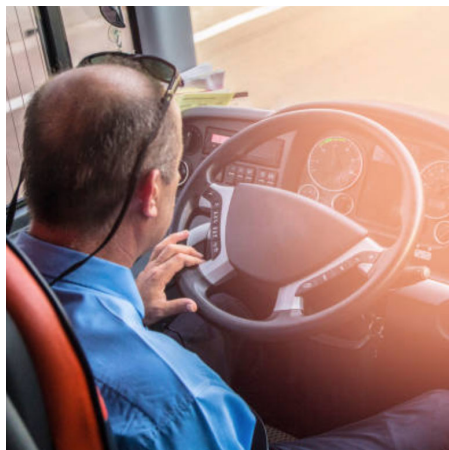# Remote and Mobile Assets

IT designed. Field operated.

The power you need to extend your network simply and securely

The explosive growth in IoT and extending connectivity beyond office walls demands a new approach to networking. You need to connect your geographically dispersed assets, accelerate IoT deployments, and act with insight—all while maintaining a comprehensive security fabric.

That's where Cisco comes in. Our Remote and Mobile Assets solution pairs our leading industrial routers with Cisco Kinetic®. It provides a cloud-based platform for managing every component of your asset connectivity—from the network and data to sensors and applications. This gives your IT team the tools they need while allowing field teams to focus on asset operations.

The result is increased visibility, enhanced security, and centralized management of your distributed assets.

Why Cisco?
- ✓ Uncompromised security
- ✓ Unmatched flexibility
- ✓ Unprecedented deployment at scale
- ✓ Best-in-class data architecture
- ✓ Integrated network and asset security
- ✓ Technology and IoT leadership
- ✓ Award-winning services
- ✓ Broadest developer and partner ecosystem

Solutions that fit your business needs

We provide powerful ways to extend your network, including the simplicity of zero-touch gateway deployments using LTE, Ethernet, or Wi-Fi connections. These solutions allow you to treat your fleet vehicles and field assets as a full extension of your network. Users will have complete access to Wi-Fi and network services, applications, video, collaboration, and other features. All this without requiring multiple LTE connections, repeated user authentication, or compromising security.

	Typical Applications:	Platform Benefits:
Remote Assets	Telemetry	SCADA-certified, ruggedized routers to meet stringent specifications
	Asset Control	Edge compute options for automation and legacy protocols
	Predictive Maintenance	Architecture for remote machine access and data acquisition
Mobile Assets	Telematics	Best practices to deploy and manage at scale with a limited IT staff
	Automatic Vehicle Location (AVL)	Integrated GPS and geofencing
	Computer-Aided Dispatch (CAD)	Enterprise application integration using edge compute

 Remote and Mobile Assets
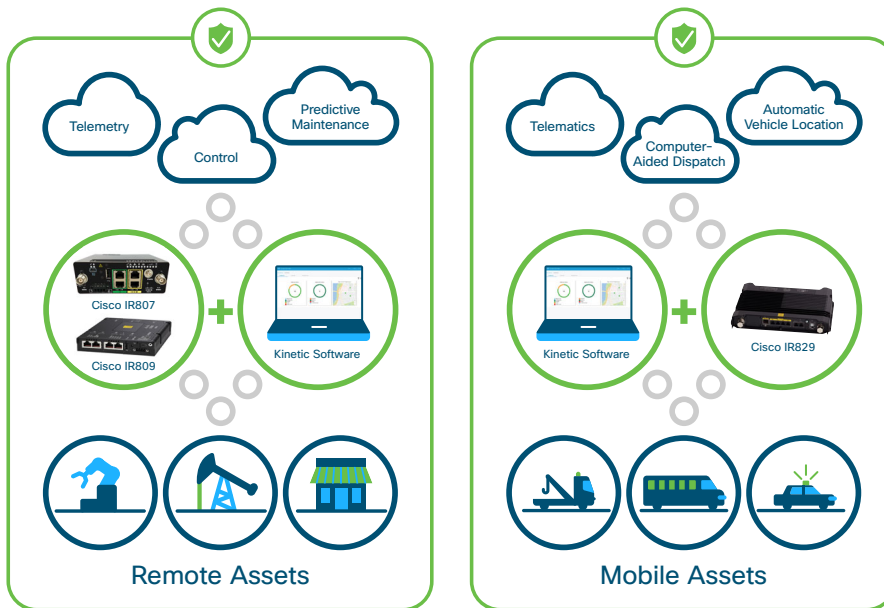
Kinetic Software
Provision, view, and remotely control router and edge applications from the cloud

