The Case for Upgrading to Wi-Fi 6/6E

KEY REASONS FOR INVESTMENT IN YOUR WIRELESS NETWORK

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Wi-Fi 6 and 6E Drive Your Organization Forward Today and Tomorrow

It's hard to believe, but Wi-Fi® has been in our lives for more than 20 years now. Today, the Wi-Fi brand is recognized around the world, and the technology behind it has become a ubiquitous part of our everyday lives, at home and at work.

Since the technology was first introduced as a "nice to have" feature in the IEEE 802.11a and 802.11b standards in 1999, each generation of Wi-Fi technology has given us access to higher data rates, improved security features, and a better user experience.

Now, Wi-Fi 6 and Wi-Fi 6E are here, and the days of stepping-stone improvements in Wi-Fi are over.

Future-Proof Wi-Fi is Here

Wi-Fi 6 and 6E are a paradigm shift, and they deliver the key wireless LAN capabilities organization will need for the next 10 to 15 years.

Wi-Fi 6 and 6E certainly push the envelope on Wi-Fi speeds, supporting multi-Gigabit speeds. But they go beyond throughput increases to significantly improve Wi-Fi capacity and coverage, while reducing network congestion. And Wi-Fi 6E delivers a spectrum bonanza.

With Wi-Fi 6/6E, your organization has the futureproof Wi-Fi network needed to overcome challenges, digitally transform operations, and drive better outcomes — today and in the future:

- **Enhance the customer experience** with unique and personalized services that draw people back over and over again.
- **Increase efficiency** with automated, more resilient operations that reduce costs.
- **Reduce risks** with location-based services and IoT solutions that protect your brand, users, and devices.
- **Grow revenues** by using advanced technologies such as Artificial Intelligence for IT Operations (AIOps) to reveal new growth opportunities and to prioritize application flows.

Here's a closer look at why your organization needs Wi-Fi 6/6E.

The World Is Moving to Wi-Fi 6/6E

Wi-Fi 6 and 6E are being adopted at unprecedented rates. According to the Wi-Fi Alliance®, the worldwide network of companies that advances Wi-Fi, Wi-Fi CERTIFIED 6™ surpassed 50 percent market share in three years compared to four years for Wi-Fi 5. And Wi-Fi 6E has seen unprecedented interest among regulatory bodies worldwide.[1]

[1]Wi-Fi 6 and Wi-Fi 6E drive global market opportunities. Wi-Fi Alliance press release, May 11, 2022.

Rise Above Today's Limitations

Since the COVID-19 pandemic hit in March 2020, almost every organization has had to radically adapt the way it works and shift to cloud-based applications to support a more dispersed workforce. Now, cloud-based applications and the ability to seamlessly work from anywhere are considered essential for operational continuity in a fast-paced and ever-changing world.

Unfortunately, high-bandwidth, cloud-based applications can easily overwhelm existing Wi-Fi networks, leading to severe network congestion. This is especially true for Wi-Fi 4 (802.11n), which has been available since 2009 — long before most organizations started thinking about cloud-based application delivery — and only supports speeds up to 600 Mbps. A move to Wi-Fi 5 (802.11ac), which became available in 2013, won't resolve the issue. While data rates of 6.93 Gbps are theoretically possible with Wi-Fi 5, you'll more likely get 400 to 600 Mbps. And pure Wi-Fi 5 only operates in the 5 GHz frequency band.

In addition to cloud-based applications, IT teams are also challenged to support the rapidly growing number of mobile and IoT devices organizations now rely on. These additional devices further strain existing Wi-Fi networks and the already-stretched IT staff who manage them. They also create new requirements for Wi-Fi network reliability and security.

But why now, in 2022?

The worst of the pandemic is over and the urgency to establish a more permanent normal is accelerating impact of the changes made at the start of the pandemic. Now in a new era of hybrid work, people expect the flexibility of wireless networks and better collaboration tools. This requires better Wi-Fi.

And speaking of Cloud, cloud-managed networks are becoming more pervasive. That means your competitors using these tools to unlock business insights by collecting data present in their networks. The new Wi-Fi 6/6E world is full of more devices, more connected clients, and more data. To fully take advantage of this, you need a Wi-Fi 6/6E network managed in the cloud.

Low unemployment rates worsen IT staffing shortages. To overcome this, you need top-performing Wi-Fi to reduce any trouble tickets with your IT team, as they are too overwhelmed. Organizations can't hire their way out of this, so upgrading wireless is becoming the best of a limited set of remaining options.

