio of connectivity, voice and in-room technology services. Our services include:

The nationwide private fiber network from Spectrum Enterprise provides reliability and security.


**Fiber Internet Access:** Achieve dedicated internet connectivity with symmetrical upload and download speeds and bandwidth up to 100 Gbps.

**Wireless Internet Backup:** Prepare for the unexpected with a cost effective, automatic wireless internet failover and failback service that is managed for you.

**Ethernet Services:** Meet ever-growing data needs by connecting locations with a fast, reliable wide area network (WAN) solution backed by performance guarantees and built on a dedicated fiber infrastructure. Bandwidth up to 100 Gbps is available.

**Cloud Connect:** Extend your network with fast, secure and dependable private connections to cloud service providers.

**Managed WiFi:** Meet guest and staff demands for reliable connections to the internet with ubiquitous coverage across your property and 24/7/365 support.

**Managed Network Edge:** Simplify the deployment and management of your network with this modular, all-in-one solution. Delivered over the Cisco Meraki platform, Managed Network Edge offers security, routing, SD-WAN, WiFi, switching, cameras and the ability to work from anywhere there is an internet connection. Achieve flexibility, scalability with connectivity, equipment and network management from a single partner.

**Enterprise Network Edge:** Improve the network experience for your teams when scalability, performance and flexibility are paramount to your business. Powered by Fortinet, the solution simplifies IT operations by providing SD-WAN and security in a multi-cloud-ready platform that brings together connectivity, equipment and network management to support both hybrid networks and workforces.

**Managed Router Service:** Efficiently route traffic and improve bandwidth use without investing in hardware or day-to-day management.



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**DDoS Protection:** Guard against malicious volumetric attacks designed to overload your network and prevent access to property applications, systems and information with world-class distributed denial of service (DDoS) threat identification and mitigation.

**Unified Communications for Hospitality:** Elevate the guest experience, engage hotel staff and enhance operational efficiency with this cloud-based voice and collaboration solution with features that comprise presence, instant messaging, video conferencing and desktop sharing — accessible from anywhere. The solution also works with mobile devices, such as smartphones and tablets, and may be integrated with your current PMS.

**Enterprise Trunking:** Maximize the value of premises-based PBXs with reliable, cost-effective, feature-rich and easy-to-scale PRI and SIP trunking solutions.

**Enterprise TV:** Engage, inform and entertain with a large variety of channel lineups, premium programming and custom content. Provide guests with an immersive in-room experience when you pair live TV with video-on-demand and over-the-top applications for guest and concierge services with a comprehensive, interactive in-room technology solution.

Technology will play an integral role in delivering the personalization and customization today's hotel guests expect. And a secure, high-performance IT infrastructure is vital for both guest-facing and enterprise purposes. Partner with the hospitality IT experts at Spectrum Enterprise as you prepare for the future — helping you delight guests and improve operations by delivering an extraordinary connected experience.

**Learn more**

1. "2021 Digital Trends: Travel and Hospitality in Focus," Econsultancy and Adobe, 2021.
2. "A Data-Driven Look at Hospitality's Recovery," Skift and Oracle Hospitality, 2020.
3. "How to Improve Hotel Guest Experiences Post COVID-19," Travel Daily, Nov. 13, 2020.
4. "100 Event Trends for 2021," EventMB, Jan. 8, 2021.
5. Ibid.
6. "Survey Reveals Tech-supported, Contactless 'New Normal' For Hotels, Resorts and Casinos Amid COVID-19," Metova, April 27, 2021.
7. Phil Muncaster, "US Breach Volumes Fell 19% in 2020 as Ransomware Surges," Infosecurity Magazine, Jan. 29, 2021.

**About Spectrum Enterprise**

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable, fiber technology solutions serving many of America's largest businesses and communications service providers. The broad Spectrum Enterprise portfolio includes networking and managed services solutions: Internet access, Ethernet access and networks, Voice and TV solutions. The Spectrum Enterprise team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. For more information, visit enterprise.spectrum.com.





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