Industrial Routers
LTE routers ruggedized for industrial use

Visibility and Control
Secure, real-time visibility and control of your remote and mobile assets

Solutions Features:	Benefits:
Industrial Routers	Comprehensive network capabilities in a ruggedized form factor
Cloud-Based Management	Unified security, policy, and operations using existing staff
Multiple Connectivity Options	Optimize use of available backhaul and budgets
Enterprise Security and Controls	Secure edge and superior VPN performance with Cisco IOS® Software
Simplified Network Integration	Enterprise-class VPN and wireless with zero-touch gateway deployment
Edge Compute and Microservices	Integrate legacy protocols and data management at the network edge

Additional features include an intuitive UI for non-IT users and the ability to operate and adapt at scale.

Cisco Validated Design™

Since the inception of IP networking, Cisco Validated Designs (CVDs) have been used to validate, architect, and configure next-generation technologies. Each is designed to help you accelerate digital transformation, innovate faster, and stay competitive.
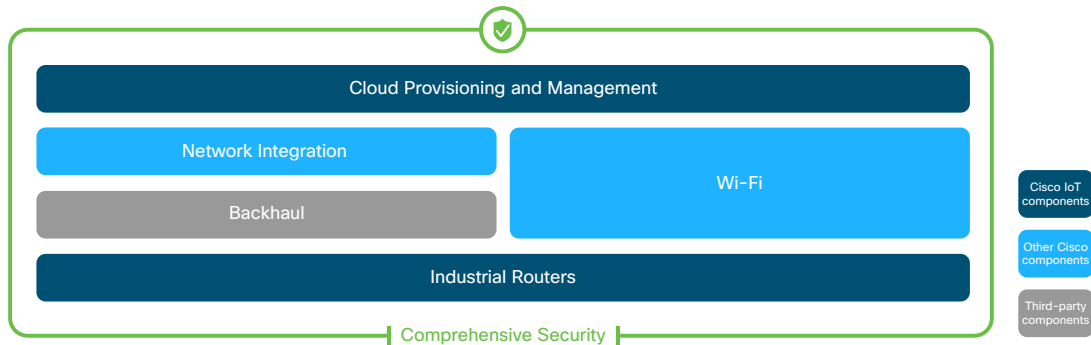
This CVD is no exception. It provides a design foundation for incorporating a broad set of technologies, features, and applications. Every aspect has been thoroughly tested and documented, helping ensure a deployment that's faster, more reliable, cost effective, and predictable.

