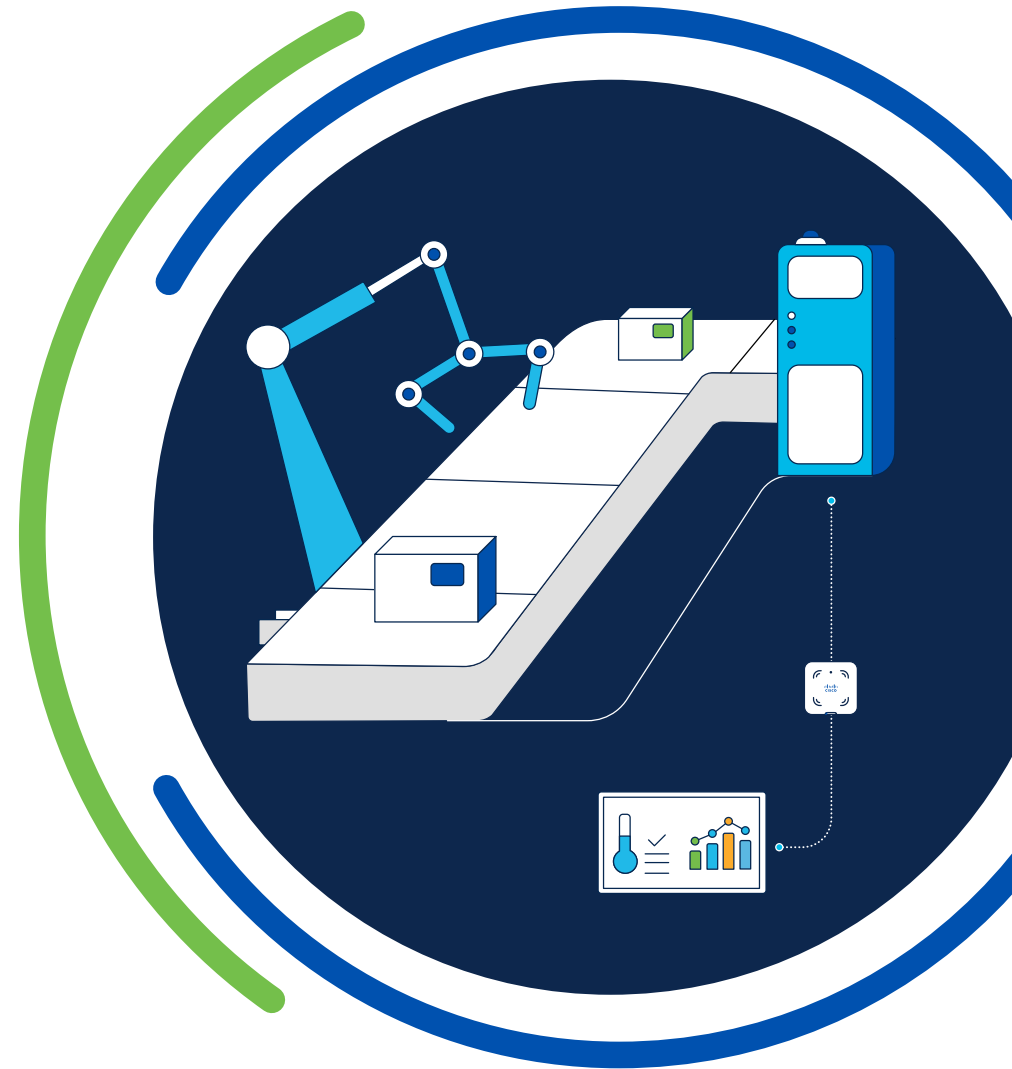




Cisco Private 5G

Private 5G – Simple, Intuitive, and Trusted



Cisco® Private 5G is delivered as a service offering, eliminating nearly all financial risk to integrate the high speed, low latency, and device segmentation only 5G can provide to increase your business productivity.