Unclog the Wi-Fi Traffic Jam

Wi-Fi 6 and 6E are designed to improve user, application, and device experiences across your network. Compared to Wi-Fi 5, Wi-Fi 6 and 6E deliver:

3x
the network speed

1,200
MHz additional potential spectrum available

Better multitasking

Improved security

Better reliability

With these dramatic performance enhancements, you no longer have to worry the next application or device requirement will bring your Wi-Fi network to its knees.

Get More From Existing Investments

With Wi-Fi 6, you can continue to use devices that operate at 2.4 GHz — with higher performance. This ability is extremely important in industries such as healthcare and manufacturing, which still rely heavily on specialized devices that operate at 2.4 GHz.

Increase Network Visibility and Reach

An upgrade to Wi-Fi 6 and 6E also opens the door for a switch to cloud-managed networking. Rethinking connectivity creates opportunities to simplify network management and help your limited IT resources work more efficiently and effectively.

Instead of grappling with complex management of access points, switches, and routers, IT staff have a single, unified view of all wired and wireless network elements. They can manage the entire network anytime, from anywhere, across an unlimited number of distributed environments. And they can manage thousands of infrastructure devices from a single cloud instance.

The way teams work, and where they work from, will continue to evolve over time. Organizations may never again have all of their staff working from their facilities at the same time. When staff members are in the office, they may no longer need wired network support. To keep people connected and working as efficiently as possible under any circumstances, IT teams will need the ability to quickly and easily adapt networking to meet changing real estate and connectivity requirements.

As the organization pushes forward, you'll also need to ensure the Wi-Fi network can support more applications with higher demands, and even more mobile and IoT devices. All of these advanced applications and devices will require a highly available Wi-Fi network.

But your IT staffing challenges won't disappear anytime soon. To keep pace with the changing needs of an evolving workforce, resource-constrained IT teams will need an advanced, yet simplified, way to manage and troubleshoot the network.

Support New Requirements With Complete Confidence

Wi-Fi 6 and 6E give you the flexibility to meet the changing needs of your organization over time. These technologies are designed for the long term.

Take the security measures in Wi-Fi 6/6E as an example. Although Wi-Fi has had strong authentication and encryption capabilities through the Wi-Fi Protected Access (WPA) security standard and WPA2 for some time now, Wi-Fi 6E devices must support WPA3-personal and WPA3-enterprise. As you add more advanced applications and devices to your operations, your Wi-Fi network is ready to deliver faster and more advanced encryption to protect increasing volumes of critical data.

In addition, support for the Wi-Fi Enhanced Open security certification is mandatory. This certification ensures Wi-Fi 6/6E solutions provide protection in scenarios where user authentication is not required.

And it's a must for any organization that provides, or plans to provide, an open Wi-Fi network for guests or customers.

Put New 6 GHz Spectrum to Work

The 1,200 MHz of unlicensed spectrum the FCC made available for Wi-Fi 6E in the U.S. grants access to a 6 GHz superhighway.

The new 6 GHz spectrum provides more than double the number of usable channels than 2.4 GHz and 5 GHz spectrum combined. That means it effectively triples the amount of unlicensed spectrum available for Wi-Fi, ensuring your wireless network delivers the speed, bandwidth, and low latency needed to support your most demanding, mission-critical applications.

With more than 350 million Wi-Fi 6E products expected to enter the market in 2022[2], a Wi-Fi 6E network puts you in the ideal position to support the most recent and advanced Wi-Fi-capable devices as they become available.