Remote and Mobile Assets CVD

✓ Standardized architecture templates and adherence to best practices
✓ Guidance for Wi-Fi mode selection and setting up a Workgroup Bridge™
✓ Designs and configurations to help integrate the IoT gateway with the enterprise Head End
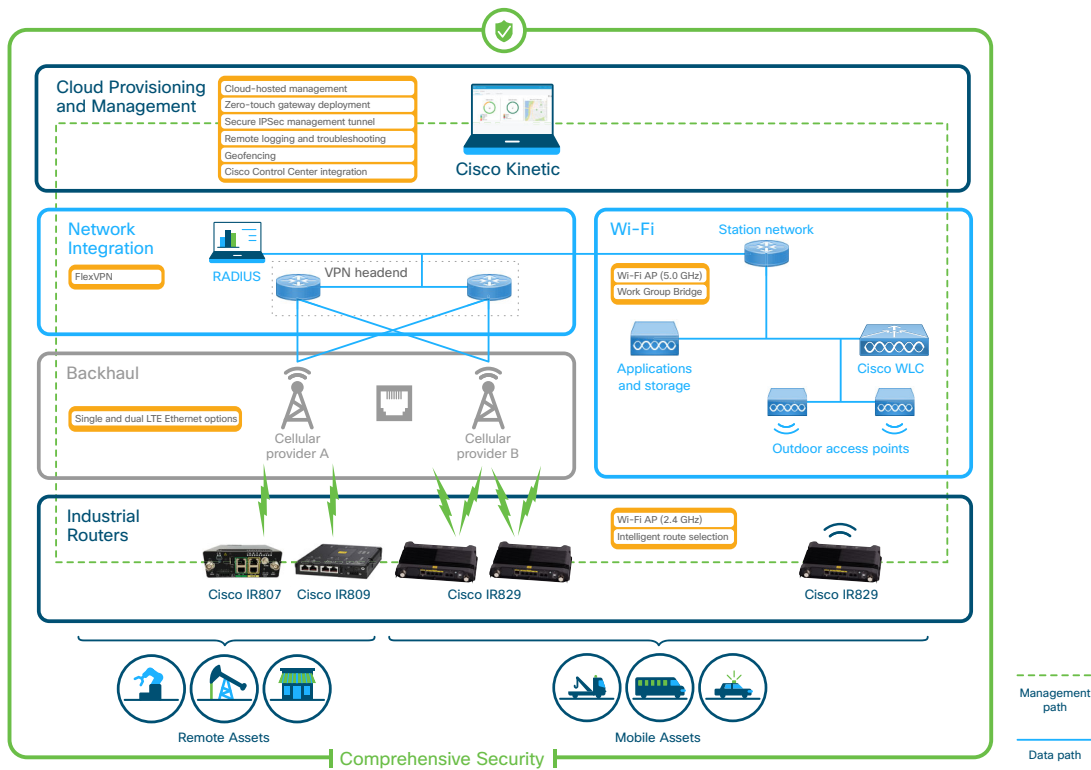✓ Custom configuration templates and automation scripts for configuring specialized Cisco IOS features

02   Remote and Mobile Assets

A security-centric architecture

- Cloud Provisioning and Management
- Network Integration
- Backhaul
- Wi-Fi
- Industrial Routers

Comprehensive Security

- Cisco IoT components
- Other Cisco components
- Third-party components

CVD Building Blocks

Our design consists of five building blocks with a comprehensive security wrapper, enabling your platform to far exceed industry security standards. We include recommended architectures for edge device authentication, data and management plane security, and secure access for multiple connectivity options.

Cloud Provisioning and Management
- Cloud-hosted management
- Zero-touch gateway deployment
- Secure IPSec management tunnel
- Remote logging and troubleshooting
- Geofencing
- Cisco Control Center integration

Cisco Kinetic

Network Integration
- FlexVPN

RADIUS

VPN headend

Wi-Fi

Station network

- Wi-Fi AP (5.0 GHz)
- Work Group Bridge

Applications and storage

Cisco WLC

Outdoor access points

Backhaul
- Single and dual LTE Ethernet options

Cellular provider A

Cellular provider B

Industrial Routers

- Wi-Fi AP (2.4 GHz)
- Intelligent route selection

Cisco IR807   Cisco IR809   Cisco IR829   Cisco IR829

Remote Assets

Mobile Assets

Comprehensive Security

- - - Management path
— Data path

Key Security Features

✓ Encrypted IPSec tunnel to provision and manage the edge gateways
✓ Certificate-based authentication during the gateway claiming process
✓ Secure connectivity from the edge gateways up to the enterprise headend using FlexVPN
✓ IEEE 802.1X authentication for Wi-Fi connected end-points with WPA2, PSK, or RADIUS-based authentication

Cisco IR829

Cisco IR807   Cisco IR809

Industrial Routers

From the harsh environmental conditions of a vehicle trunk to remote and dusty locations, you need durability. Our industrial routers are more than up to the task. We help ensure zero-touch deployment, ease of authenticating edge devices, GPS and gyroscope functionality, and suitability of antenna and power options. We also consider in-vehicle requirements, such as ignition control and operation at high speeds. Finally, we provide best-practice IOS configurations, enabling you to program firewall, security, and QoS policies on the router.