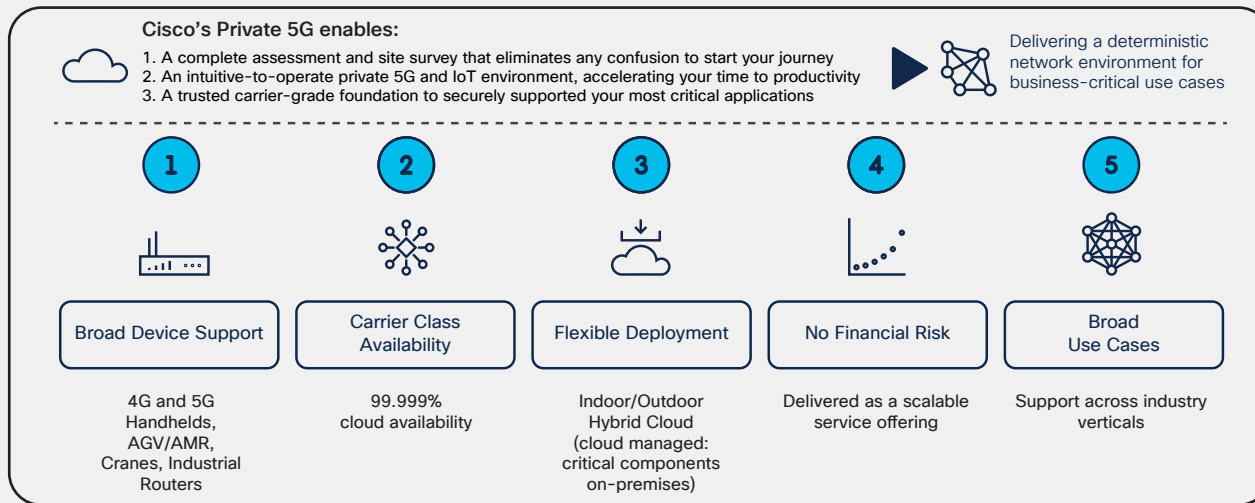


Figure 1. Private 5G description

Benefits

Cisco Private 5G offers more than 5G connectivity. It provides application awareness and identity management to identify end devices and applications while aligning in-depth understanding for building use case-specific policy and security that is unmatched in the industry. Cisco Private 5G provides the following benefits:

- Operational simplicity – Easy user interface for service and device visibility
- SLA management – Cloud-based configuration and monitoring services across all cellular assets
- Application awareness and identity management
- 24/7 support – 99.999% cloud availability
- Cloud managed, high performance
- Trusted and secure
- Investment protection – Eliminates obsolescence
- Seamless software and firmware upgrades included
- Cisco leadership and expertise in enterprise, service provider, and cloud services



Overview

Enterprises are looking to 5G technology to further their digital transformation, including the promise of the Industry 4.0 era. Multiple vertical markets are considering a private 5G network to address their need for clean-spectrum high bandwidth, low latency, higher availability, and increased visibility.

These companies must strike a balance between the benefits of a private 5G network and the realities of purchasing, operating, and maintaining such a network. In most cases, operating a private 5G network isn't part of the core business, and enterprises typically prefer to minimize heavy resource commitments to noncore functions.

Cisco Private 5G is delivered as a service offering to provide all the benefits of a private 5G network while minimizing the risk of heavy upfront costs (CapEx investment), and its intuitive dashboard eliminates the operational headaches that come with private network ownership. Cisco Private 5G is a future-proof way to deploy cellular service, complementing and enhancing existing networks and providing trusted coverage and mobility across unique business-critical environments.

