The bridge to possible

Cloud Managed eSIM for Cisco SD-WAN

Streamline SD-WAN with automated provisioning for cellular devices: Simplify management, accelerate deployments, boost experience

Unleashing the power of SD-WAN: Streamlining cloud connectivity and enabling distributed workforces

The Cloud Managed eSIM feature for Cisco SD-WAN, leveraging the integration of Cisco® IoT Control Center, Cisco Catalyst SD-WAN Manager, and Cisco Meraki® dashboard revolutionizes cellular WAN device deployment. This new optional capability ushers in a new era of operational excellence and exceptional customer experiences. By automating previously manual processes, it eliminates time-consuming setup, staging, and activation tasks, allowing organizations to rapidly scale their Cisco SD-WAN cellular device activations with unmatched speed and agility. This accelerates time to value while reducing operational costs and mitigating risks associated with human error.

With Cloud Managed eSIM, enterprises can provision and onboard cellular WAN devices at unprecedented speeds, empowering them to swiftly extend their network reach, seize new business opportunities, and deliver superior services. This agility provides a competitive edge in today's fast-paced digital landscape, where adaptability and responsiveness are crucial. By streamlining cellular connectivity deployment, Cloud Managed eSIM redefines operational efficiency and customer satisfaction standards, positioning organizations at the forefront of innovation and growth.

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Managed Cellular Activation with Cloud Managed eSIM for Cisco SD-WAN

Cellular-enabled devices such as branch routers and gateways that enable SD-WAN deployments traditionally require a manual staging process for cellular activation. The process tends to be laborious (involving several hours of setup) and delays time to value (it's typically a couple of weeks before the devices are moved over from the staging site and are fully operational in the desired location). Furthermore, the setup is a multistep, error-prone process in which the SIM card is plugged in, the Access Point Name (APN) is configured, firmware is updated, target cloud endpoints are set up, connectivity is tested, etc.

Our Cloud Managed eSIM feature for Cisco SD-WAN solution simplifies the entire process at scale and provides a zero-touch onboarding experience that leverages the combined strengths of Cisco IoT Control Center, Meraki dashboard, and Cisco Catalyst SD-WAN Manager.

Cisco routers and gateways supporting this solution ship along with an eSIM and bootstrap connectivity over which the entire staging process is completed automatically once the device is powered on. Additionally, Cisco's eSIM solution enables cellular connectivity to be moved over to an operational service provider for ongoing primary or backup connectivity after the bootstrapping process. This creates a hassle-free enterprise experience with reduced costs and accelerated time to value.

