

# Cisco 4000 Series Integrated Services Routers

## Meet all your branch needs with one device

As you build out the digital capabilities in your enterprise branch offices, consider the full-service sophistication of the Cisco® 4000 Series Integrated Services Routers (ISRs). The 4000 Series ISRs consolidate many must-have IT functions, including network, security, compute, storage, and unified communications. So you get everything you need in a single platform. That means significant savings in capital, operational, and management expenses for lower total cost of ownership.

The platform is modular and upgradable, so you can add new services without changing equipment. It supports multiple application-aware services concurrently while maintaining WAN performance of up to 2 Gbps, even during heavy traffic loads. The backplane architecture supports high-bandwidth, module-to-module communication at speeds up to 10 Gbps. The 4000 Series includes Cisco Trust Anchor Technologies that help mitigate modern cyberattacks by verifying platform integrity and providing protection from counterfeit and unauthorized modification of hardware and software. The 4000 Series contains seven platforms: the [4461](#), [4451](#), [4431](#), [4351](#), [4331](#), [4321](#) and [4221](#) ISRs providing aggregate platform throughput capabilities upto 10Gbps.

## Benefits

Easily grow your branch offices with these industry-leading router capabilities:

- Networking, services, computing, and storage integrated into a single form factor to provide the capabilities of a complete branch in one box
- Consistent, gigabit performance while multiple services run concurrently
- Modular Cisco IOS® XE Software, which quickly adapts to changing needs
- Edge-compute implementation for mission-critical applications with UCS-E Series.
- Extend Intent-Based Networking to the WAN by deploying Cisco Secure SD-WAN.

- Pervasive security with VPN options, threat defense services, and consistent policy enforcement
- Trust Anchor Technologies, protecting against modern cyberattacks, as well as counterfeit and unauthorized modification of hardware and software
- MACSec over the WAN to provide a line-rate network encryption solution over Layer 2 Ethernet transport services
- A range of WAN access connectivity options such as 4G LTE, T1/E1, T3/E3, xDSL, serial, and fiber Gigabit and 10Gigabit Ethernet capabilities
- Reduced Operational costs supporting programmability through NETCONF/ YANG and the capability to patch vulnerabilities in the IOS software through Software Maintenance Upgrades (SMU)
- Effective license management and tracking by a combination of Smart Licensing on the router and Cisco Smart Software (CSSM) as the management portal

Auto-configuration of Cisco Intelligent WAN features helps deliver Software-Defined Wide-Area Networking (SD WAN) to enterprise networks.

## Intelligent services reduce bandwidth costs

The 4000 Series runs Cisco SDWAN, a comprehensive set of traffic control and security features. With Cisco SDWAN, you get all the business-grade capabilities of a Multiprotocol Label Switching (MPLS) VPN using other types of less-expensive links. You get per-application traffic management, WAN optimization, and VPN tunneling, for example, which you can put to work across Internet, cellular, and other lower-cost services as you add connections. And you can activate new router services on demand through a simple licensing change.

Remote application installation and management capabilities mean you don't need local IT staff to deliver a fully comprehensive computing and networking experience in the branch. That comes in handy in new or smaller sites where you don't have IT personnel already. All this plus convergence and stable, high-speed performance means you can now roll out your branch services at the speed of business.

## Near-instant SDWAN configuration

You can now configure your Cisco SDWAN features in next to no time, thanks to Cisco's Software-Defined Networking (SDN) controller, the vManage application that sits on the cloud. The vManage sits in the cloud and automates a number of tasks across the network.

You can implement an SDWAN setup on your Cisco WAN infrastructure without significant setup time and with zero touch deployment; you just install the ISR router on your WAN infrastructure and it connects to the vManage through a zero touch provisioning. The vManage then translates business policy directly into network device-level policy for automatic compliance with your corporate and industry-mandated policies.

By providing cloud based management simplicity, customers can quickly and automatically bring up the device. The operations team for the cloud automates the configuration of Cisco SDWAN features, such as Quality of Service (QoS), path management, and security, in Cisco branch and edge WAN routers. The cloud approach slashes the multiple Command-Line Interface (CLI) steps to just a few mouse clicks per site providing the ability to configure, deploy, and manage large numbers of branch offices has never been easier.

## Next steps

To learn more about Cisco 4000 Series ISRs, contact your sales representative or visit <http://www.cisco.com/c/en/us/products/routers/4000-series-integrated-services-routers-isr/index.html>. To compare models, visit <http://www.cisco.com/c/en/us/products/routers/4000-series-integrated-services-routers-isr/models-comparison.html>.

## Software subscription through DNA licensing

The ISR4000 series supports software based subscription using DNA based licensing. Three DNA based software subscription licenses are available for the WAN portfolio: DNA Essentials, DNA Advantage and Cisco ONE Advantage allowing customers to have a single unified solution that spans across the entire access routing portfolio. The Software subscription through DNA Licensing allows customers to seamlessly manage their networks through the DNA Center or through the vManage for different bandwidth tiers and functionalities. The approach provides for a single subscription license that allows the customer to provision either (one) of DNA Center or Cisco SDWAN in their network.

## Providing support for a secure branch

With increasing needs to access cloud based applications and the movement of Applications to the cloud, most organizations today have local internet access at the branch. Internet access at the branch leads to the need for WAN Security at the branch. Cisco routers achieve this through three critical technologies.

- **WAN MACSec:** that provides a line-rate network encryption solution over Layer 2 Ethernet transport services, whether it be over Metro Ethernet transport or Data Center Interconnect (DCI) links or WAN connections that are leveraging Ethernet as the link-layer media.
- **Cisco Encrypted Threat Analytics:** that provides a functionality allowing customers to do cryptographic assessments and identify malware communications in encrypted traffic through passive monitoring.
- **Intrusion Prevention and Cloud Security Services:** that provides lightweight Intrusion Prevention capabilities and a simple cloud-delivered security service through the Umbrella Branch Services.