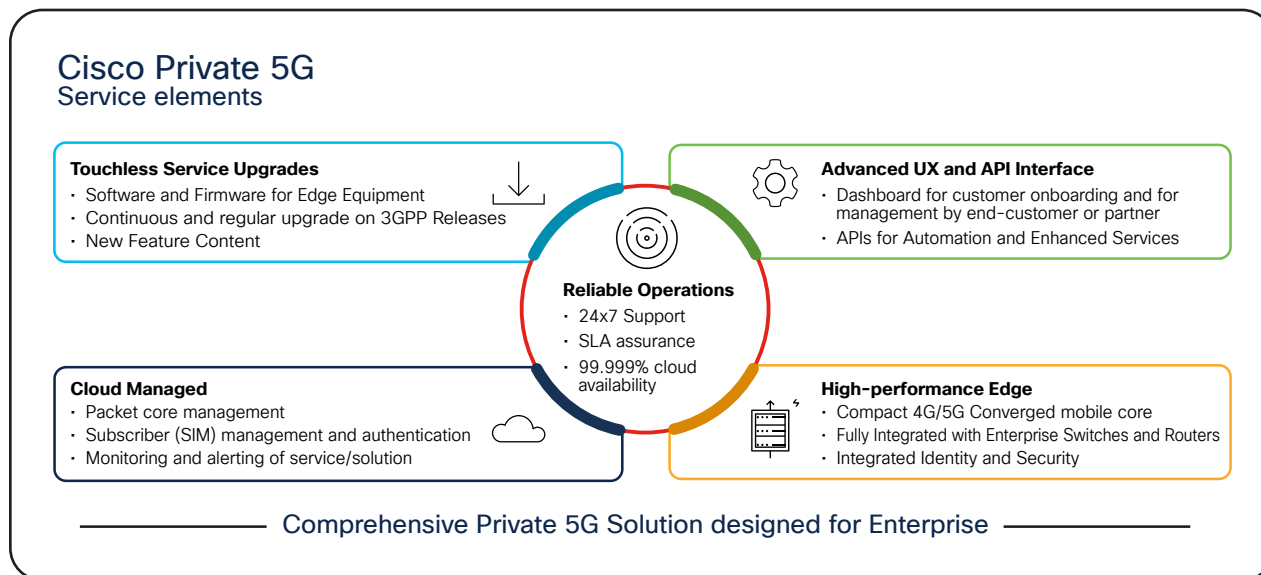


Figure 2. Cisco Private 5G

Trends and challenges

Technology innovations have been the driving force behind the most prolific industrial transformations. Today, nearly every business in the world invests in information technology to some degree. But a second wave of digitalization of potentially even greater magnitude is emerging that will propel us all into a new era called the Fourth Industrial Revolution. At the core of this new era is wireless networking and IoT that will fundamentally transform industries and how they operate by digitalizing Operational Technology (OT) as profoundly as the cloud transformed business productivity in the IT space. At the center of this industry transformation is the future

of hybrid work – the ability to enable productivity and resilience by connecting everyone and everything through the network.

Communication Service Providers (CSPs) continue to build for a digital revolution brought on by a wave of 5G, IoT, and collaboration services. 5G marks the tipping point for what's next, ushering in a confluence of technological innovations that are reshaping industry and business landscapes. However, the market transformations poised to take place are challenged by the complexity of mobile networks, and 5G is complicated.

Upfront, the supply-and-demand story may seem simple: carriers have 5G supply and are ready to sell 5G services; consumers, enterprises, and industries have the demand for 5G services and are ready to buy them. So, what's the problem? Challenges arise on multiple fronts when trying to match supply with demand. The traditional CSP model has limited flexibility for scaling to meet the increasingly custom needs of new use cases. While CSPs successfully address the public/consumer services market today, the one-size-fits-most model fails to resonate with the enterprise and industry customers, and the greatest value opportunity for 5G is the ability to address the needs of industries and enterprises and the massive increase in IoT devices. The digitalization of enterprise and industry is poised to generate significant, long-term value for both operators and their customers.

A flexible service offering for private 5G networks

Traditionally, building cellular networks requires hefty capital expenditure for the infrastructure, and a nontrivial amount of expertise to implement the necessary services across that infrastructure, much less maintain it. Cisco is lowering the barrier of entry to consume 5G and 4G services. First, by abstracting the underlying functionality through APIs and an intuitive interface, Cisco allows the end users to provision, modify, view,

scale, upgrade, and roll back their services using their existing IT/OT staff. Second, Cisco reduces upfront CapEx by providing simple subscription pricing based on easy-to-understand factors: usage and coverage.

How it works

What you buy:

Simple, intuitive, and trusted, Cisco Private 5G is available as a service to accelerate adoption by reducing technical, operational, and business risks. We reduce the barrier of entry for private 5G networking by minimizing initial capital expense outlays to on-premises hardware (for example, the 5G radio access points) and implementation. The software and service are all rolled into a monthly pay-as-you-go-and-grow financial model. This monthly subscription includes 24/7 service and upgrades/updates that are automatically downloaded from a secure and trustworthy Cisco cloud.

Key capabilities/features:

- Clean spectrum and consistent reliable coverage
- Enhanced broadband with extended coverage (indoor and outdoor)
- Fast handoff between radios

- Ultra-low latency and high availability
- Easy to use, with a well-known user interface

Key differentiators:

Single pane of glass – Only Cisco provides a single management system for both network and device visibility and control. Our single-pane-of-glass model includes implementation of multiple network locations and across both Wi-Fi and 5G domains for simplified operations. This provides a simpler way to manage your network(s) in a secure, scalable manner from anywhere.

Service assurance with powerful monitoring and visibility – Cisco ThousandEyes® integration enhances Cisco Private 5G by providing deep network visibility and insights, eliminating “blind spots” for faster issue resolution and higher success rates in your digital initiatives. This integration enables a comprehensive end-to-end view of the entire mobile network path, from user devices through radio access and core networks to destination applications or services. It allows for rapid identification and troubleshooting of performance issues across the 5G infrastructure.

Leveraging rich, time-correlated data and enhanced analytics, the system visualizes network health and maintains predictable SLOs. This monitoring capability is particularly valuable for industries relying on private 5G for mission-critical applications, such as manufacturing, healthcare, and logistics. It provides enterprises with unparalleled visibility into the performance of hybrid networks across Wi-Fi, SD-WAN, cloud, and Private 5G environments.

Enterprise portfolio integration – Cisco understands enterprise IT/OT needs and has a significant networking, security, and identity portfolio. Only Cisco can provide a truly enterprise-integrated private 5G solution that works seamlessly with Cisco enterprise Catalyst® switches and routers. Cisco is also leveraging security policies in private 5G by integrating with the Cisco Umbrella® DNS portfolio. This functionality gives flexibility to IT/OT admin to define security policy at one place in Umbrella, in turn driving the efficiency while protecting against cyberthreats. Integrating Cisco ThousandEyes with Cisco Private 5G enables both managed service provider partners and enterprises to make use of their existing investments in enterprise domains.