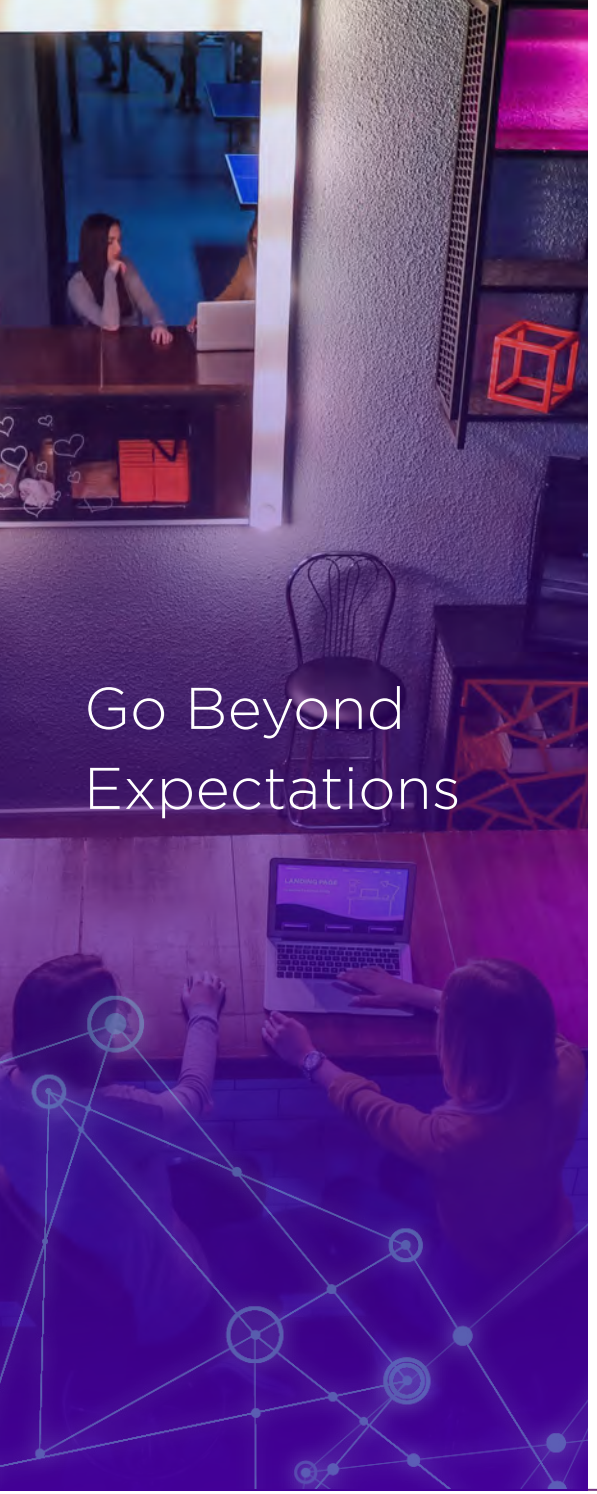
Reduce Risks

Wi-Fi 6/6E cloud-based network management platforms bring you the advanced machine learning and AI capabilities your IT teams need to easily unlock new network and operational insights and intelligence.

With access to real-time data and analytics, even small IT teams can make predictive, data-informed decisions to mitigate risks on all fronts:

- **User engagement**
- **Application delivery**
- **Quality of experience**
- **Troubleshooting and root cause analysis**

[2]Wi-Fi 6 and Wi-Fi 6E drive global market opportunities. Wi-Fi Alliance press release, May 11, 2022.



Go Beyond Expectations

As a technical decision-maker, your job is to ensure the wireless network can deliver the capabilities your colleagues need to drive successful outcomes. Those outcomes are directly related to the network's ability to:

- Securely deliver the applications and diverse end user experiences needed across the organization
- Quickly and easily adapt to meet fast-changing operational requirements

A fast and super-efficient Wi-Fi 6/6E network that's managed in the cloud and provides mission-critical data insights offers everything you need to meet these expectations and more.

Accelerate Operations

You now have the Wi-Fi network needed to digitally transform operations. The organization can take advantage of new technologies, such as IoT and digital automation, to redefine workflows and work in more efficient and productive ways. Now you can:

- Proactively detect and repair devices and equipment before they affect experience or break down completely
- Automate systems to reduce manual tasks and keep staff focused on more value-added priorities
- Streamline logistics so products and supplies move in and out of inventory faster and with less human intervention