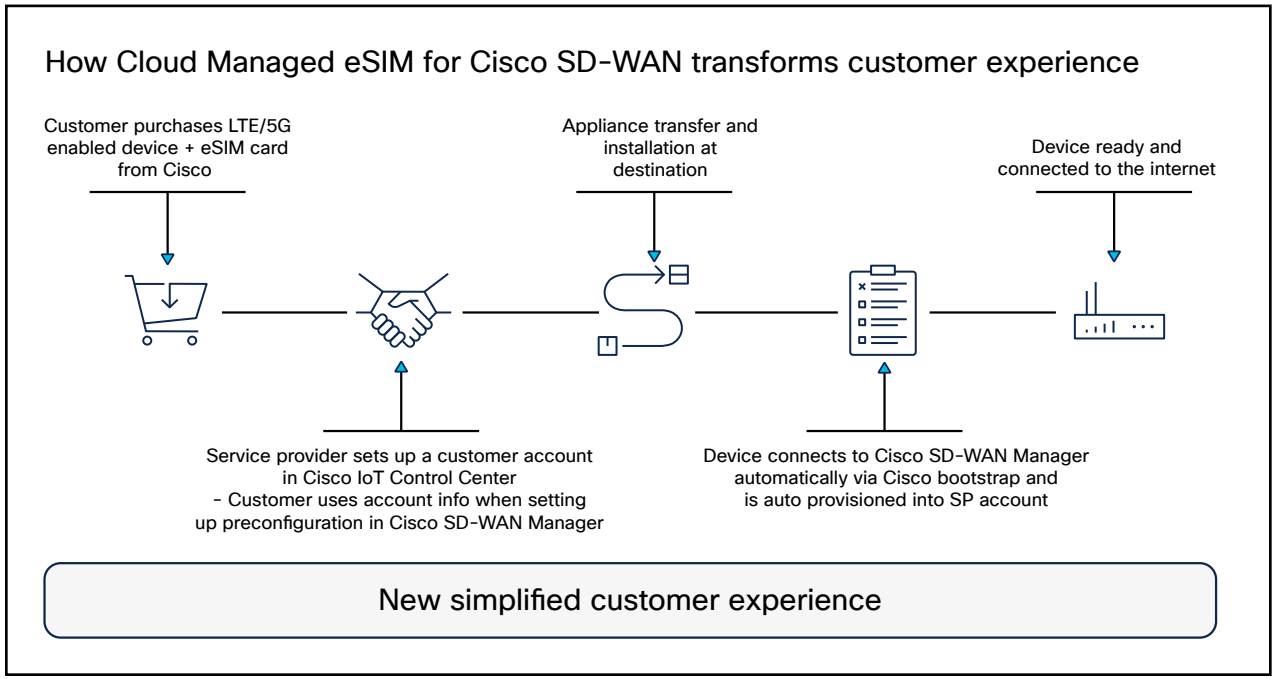

Figure 1. Enhancing the cellular device activation process for Cisco SD-WAN networks

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Benefits

Cloud Managed eSIM for Cisco SD-WAN transforms cellular WAN device deployment, delivering revolutionary operational efficiency and an exceptional customer experience. By automating the entire provisioning process, this groundbreaking feature eliminates the time-consuming and resource-intensive manual tasks of setup, staging, and activation. Organizations can now scale their SD-WAN deployments rapidly and effortlessly, unleashing unparalleled agility and responsiveness to seize new business opportunities.

Key benefits of this managed cellular device activation capability include:

- **Accelerated deployments:** Cloud Managed eSIM streamlines the onboarding process, allowing cellular WAN devices to be rapidly provisioned and integrated into the SD-WAN fabric. This ensures faster time to use, as devices can now be shipped directly to the final destination. This accelerated deployment capability enables organizations to quickly extend their network reach and capitalize on new business opportunities.
- **Operational efficiency:** Manual provisioning processes are notorious for their complexity and susceptibility to human error. Cloud Managed eSIM automates these tasks, reducing operational overhead and minimizing the risk of configuration mistakes, resulting in significant cost savings and improved operational efficiency, as the customer no longer has to stage routers and gateways to insert SIM cards obtained from the service provider.
- **Seamless scalability:** As organizations expand their SD-WAN footprint, manually provisioning each device becomes increasingly challenging. Cloud Managed eSIM's automated provisioning capabilities help ensure a consistent and repeatable process, enabling seamless scalability without compromising on deployment timelines or operational integrity.
- **Enhanced customer experience:** By expediting the deployment of cellular WAN devices, Cloud Managed eSIM empowers organizations to rapidly deliver new services and capabilities to their customers. This agility translates into improved customer satisfaction, increased loyalty, and a competitive edge in dynamic market environments. This helps ensure the best user experience, as you can preconfigure and activate your cell connectivity at scale for supported cellular service providers from the management console that you use to manage your Cisco routers and gateways.

With Cloud Managed eSIM, organizations can leverage the power of automation to unlock the full potential of their Cisco SD-WAN deployments, driving operational excellence, delivering superior customer experiences, and gaining a competitive advantage in today's fast-paced digital landscape.

