



# Cisco Wireless: Optimized for the Digital Revolution



In today's interconnected world, Wi-Fi has become the dominant and most cost-effective means of providing connectivity for countless devices. The number of devices being connected to networks continues to grow, supporting innovation in various industries. As we shift toward all things digital, we will continue to rely on Wi-Fi to do much more than it ever has. As a result, it is crucial to rethink our networking approach, focusing on intelligent solutions that prioritize reliability and predictability.

To accommodate new experiences and spaces, modern networks need to be more intelligent. They need to use analytics and telemetry, along with applied AI, to automatically optimize connections, deliver wireless assurance, reduce latency, simplify troubleshooting, and help resolve issues before they impact users. They need to leverage data to make more informed decisions to create environments that enable employees, customers, and guests to communicate better, be more productive, and have better experiences.

Using Wi-Fi 6/6E to meet the growing demands on networks can help organizations

achieve these outcomes. 6-GHz Wi-Fi offers a fresh band with ample clean spectrum and wider channels, reducing congestion and interference for more dependable and faster connectivity. Additionally, implementing Wi-Fi Protected Access 3 (WPA3) security, included in Wi-Fi 6 and mandatory in Wi-Fi 6E, helps ensure enhanced protection through more robust authentication and encryption. Cisco's wireless solutions provide the most comprehensive Wi-Fi portfolio in the industry, offering access points for all use cases, including those requiring directional antennas and outdoor capabilities.

Adding to this, Cisco exclusively partners with the industry's leading device and chipset manufacturers to tackle the most challenging Wi-Fi issues. These partnerships enable the delivery of agentless client analytics along with roaming and connectivity optimizations to support today's most demanding applications. The resulting solutions deliver better, more reliable connectivity, helping ensure superior outcomes for users.

Cisco Catalyst™ 9100 Wi-Fi 6E access points provide flexibility through on-premises or cloud-managed options that can power your

growth, enable scalable IoT, facilitate smart buildings, and contribute to your advanced connectivity goals.

Whether you chose Wi-Fi 6 or Wi-Fi 6E, all Cisco® wireless network solutions deliver predictable connectivity while making use of AI and ML to provide powerfully simplistic management of your network.



## The Cisco wireless difference

- [Cisco Catalyst 9100](#) and [Cisco Meraki™ MR access](#) points are designed to support modern networks with increased device capacity and traffic. They are available in both Wi-Fi 6 and Wi-Fi 6E configurations. The Wi-Fi 6E models specifically support the 6-GHz band and provide management flexibility, allowing you to choose between on-premises or cloud-based deployments depending on your specific requirements. These access points are designed to address your current network needs as well as those well into the future.
- [Cisco Catalyst Center](#) (for on-premises management) and Meraki dashboard (for cloud management) both enable a single touchpoint that simplifies and streamlines network management through applied AI, analytics, and automation. This includes a 360-degree view of all devices in the network, wireless assurance to optimize connectivity, insights and predictive analysis to solve issues before they affect users, and more.
- [Cisco SD-Access](#) provides consistent policy across your wired and wireless deployments.
- [Cisco Catalyst 9800 Series Wireless Controllers](#) are powered by Cisco IOS® XE, which supports advanced security capabilities such as Encrypted Traffic Analytics (ETA). These wireless controllers keep your network always on through seamless software updates enabled by hot patching. Whether on-premises, in a public or private cloud, or embedded on an access point, the Catalyst 9800 Series has multiple options to best meet your organization's needs.
- The [Cisco and Apple partnership](#) optimizes the user experience of those with iOS, macOS, and iPadOS devices through features such as FastLane+, adaptive 802.11r, and agentless client insights.
- The Cisco and Intel partnership supports Intel-based Wi-Fi 6/6E chipsets with agentless device insights from Intel® Connectivity Analytics to identify and troubleshoot issues, support device rollouts, and deliver insights on devices connecting to your network.
- The Cisco and Samsung partnership enhances the experience for users and IT administrators through agentless client analytics and insights, roaming optimizations, and more.
- [Cisco High Density Experience \(HDX\)](#) alleviates strain on high-volume wireless networks, including 802.11ac networks.
- [Flexible Radio Assignment](#) provides a better user experience by automatically adapting to changes in a high-density network.
- [Cisco's innovative access points](#) are designed for high-density environments and maintain the client experience while protecting airwaves from interference using Cisco CleanAir® and CleanAir Pro.