Identity management – Integration with Cisco Identity Services Engine provides common unified policy and identity management across

the enterprise location. Cisco Private 5G applies a combination of policy, identity, and security to the most complex enterprise and government networks. It enables building use case-specific policy and security that is unmet in the industry. This feature also reduces workload and the possibility of human error.

Remote device provisioning and activation – Cisco Private 5G supports eSIM (embedded Subscriber Identity Module) technology eliminating the need for physical SIM cards and enables enterprises to remotely provision and manage multiple devices on their Private 5G network. eSIM provides flexibility, cost savings, enhanced security, simplified device management, global connectivity, and future-proofing capabilities for Private 5G networks.

Intelligent Edge Support – The fusion of edge computing with Cisco Private 5G creates a powerful, responsive ecosystem that brings intelligence to the network's edge. This synergy dramatically enhances data processing speed, security, and efficiency, enabling real-time decision-making and unlocking new possibilities for innovation across industries. By minimizing latency, optimizing bandwidth, and providing localized computing power, this integration empowers businesses to harness the full potential of their data, driving digital transformation and competitive advantage in an increasingly connected world.

Complementary to Wi-Fi – Cisco Private 5G seamlessly integrates with and complements existing enterprise networks and Wi-Fi deployments with extended coverage, scalability, lower latency, for mission critical applications making operations simple and enabling pervasive mobility.

Flexible deployment models/options – Cisco Private 5G provides a flexible service offering that optimizes your user experience through a pay-as-you-go-and-grow consumption model with embedded security and intelligence. This gives you a trusted network, with operational simplicity and an optimal cost model for profitable operations.

Use cases

Communication service providers, enterprises, and industries are evolving their business models and leveraging private 5G for a range of applications and new use cases. Private 5G will enable connectivity for a wide range of technologies and use cases, including industrial equipment and asset tracking, factory floors, supply chains, remote sensors, and customer engagements. Private 5G provides wide coverage, low latency, and high bandwidth to enable IoT and transform operations and processes.

Table 1. Industry use cases

Industry vertical	Use case description
Manufacturing/Industrial IoT	<ul style="list-style-type: none">▪ Robotics process automation and precision control▪ Automated guided vehicles/seamless mobility▪ High-speed software downloads▪ AR/VR applications
Logistics/Distribution/Warehouse	<ul style="list-style-type: none">▪ Distribution line/workflow automation▪ Automated guided vehicles/seamless mobility▪ Asset tracking
Media and Entertainment	<ul style="list-style-type: none">▪ Remote broadcasting and live event coverage▪ Virtual and augmented reality experiences▪ Film and television production
Hospitality and Venues	<ul style="list-style-type: none">▪ Ultra-fast mobile connectivity in dense environments▪ Enhanced video streaming▪ AR/VR applications▪ Facility monitoring/security
Mining, Oil, and Gas	<ul style="list-style-type: none">▪ Reliable vehicle control over large areas▪ Enhance worker safety▪ Improve profitability through automated asset tracking and management

Industry vertical	Use case description
Energy and Utilities	<ul style="list-style-type: none"> • Enable end-to-end smart grid infrastructure management • Fully automate smart meter reading • Provide secure and reliable field worker communications
Education and Research	<ul style="list-style-type: none"> • Increase on-campus safety for students and faculty • Create an academic environment for research and innovation

The Cisco advantage

Business customers want private network models to address their own specific business objectives. Cisco Private 5G delivered with global partners is a full-service offering designed to provide maximum benefits while minimizing the work and expense associated with private network ownership. With our service, you can offer all this with greater simplicity and minimal capital expense. With Cisco Private 5G, you become a value-added partner to your business customers, and this paves the way for further revenue growth by adding on managed services and collaboration.

Cisco's leadership in enterprise, service provider, and cloud operator segments positions us as your most valuable private 5G and private network partner. Cisco's service-based architecture enables new applications and business models to be implemented faster and easier.

For more information

Open new revenue streams and deepen your relationship with your enterprise customers when you partner with Cisco on private 5G. With Cisco, you can offer private 5G network services faster while minimizing initial investments and simplifying operations.

We take the complexity out of evaluating private 5G for enterprise and industrial networks. In a strategic collaboration, Cisco and Intel have launched a global network of Private 5G Innovation Centers to accelerate enterprise adoption of cutting-edge 5G solutions. These state-of-the-art facilities serve as real-world testbeds where businesses can evaluate a wide range of private 5G use cases through pilots and prototypes before full-scale deployment. [Learn more about our Private 5G Innovation Centers.](#)

[Find out more](#) about how Cisco can help you drive new 5G business and profitability.