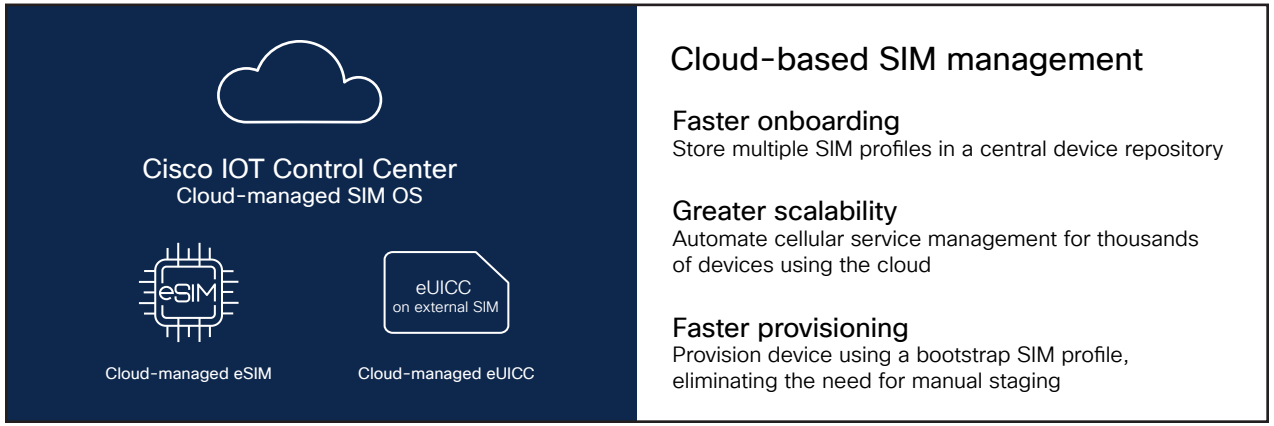

Figure 2. Advantages of Cloud Managed eSIM device activation

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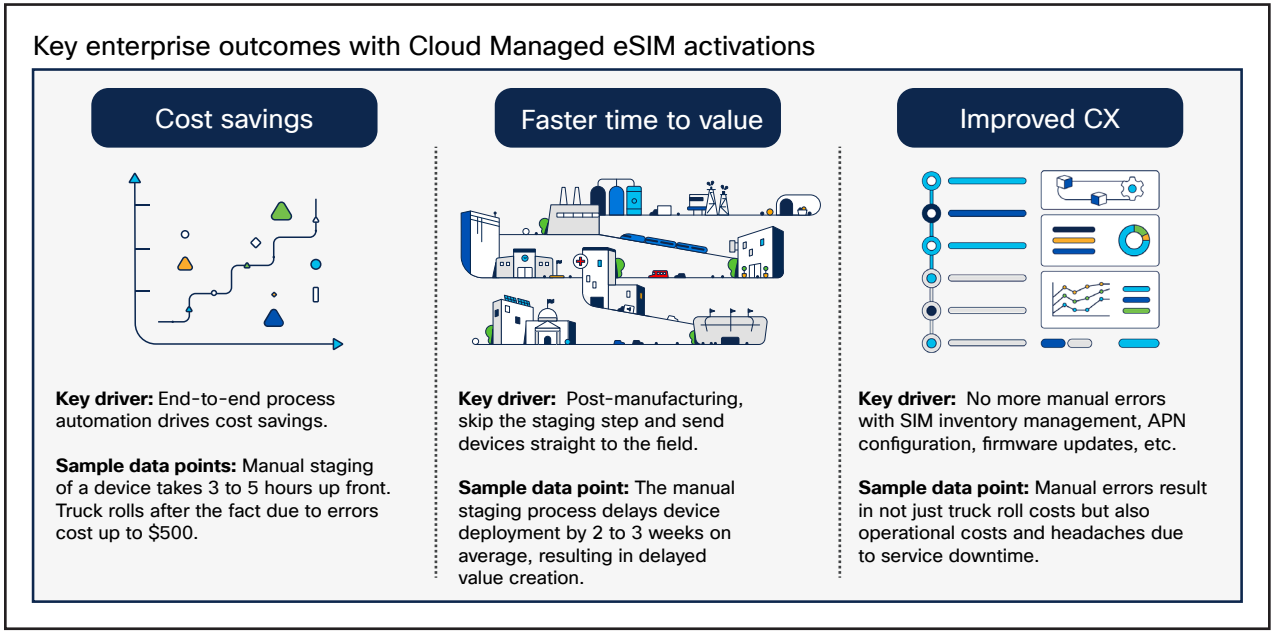

Figure 3. Key business outcomes enabled with the solution

Driving forces behind automated SD-WAN provisioning: Key industry trends

Several key trends in SD-WAN networks necessitate the need for scaled managed cellular device activation:

- **Rapid adoption of cloud services and SaaS applications:** As organizations increasingly embrace cloud computing and Software-as-a-Service (SaaS) applications, the need for reliable and secure connectivity to these resources from branch offices and remote locations has become critical. SD-WAN solutions, coupled with automated provisioning like Cloud Managed eSIM activation, enable seamless and secure access to cloud services across distributed enterprise networks.
- **Increased reliance on internet broadband and cellular connectivity:** To reduce costs and improve redundancy, enterprises are augmenting or replacing traditional Multiprotocol Label Switching (MPLS) links with internet broadband and cellular connectivity in their SD-WAN deployments. However, manually provisioning and configuring these diverse WAN transports can be complex and time-consuming. Cloud Managed eSIM for Cisco SD-WAN simplifies and automates the onboarding process for cellular-connected devices, enabling faster and more efficient deployments.
- **Distributed workforce and remote operations:** The rise of remote and hybrid work models, along with the need for mobility in field operations, has driven the demand for reliable and secure connectivity solutions. SD-WAN networks, combined with Cloud Managed eSIM activation, enable organizations to quickly provision and onboard cellular-connected devices for remote workers, field technicians, and temporary sites, helping ensure consistent access to corporate resources and applications.

