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Simplify and Secure your WAN Edge with SD-Routing

Save time and energy managing your routing environment: Go beyond traditional per-device management with scalable full lifecycle network orchestration, streamlined security, and integrated monitoring, configuration, and troubleshooting from a single dashboard.

Overview

Many traditional network management solutions and in-house automation tools can't keep up with the growing demands of cloud adoption, remote work, and ever-increasing user expectations. This often translates to poor user experience, sluggish applications, and possible security vulnerabilities. These factors are driving the need for a transformation across applications, networks, and security.

Cisco's SD-Routing solution brings operational simplicity and agility to traditional routing deployments and transforms the experience for network IT professionals. With intelligent workflows, the solution enables frictionless lifecycle device management, monitoring, configuration, troubleshooting, seamless next-Generation Firewall (NGFW) security integrations, and multicloud connectivity while providing a streamlined pathway for future Cisco Catalyst™ SD-WAN migrations. By leveraging Catalyst SD-WAN Manager as the common unified management platform, it also significantly reduces OpEx by avoiding truck rolls for routine operational and administrative tasks.

Benefits

- **Software image management:** Upgrades the software image on devices at scale through intuitive workflows, saving time and truck rolls.

- **Secure zero-touch provisioning:** Allows routing devices to be easily provisioned when connecting to the WAN.

- **Security:** Enables security features, including a powerful NGFW, along with automated workflows to simplify security management, helping ensure that consistent security policies are applied across all branch deployments, including Direct Internet Access (DIA).

- **Multicloud connectivity:** Securely connect to resources in the public cloud, such as AWS and Azure, following best practices, without IT personnel having to spend months learning complex cloud provider-specific configurations.

- **Device monitoring:** Provides extensive monitoring for device-specific attributes such as CPU usage, memory usage, interface status, VPN monitoring, and interface statistics.

- **Monitoring dashboard and reporting:** Provides a comprehensive summary of the health of all devices in the network, with network-wide alarms and alerts and a geographical representation of the network, as well as report generation for all the monitoring information.

- **Troubleshooting tools:** Simplifies troubleshooting through built-in tools such as Ping, Traceroute, SSH-to-device, and Network-Wide Path Insights (NWPI).

- **Deployment flexibility:** Offers flexibility of either cloud or on-premises management of routing devices, based on the organization's needs.

- **Comprehensive and open APIs:** Integrates easily with third-party operations support systems and business support systems, leveraging comprehensive and open APIs from Catalyst SD-WAN Manager.

- **IDP integration:** Integrates with third-party identity providers through Catalyst SD-WAN Manager, in order to seamlessly leverage the existing identity infrastructure.

- **Unified management:** Unifies management for Catalyst SD-WAN and routing deployments with a single pane of glass while paving the way for migration to SD-WAN if required (in future).

Trends and Challenges

Many organizations with large enterprise networks have decades of Cisco Catalyst routing and security capabilities functioning at branch locations. However, many of their home-grown tools or third-party network management software can't keep up with today's dynamic modern enterprise networks. With multicloud, hybrid work, and increased user expectations, a distributed network management approach translates to poor application performance, possible security vulnerabilities, and ultimately a poor user experience.

The answer to these operational challenges is Cisco's Software-Defined Routing (SD-Routing) solution. This operational paradigm shift aims to seamlessly connect users anywhere to any application and secure user access by protecting against evolving threats. It goes beyond traditional per-device management by enabling full frictionless lifecycle device management, monitoring, configuration, and troubleshooting—as well as robust NGFW security integrations—from a single dashboard that doesn't require any changes to your existing environment.
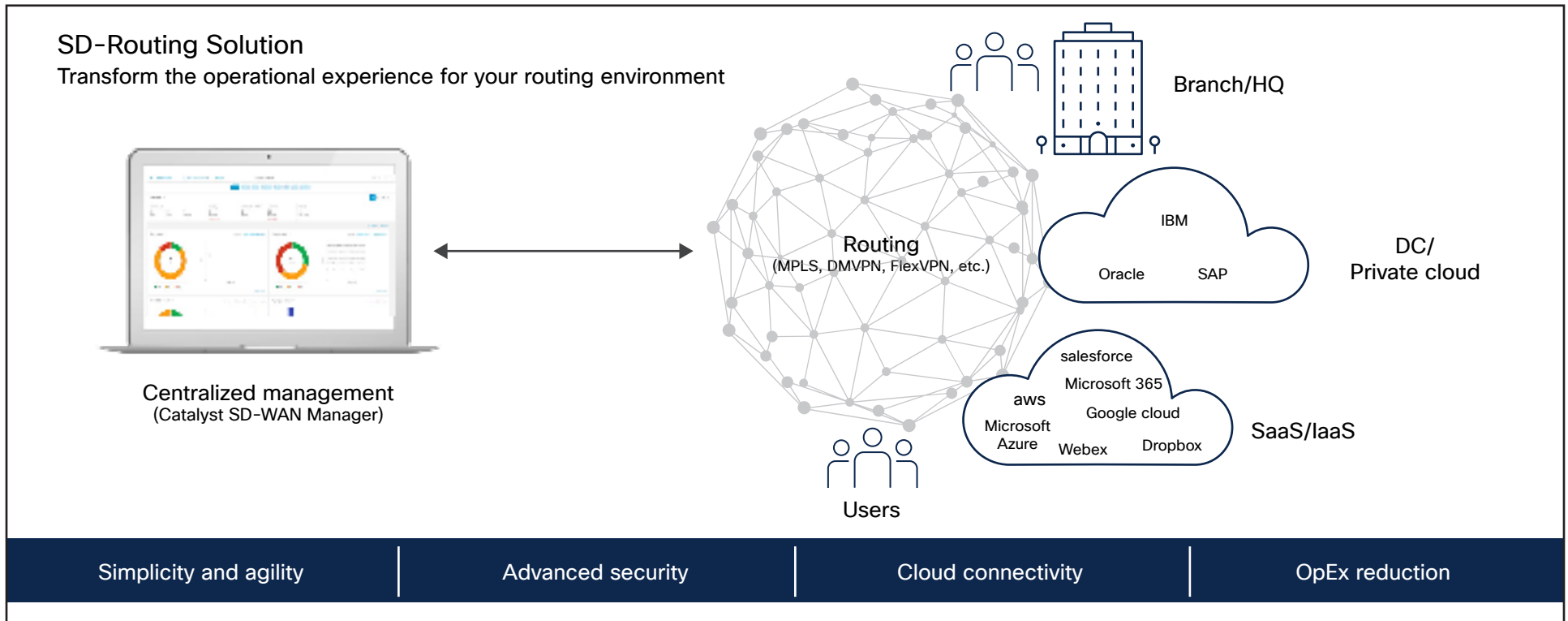