Drive Strategic Decision-Making

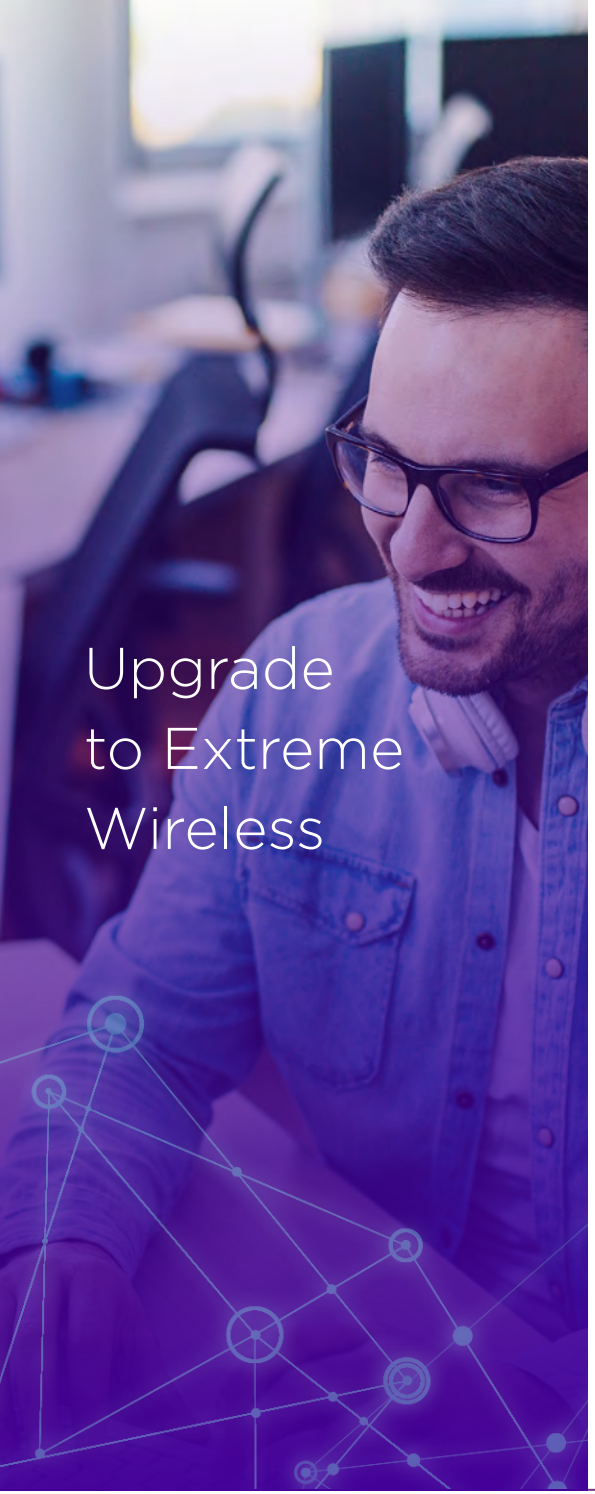
You can also extract more of the highly valuable data in the network so it can be used to inform operational strategies and decision-making across the organization. Access to this data also dramatically simplifies network support. Instead of dealing with menial and time-consuming tasks, you have deep network visibility end-to-end so you can quickly and easily:

- Get the complete performance, health, and security status for every network device and user
- Manage policies for thousands of wired and wireless devices and sites
- Identify and monitor the overall operational state of the network

Open the Door to New Revenue Streams

With a faster, more reliable and secure Wi-Fi network, your organization has new opportunities to offer revenue-generating applications and services that leverage the network in innovate ways. The specific opportunities depend on your industry, market environment, and unique goals, but could include offering:

- More personalized and differentiated experiences to customers and guests
- Access to appealing, real-time apps that increase engagement
- Operational intelligence and data to customers, partners, and suppliers



Extreme brings you all of the network devices, applications, and cloud-managed networking solutions you need to take full advantage of Wi-Fi 6/6E wireless networking. You have the wireless network speed, bandwidth, security, insight, and agility to unleash mission-critical initiatives now, and for years to come, with the IT staff you have today:

Rethink connectivity. Deliver secure, cloud-driven connectivity beyond your campus to the WAN edge and tether together disparate devices and services to enable remote workplaces and applications, such as distance learning or telemedicine.

Unlock new insights. Identify location, app usage, and workflow patterns to provide more personalized experiences and improve operational efficiency.

Transform economics. Fully leverage previous network investments, optimize Software as a Service (SaaS) investments, and use machine learning and AI for smarter, more efficient network management.

Together, these advances will bring your organization into the era of the infinite enterprise — an enterprise that's infinitely distributed to meet users wherever they are and delivers a consumer-centric experience at scale.

Trusted by Industry Leaders Globally

More than 50,000 leading organizations across industries are already advancing their operations with Extreme solutions, including:

ArcelorMittal, as colour, Baylor University, FARRER&Co, Lowe's, MLB, NFL, Novant Health, UNC

A Repeat Gartner Magic Quadrant Leader

Extreme has been recognized as a Gartner Magic Quadrant Leader for Wireless and Wireless LAN Infrastructure since 2018. In its 2021 Magic Quadrant report, Gartner identified our platform-agnostic approach, advanced machine learning and AI platform, and universal licensing strategy as key strengths.[3]

[3]Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure. Gartner, November 15, 2021.

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ValuTrack provides a complete portfolio of networking solutions and services that ensure business continuity and accelerate innovative capabilities. Our services include Managed Network Services, Network Infrastructure Design, Wireless Site Surveys, Switch and Access Point Installation, Network Cabling, Network Analytics and Optimization, On-Site Management and Support, and more.