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- **Increased emphasis on operational efficiency and cost optimization:** Organizations are constantly seeking ways to streamline operations, reduce operational expenses, and optimize resource utilization. Manual provisioning and configuration processes for SD-WAN deployment can be time-consuming and prone to human errors. Automated solutions like Cloud Managed eSIM help organizations achieve significant cost savings by eliminating these inefficiencies and reducing the operational overhead associated with manual processes.
- **Rapid scalability and agility requirements:** As businesses expand their operations and geographical footprints, the need for scalable and agile network infrastructure becomes paramount. Cloud Managed eSIM activations enables organizations to rapidly provision and onboard cellular-connected SD-WAN devices at scale, helping ensure seamless network expansion and adaptability to changing business requirements.

By addressing these key trends, Cloud Managed eSIM for Cisco SD-WAN empowers organizations to fully leverage the benefits of SD-WAN networks, enabling faster deployments, improved operational efficiency, enhanced security, and better alignment with evolving business needs in today's dynamic digital landscape.

How it works

Cloud Managed eSIM for Cisco SD-WAN streamlines the process of connecting Cisco routers and gateways to cellular networks. Here's how it works:

1. The enterprise (typically an operations person) receives devices equipped with the Managed Cellular Activation service and logs into the Cisco Catalyst SD-WAN Manager or Meraki dashboard.
2. They configure the credentials for the target service provider's IoT Control Center account, enabling Cisco to orchestrate the eSIM activation process.
3. Upon powering on, the device attaches to the cellular network using the included bootstrap connectivity, eliminating the need for Wi-Fi or wired connectivity.
4. The device communicates with the Cisco Catalyst SD-WAN Manager or Meraki dashboard, reporting various device details.
5. The IoT Control Center then orchestrates an eSIM swap, moving the device's cellular connectivity from bootstrap to operational mode. This includes an over-the-air download of a virtual profile provided by the target service provider to the eSIM.
6. The Cisco Catalyst SD-WAN Manager or Meraki dashboard also pushes down the required APN for operational connectivity, along with any necessary configuration or firmware updates.
7. After completing the bootstrapping process, the device establishes a stable cellular connection through the target service provider.

The solution includes:

- A Cisco eSIM (form factor may vary by router/gateway product family).
- Bootstrap cellular connectivity provided by Cisco.
- UI in the Cisco Catalyst SD-WAN Manager or Meraki dashboard to configure the target service provider details.
- IoT Control Center-powered eSIM orchestration capability to handle the swap from bootstrap to operational connectivity (provided by the target service provider).

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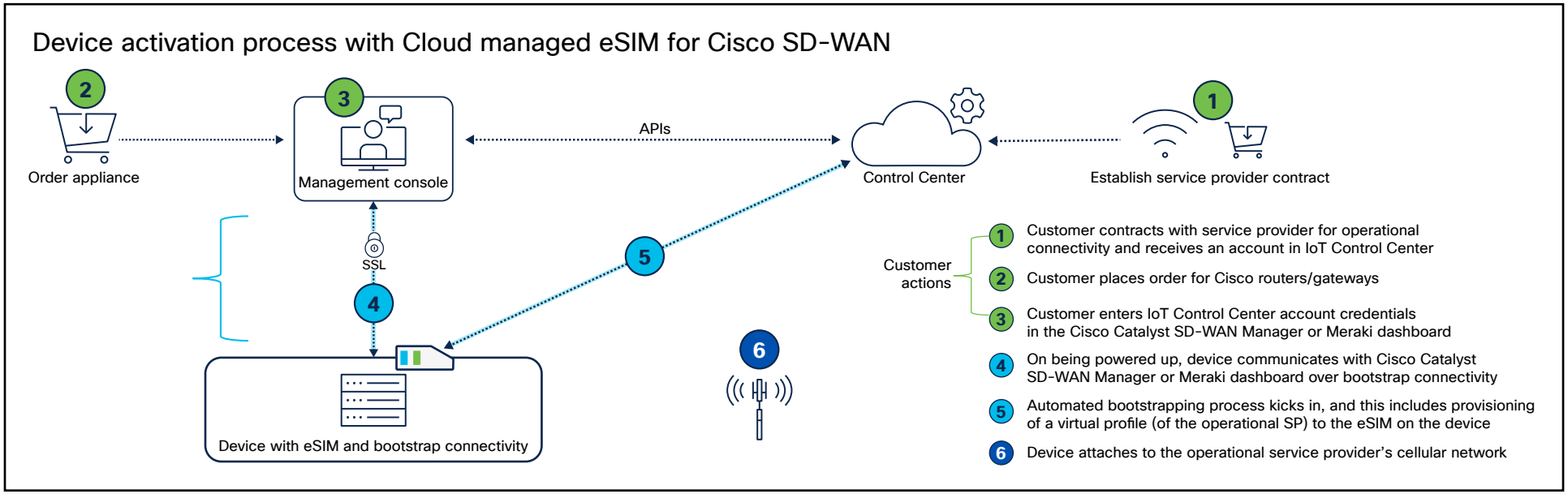