Figure 1. SD-Routing Solution

Services

With IT environments that are more complex, technologies that are changing rapidly, and pressure to do more with less, you need expertise to move faster, insights to take action quickly and scale, and best practices to empower your team to stay ahead of what's next. For all of this to come together, we're transforming the way you work with Cisco. We're working with you to be more proactive and predictive, delivering expertise and insights at scale to accelerate your success.

With the **Cisco Success Track for WAN**, we stay with you at every step through the entire lifecycle journey to help you remove the barriers between you and your goals and get faster return on your Cisco Catalyst Center. The Cisco Success Track for WAN is a packaged service that connects you to Cisco expertise, insights, learning, and support to help you realize value faster with a new way of engaging with Cisco—through a one-stop, personalized digital experience with **Cisco CX Cloud**.

With Cisco CX Cloud, you get a contextual view of your IT environment and the guidance to predict better outcomes, faster.

How it works

What you buy

Customers can purchase Cisco DNA term-based licenses to deploy SD-Routing. It enables you to use Cisco Catalyst SD-WAN Manager to start managing your traditional WAN deployment. The SD-Routing solution is available for on-premises as well as cloud deployment. For cloud deployments, Cisco will not only host the management platform in the cloud but will also manage lifecycle orchestration, scaling, and certificate management.

Table 1.   SD-Routing Management Options*

Management option	Description
Cloud management	Provides simplicity of management with cloud-delivered Catalyst SD-WAN Manager software.
On-premises management	Manages WAN using Catalyst SD-WAN Manager on-premises.

 * For more details, see the SD-Routing Ordering Guide.

If the device already has an active Cisco DNA subscription, SD-Routing capabilities are automatically activated with Cisco IOS® XE 17.12.1 or higher. For more information on Cisco DNA Software subscriptions, refer to the **Cisco DNA Software for SD-WAN Feature Matrix**. The management capabilities for Cisco® 4000 and ASR 1000 Series routers are limited to device monitoring, troubleshooting, and device software upgrades and can be enabled through Sd-Routing monitoring only license. For more details on the monitoring-only option, see the **Ordering Guide**.

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Models and options

Below is a summary of all the capabilities and supported platforms:

Table 2.   SD-Routing Platform Matrix

Platform	Zero Touch Provisioning	Monitoring	Configuration	SWIM (Software image management)	Troubleshooting
Catalyst 8000 Edge Platforms Family (C8500, C8300, C8200, C8KV, C8200 uCPE, C8300 uCPE)	✓	✓	✓	✓	✓
Cisco 4000 Series ISR (4400,4300, 4200)	✓	✓	✗	✓	✓
Cisco 1000 Series ISR (1100, 1100X)	✓	✓	✓	✓	✓
ASR 1000 Series (ASR 1001-HX, ASR 1002-HX)	✓	✓	✗	✓	✓
Cisco Industrial Routers (IR1101, IR1800, IR8100, IR8300, ESR6300)	✓	✓	✓	✓	✓

Promotions

Going digital has never been easier. Check out the latest promotions to help jumpstart your SD-WAN or routing deployment. **View deals**.

Next steps

For more information:

- Visit the **SD-Routing solution website** and the **SD-Routing FAQ**.

- Connect with peers and Cisco specialists in the **Cisco Catalyst SD-WAN and Routing community page**.

- Listen to the **SD-Routing podcast**.

Use cases

The importance of seamlessly connecting and protecting today's increasingly complex networking environments has never been greater. As the logical gateway between campus or branch locations and the WAN, devices on the network edge must be easily managed at scale without forgoing any functionality that Cisco networking professionals have grown accustomed to over the years. The following table describes key use cases that SD-Routing for the **Catalyst 8000 Edge Platforms Family**, **Cisco 1000 Series Integrated Service Routers**, and **Cisco Industrial Routers** will address across any industry.

Table 3.   Key SD-Routing use cases

Use cases
• Lifecycle router management at scale • Centralized enforcement of NGFW security • Centralized configuration and monitoring • Secure multicloud connectivity • Streamlined migration to SD-WAN