CISCO

Cisco Digital Network Architecture

Introducing a new era in networking.
The Network. Intuitive.

You finally have the flexibility to centrally manage your enterprise network, quickly provision new devices and turn up network functions with a few clicks, all while lowering costs and reducing your risk.

Cisco® Digital Network Architecture (Cisco DNA) is an open, extensible, software-driven architecture that accelerates and simplifies your enterprise network operations. Only Cisco provides a single network fabric that is powered by deep intelligence and integrated security to deliver automation and analytics across your entire organization at scale. Cisco DNA gives IT time back from time-consuming, repetitive network configuration tasks so you can focus on the innovation your business needs.

Cisco DNA automation is built on a Software-Defined Network (SDN) controller, rich contextual analytics, network virtualization and the limitless scalability of the cloud.

This is an entirely new era of networking. The Network. Intuitive.

Most Cisco routers, switches and wireless systems shipping today support Cisco DNA now or with a software update. And with Cisco ONE™ Software, you can continue to protect your investments and benefit from new architecture innovations that can be activated through software.

Benefits

- Innovate faster by delivering differentiated experiences through contextual insights
- Achieve greater business agility with faster network services provisioning
- Lower costs with reduced network installation time
- Reduce risk with faster threat detection
- Protect investment with license portability and access to ongoing innovations

Why a digital-ready network?

How does an open, software-driven network help you in business terms? It delivers network-based insights, automates processes and protects against threats. For example, in the digital age, you can mine network analytics that reveal users' locations and behaviors. Analytics can tell you how customers move through your store or venue and how that's reflected in what they consume. Analytics can also tell you whether or not a building is occupied, so you can reduce your heating and lighting costs.

What makes all this possible is a fundamental transformation occurring in how networks are built and run:

· Closed and hardware-centric models are giving way to open, programmable and software-centric ones.

· Manual, repetitive command-line-interface-driven management is being largely superseded by policy-based automation.

· Perimeter-based, reactive security has been supplanted by network-embedded, context-based security that reaches from the cloud to the enterprise edge.

· IT-centric analytics are morphing into business-centric analytics.

Cisco DNA reflects all these changes. With this architecture, business and IT can become far more nimble and respond to business conditions quicker and more intelligently.

Speed and simplicity to meet growing demands

Traditional networks continue to face box-by-box deployment and management challenges. Provisioning, monitoring and troubleshooting services are a painstakingly manual process. While compute cycles can be delivered in seconds, networking functions and services traditionally require weeks and sometimes months to deploy.

Traditional network architectures are unable to scale for the digital era. Cisco has reimagined our network architecture with the following characteristics:

· **Cloud service management:** Design, provision, enable policy and assure network services through centralized management. Enable visibility of end-to-end network services for campus and branch environments, on-premises or in the cloud.

· **Automation:** Fully automate the network infrastructure based on one policy across the entire access network, acting as a single fabric. Simplify and scale operations by automating day-to-day configuration, provisioning, and troubleshooting.

· **Analytics:** Proactively predict performance through machine learning to correlate user, device and application data for business and operational insights. Identify issues and provide actionable insight to deliver better, more personalized experiences.
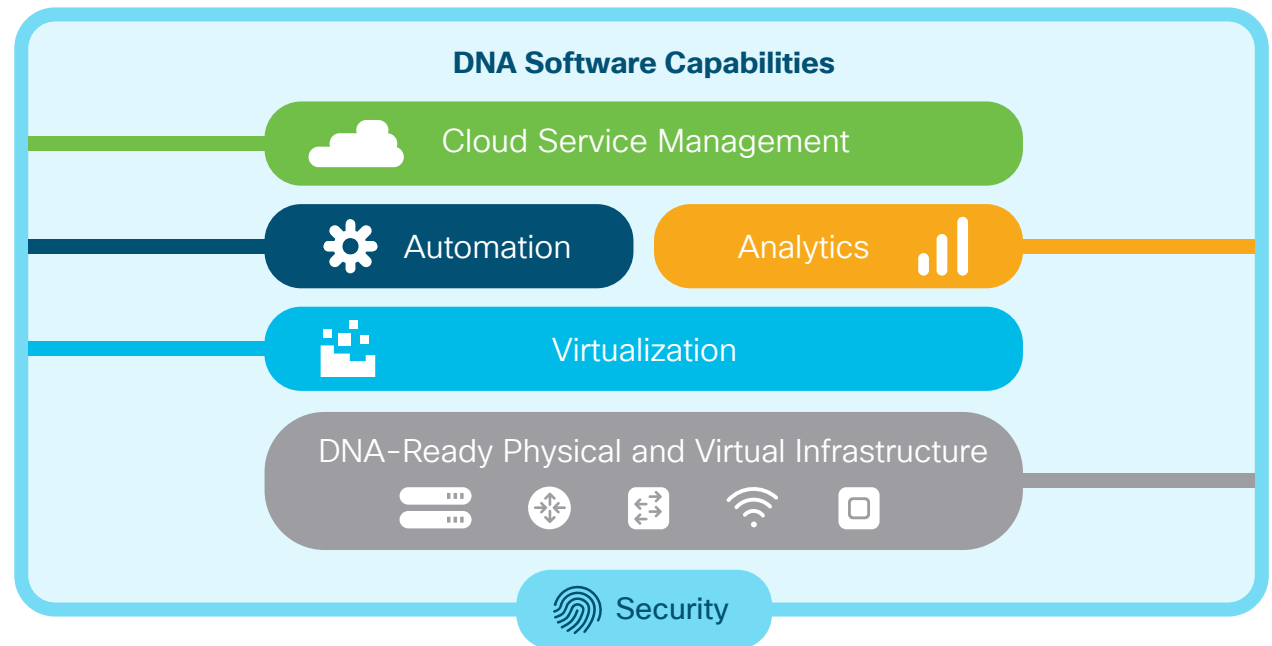
Getting started with Cisco DNA