Cisco Kinetic

Cloud Provisioning and Management

Our secure, cloud-based application streamlines the provisioning process and provides browser-based visibility and control of your routers and connected IP devices. The solution validates and documents the entire process, starting from when the routers are shipped to you with their manufacturing configuration. It also includes best practices for claiming the router and configuring the routing policies and VPN options. We help integrate with Cisco Control Center for SIM management and provide guidelines for updating firmware and local troubleshooting.


RADIUS

VPN headend
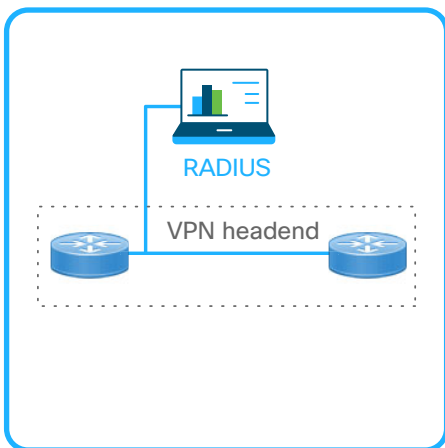
Network Integration

One of the biggest benefits of the solution is the availability of standardized templates for secure and seamless connectivity to your enterprise network. This includes designs and configurations for network VPN termination and sample scripts to automate setting up the FlexVPN. In addition, high availability and security policy options will maximize flexibility while demystifying even the most complex architectures. This allows you to simplify your endpoint deployments without needing to configure endpoint VPNs.

                    Remote and Mobile Assets
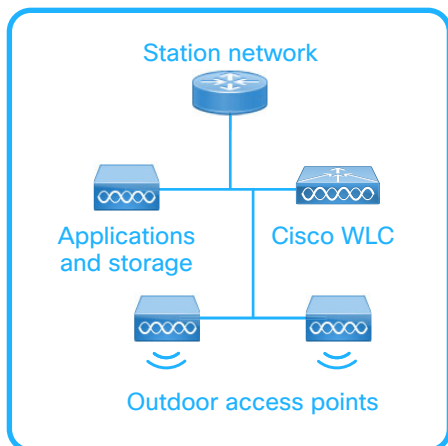
Wi-Fi*

Cisco has deep experience in providing secure Wi-Fi networks and extending enterprise Wi-Fi policies to hotspots inside and outside your vehicles. Our Workgroup Bridge technology connects vehicles seamlessly and flawlessly to your station's Wi-Fi. In addition, the solution provides standardized design and configuration templates, enabling you to select authentication modes that best meet your needs.

*IR829 only
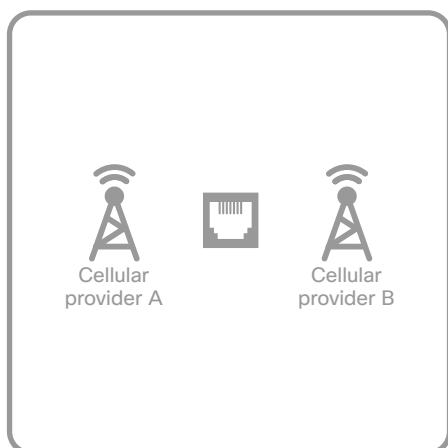
Backhaul

Based on your use case, budget, and the connection quality, our platform allows you to select cellular, Ethernet, and/or Wi-Fi backhaul. We help with configuring single or dual LTE connections in an active-active mode for mission-critical IoT applications or in active-standby mode if desired. In case of signal strength degradation, we provide configurations for automatic failover to a standby connection. We also include best practices to ensure high security levels, whether you use public or private APNs.

Access our CVD

Our detailed CVD outlines the steps for both IT and field users to get the most out of their cloud-managed IoT gateways. It includes IT designs and configuration snippets, allowing for deep integration with your existing Cisco platforms. You can access our CVD through the help button on your Kinetic Gateway Management Module or as a stand-alone document through Cisco Design Zone.

Learn more

For more information, contact your Cisco representative, visit cisco.com/go/rama, or email ramacvd@cisco.com.