## How Cisco Wi-Fi 6/6E access solutions help across industries

Although every industry and organization is different, everyone needs a reliable and secure wireless network.

### Healthcare

- Support and enhance IoT solutions at scale. Eliminate IoT overlay networks with application hosting and provide more headroom for devices with the industry's most comprehensive Wi-Fi 6E portfolio.
- Provide patient care anywhere, from digital front door patient experiences to remote patient observation and interaction to customized mobile experiences for patients.
- Create data-driven clinical workflows to strengthen and support clinician and team communications, remotely view patient data from integrated medical devices and leverage location services to respond to staff duress, enable operational efficiency, and monitor asset utilization.

- Transform operations to support a hybrid workforce, offer care sites and mobile clinics, support smart, sustainable hospitals, and enable fast, secure, and reliable connectivity across the healthcare enterprise.

### Retail

- Enhance in-store customer experiences with reliable wireless connectivity, helping ensure that customers can seamlessly access product information, real-time promotions, and personalized recommendations via their mobile devices.
- Provide reliable inventory management with support from IoT devices for real-time inventory tracking. This helps ensure that retailers can accurately monitor stock levels, reduce out-of-stock situations, and optimize replenishment

processes. The increased reliability of inventory management leads to cost savings and improved customer satisfaction.

- Implement fast and secure contactless checkout and payment, including digital wallets and mobile payment options. These systems minimize checkout times, reduce the need for physical touchpoints, and enhance the overall shopping experience while improving payment security.
- Employ advanced security and loss prevention tactics. Wi-Fi 6/ 6E's low latency and high bandwidth enable real-time video surveillance and threat detection. Retailers can deploy sophisticated security systems to monitor stores, preventing theft, fraud, and unauthorized access. These systems enhance store security and reduce financial losses.
- Use analytics-driven decision-making by collecting valuable customer data, including foot traffic patterns, in-store behavior, and customer preferences. By leveraging this data, retailers can make data-driven decisions regarding product placement, store layout, and marketing strategies. This leads to higher sales and more loyal customers.

## Education

- Enhance student experiences, with capabilities ranging from comprehensive hybrid learning models to academic advising and support services to technology that powers e-sports.
- Create an intelligent campus with a secure and reliable campus network and wireless for anywhere, anytime connectivity.
- Enable smart and sustainable buildings to reduce the environmental footprint and deliver analytics and monitoring of physical safety.
- Reduce cybersecurity risks with identity access control and network endpoint and web security to help ensure the physical and virtual safety of students, faculty, staff, and data.
- Strengthen the institution's research infrastructure and protect valuable data and intellectual property.

## Manufacturing

- Deploy ultra-fast wireless Wi-Fi 6/6E connectivity for unparalleled wireless speed and reliability, enabling manufacturers to power IoT devices and machinery with low latency.
- Enable seamless communication between machines, supporting real-time monitoring and control of manufacturing processes.
- Establish smart factories, where IoT sensors and devices can collect and transmit real-time data for predictive maintenance, process optimization, and quality control for increased production efficiency and reduced downtime.
- Facilitate Augmented Reality (AR) applications for maintenance personnel. Technicians equipped with AR headsets can access real-time equipment information, schematics, and guidance, allowing them to perform complex repairs and maintenance tasks faster and with greater precision.
- Help ensure smooth warehouse operations. Wireless devices, including barcode scanners and autonomous robots, can communicate with precision, leading to optimized inventory management, faster order fulfillment, and streamlined logistics.

## Cisco wireless LAN solutions: Innovation at its best

Increased reliance on wireless by users, applications, and IoT devices means that IT needs to manage a growing, complex network more efficiently than ever before. Encompassing everything from access points to controllers to simplified automation, location, and analytics, Cisco's industry-leading wireless portfolio and solutions make your wireless network fast, reliable, and secure. This advanced network allows IT to unlock the power of data and grow while still having time to take on the new IT projects that set your company apart from your competitors.