Figure 4. Device activation with Cloud Managed eSIM for Cisco SD-WAN

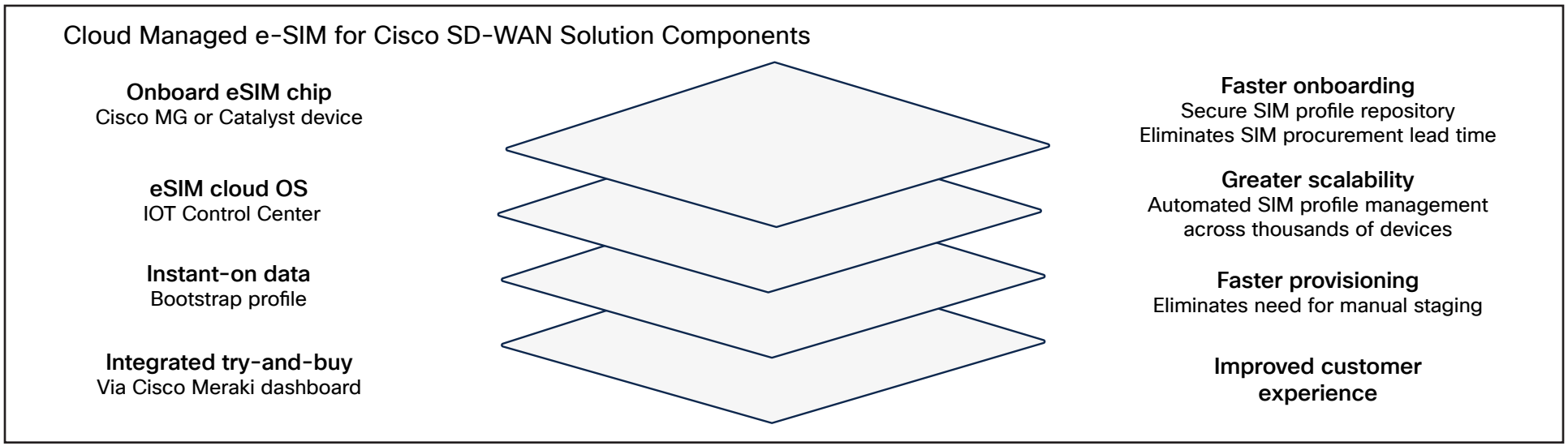

Figure 5. Cloud Managed eSIM for Cisco SD WAN solution components

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Use Cases

Cloud Managed eSIM for Cisco SD-WAN for cellular-connected networks has numerous compelling use cases across various industries and deployment scenarios. By leveraging Cloud Managed eSIM for Cisco SD-WAN networks, organizations can achieve agility, scalability, and operational efficiency across a wide range of use cases, enabling them to adapt quickly to changing business requirements and seize new opportunities. The following table lists some of the top use cases.

Table 1. Use case examples

Industry use case	Description
Remote branch or home offices and retail outlets	▪ Rapidly provision and connect branch offices and retail locations to the corporate network using cellular connectivity, eliminating the need for traditional wired WAN links. ▪ Enable pop-up stores, temporary sales events, or construction site offices to be quickly integrated into the SD-WAN fabric, helping ensure secure connectivity and consistent network policies.
Mobile workforce and field operations	▪ Provision and onboard cellular-connected devices for field technicians, sales teams, or remote employees, helping ensure secure access to corporate resources and applications from anywhere. ▪ Support mobile command centers, transportation fleets, or field service operations with reliable and secure cellular connectivity, enabling real-time data exchange and remote monitoring.
Business continuity and backup	▪ Rapidly deploy cellular-connected SD-WAN devices as backup links or temporary primary connections in the event of network outages or natural disasters, helping ensure business continuity and uninterrupted operations. ▪ Automate the failover process, minimizing downtime and helping ensure seamless connectivity for critical applications and services.
Temporary or event-based connectivity	▪ Enable secure and reliable cellular connectivity for temporary events, such as conferences, trade shows, or outdoor festivals, without the need for complex wired infrastructure. ▪ Provision and onboard cellular devices quickly, helping ensure that attendees and participants have access to necessary applications and services during the event.

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Industry use case	Description
IoT and edge computing	▪ Streamline the deployment of cellular-connected IoT devices and edge computing nodes, enabling secure connectivity and data exchange with central systems or cloud platforms. ▪ Automate the provisioning and onboarding of IoT sensors, gateways, or edge devices across distributed locations, reducing operational overhead and helping ensure consistent security policies.
Emergency response and public safety	▪ Rapidly deploy cellular-connected SD-WAN devices to establish secure communication networks for emergency response teams, law enforcement, or military operations in remote or disaster-stricken areas. ▪ Provide reliable connectivity and access to critical applications and data, enabling effective coordination and decision-making during crisis situations.

Unleash automated SD-WAN provisioning with Cisco's unrivaled IoT expertise

Enhancing customer experience, accelerating time to market, and optimizing operational costs are crucial for enterprises today. Cisco's market leadership in SD-WAN and IoT connectivity management uniquely positions us to deliver a differentiated, zero-touch onboarding experience for cellular branch routers and gateways.

Leveraging eSIM technology and service provider relationships, our zero-touch solution eliminates the costly and error-prone staging process traditionally associated with cellular devices. With bootstrap connectivity provided by Cisco, there's no need for Wi-Fi or wired connections—simply plug in and power on.

This capability seamlessly integrates with your existing Cisco Catalyst SD-WAN Manager or Meraki dashboard, helping ensure a consistent experience for operational users. Bulk onboarding further accelerates deployments at scale.

Building upon Cisco's industry-leading IoT Control Center platform, Meraki dashboard, and Catalyst SD-WAN Manager, Cloud Managed eSIM provides a powerful solution tailored for streamlining the provisioning and onboarding of cellular-connected SD-WAN devices. As the global leader in networking, cybersecurity, and IoT management, Cisco brings unparalleled expertise and a proven track record.

Leveraging deep experience in SD-WAN, cellular connectivity, zero-trust security, and IoT platforms, Cloud Managed eSIM delivers a secure, scalable, and cloud-connected solution. Integrating seamlessly with Cisco's broader networking ecosystem, including Catalyst and Meraki routers and gateways, it helps ensure unified management.

Tailored for distributed enterprise networks, Cloud Managed eSIM for Cisco SD-WAN empowers rapid onboarding and configuration of cellular SD-WAN devices, accelerating time to value, improving operational efficiency, and enhancing security posture – providing a competitive edge.

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Cisco Capital® can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce CapEx. Accelerate your growth. Optimize your investment dollars and ROI. Cisco Capital financing gives you flexibility in acquiring hardware, software, services, and complementary third-party equipment. And there's just one predictable payment. Cisco Capital is available in more than 100 countries. Learn more.

Cisco's leadership across networking, cybersecurity, and IoT domains provides deep insight into the evolving SD-WAN landscape and multi-transport WAN complexities. With continuous innovation solving tomorrow's challenges, organizations stay ahead of the curve.

Built on Cisco's market-leading IoT Control Center platform, connecting more devices worldwide than any other, Cloud Managed eSIM for Cisco SD-WAN leverages unrivaled scale, reach, and diverse market understanding. From connected cars to massive smart meter deployments, Cisco has empowered over 300 million connected devices across more than 50 communication service providers and 32,000 businesses.

With automated provisioning, enterprises can focus on driving growth, secure in the knowledge that their cellular SD-WAN deployments are powered by the industry's most trusted and experienced IoT and networking provider, unlocking the full potential of their SD-WAN investments.

Learn more

Gain a competitive edge and drive innovation with confidence, backed by Cisco's proven expertise in securing and scaling IoT deployments across diverse industries and use cases.

To learn how Cisco IoT Control Center can empower your organization with seamless IoT device management, advanced security features, and end-to-end visibility, visit the Cisco IoT Control Center webpage.

To learn more about Cisco SD WAN solutions:

- Cisco Catalyst SD-WAN
- Meraki SD-WAN
- Cisco Catalyst SD-WAN Manager

To learn more about Cisco's Mobility Services Platform, see the solution overview.

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