Table 1. Cisco wireless portfolio

<p><b>Wi-Fi 6/6E access points</b></p>	<ul style="list-style-type: none"> <li>• More and more devices connect to Wi-Fi networks every year, and that number will continue to grow for both personal and machine-to-machine devices. Cisco Catalyst 9100 Access Points provide a seamless experience anywhere for everyone by going beyond the Wi-Fi 6/6E standard. With 6-GHz-capable access points, your network gets a boost in throughput, reliability, and security.</li> <li>• By providing the ability to choose between on-premises and cloud management or a combination of both, the Catalyst 9100 Wi-Fi 6E access points (9166 Series, 9166D1, 9164 Series, 9162 Series, and the outdoor 9163E) give customers the flexibility to manage their network however they want. Not only that, but if an organization plans to change its management method, the deployment can switch, which adds investment protection to your network. This includes the Cisco Catalyst 9166D1 with its built-in directional antenna. The Catalyst 9166D1 is designed for use cases and areas with high ceilings such as auditoriums, warehouses, and other large open space areas where external antennas would typically be required. And because the Catalyst 9166D1 uses a built-in directional antenna, it eliminates the need for additional hardware to achieve ideal Wi-Fi 6E coverage.</li> <li>• Cisco wireless access points offer the broadest and most comprehensive portfolio in the industry to fit any need and any use case, across all industries and organizational sizes.</li> </ul>
<p><b>Wireless controllers</b></p>	<p><b>Cisco's wireless controllers are optimized for today's and tomorrow's networks</b></p> <ul style="list-style-type: none"> <li>• Cisco Catalyst wireless controllers are built with Cisco IOS XE, to deliver exceptional on-premises management capabilities to support you today and well into the future.</li> <li>• The Cisco Catalyst 9800-CL Wireless Controller for Cloud is cloud agnostic and gives you the choice to deploy your network in either a public or private cloud.</li> <li>• The <a href="#">Cisco wireless controller portfolio</a> is ideal for large, medium, and small networks.</li> <li>• The <a href="#">Cisco Embedded Wireless Controller</a> is an easy-to-deploy, built-in controller available on Catalyst 9100 Wi-Fi 6 access points. It is great for small to medium-sized businesses.</li> </ul>

Table 2. Get more from Cisco Wireless

<b>Cisco wireless solutions</b>	<ul style="list-style-type: none"><li>• <a href="#">Cisco Catalyst Center</a> provides single-pane-of-glass management automation capabilities and policy-based segmentation, as well as end-to-end visibility into the network with full context through data and insights.<ul style="list-style-type: none"><li>- Using AI/ML technology, Cisco Catalyst Center allows for considerable improvements in network visibility, troubleshooting, and even cybersecurity.</li><li>- Cisco Catalyst Center assurance enables IT to get a full contextual view with historical, real-time, and proactive insights across users, devices, and applications on both wired and wireless networks.</li></ul></li><li>• <a href="#">Cisco Software-Defined Access</a> provides a consistent and automated method for applying policy across wired and wireless, while preserving the access security policy across the network.</li></ul>
<b>Cisco wireless solutions</b>	<ul style="list-style-type: none"><li>• <a href="#">Cisco Spaces</a> provides indoor location services to help you understand, locate, and engage with users, devices, and buildings to make better business decisions.</li><li>• <a href="#">Cisco Identity Services Engine</a> simplifies the delivery of consistent, highly secure access control across wired and wireless networks and remote VPN connections.</li><li>• <a href="#">Cisco Hyperlocation Module with Advanced Security</a> enables 1- to 3-meter location accuracy of associated Wi-Fi clients while also providing wireless threat detection and mitigation for the wireless network infrastructure.</li></ul>

Learn more about the [Cisco wireless portfolio and solutions](#) and how to [reinvent your network](#), [upgrade to the future](#).

## Cisco wireless LAN services

Cisco services for wireless and mobility deliver unmatched expertise, networking insights, industry-leading best practices, and innovative tools to effectively migrate, adopt, accelerate deployment, and securely manage your wireless solutions. We help you transition to advanced wireless or mobility solutions by enhancing your network's performance

with a full lifecycle of advisory, implementation, optimization, technical, managed, and training services. Our team of experts identify architectural gaps to improve the reliability, security, and resiliency of your wireless network while reducing risks, costs, complexity, and disruption for desired business outcomes. Learn more at <https://www.cisco.com/c/en/us/products/wireless/service-listing.html>.