Navigating your journey to a digital-ready network can be challenging without a guide. That's why Cisco has worked with IDC to develop a network capabilities roadmap that charts the different attributes networks will exhibit at each stage of the journey. This framework will help you understand where you are relative to your peers, plan where you want to be and assess the benefits of moving from stage to stage. Learn more.

Cisco services

No matter where customers are in their journey, Cisco and our partners offer services expertise to help customers accelerate their digital network transformation, from readiness assessments and scalable designs to automation tools and award-winning support. Our services help customers speed their deployments, reduce risk and complexity and provide business continuity as they refresh their network. Learn more.

- **Security:** Detect and mitigate threats with end-to-end network segmentation and enforce security policies across the network. Identify and mitigate threats and vulnerabilities in encrypted traffic with network analytics.

- **Virtualization:** Deploy network services in minutes on any platform – branch, colocation or public cloud – and connect users to applications with one seamless network.

We've applied these characteristics to Enterprise Networks products and solutions (Table 1) so you can move forward with building an open, extensible and agile network. Figure 1 depicts the architecture.

Cisco DNA promotions

Going digital has never been easier. Check out the latest promotions to help you get started on your journey to a digital-ready network.

Learn more.

Customer success stories

Today, customers are winning against the competition with Cisco digital-ready networks. Take a look at the latest customer case studies to learn how customers are deploying Cisco DNA solutions and creating new business value:

Learn more.

Table 1.   Cisco Digital Network Architecture products and solutions

Product or Solution	Description	Benefits
Cisco IOS® XE Software	Enhanced operating system software for Cisco devices that supports programmability, controller-based automation, and serviceability.	Provides IT flexibility through programmability, Network Functions Virtualization (NFV) and SDN-based automation.
Cisco DNA Center	A single dashboard for managing your enterprise network. Uses intuitive workflows to simplify provisioning of user access policies combined with advanced assurance capabilities.	Makes it easy to design, provision and monitor the network. Increases user satisfaction with a policy-driven onboarding experience and increases network uptime.
Software-Defined Access (SD-Access)	Secure end-to-end segmentation, automated user policy access and a single network fabric.	Enables network access in minutes for any user or device to any application without compromising security.
Cisco Intelligent WAN (IWAN)/ SD-WAN	Comprehensive set of traffic and application control and security features for the WAN that have been integrated into Cisco branch office routers.	Enables hybrid WAN by securing Internet connectivity, therefore reducing bandwidth costs. Delivers a great user experience and allows you to deploy branch offices quickly.
Network Security	Use the network as a sensor to gain visibility through real-time analysis and intelligence. Your network also enables you to have more granular control to enforce policy across the network.	Reduce risk and protect your organization against threats. Gain 360 visibility through real-time analytics for deep intelligence across the network. Lower complexity with end-to-end security.

Why Cisco?

You need a network that is constantly learning. Constantly adapting. Constantly protecting. This is the future of networking. The Network. Intuitive.

With our deep understanding of technology and relationships with IT, Cisco can help bring your IT and the boardroom together to work effectively toward a joint solution. With Cisco DNA, we can help you create revenue opportunities, lower costs, reduce risks and ensure regulatory compliance. And we can help you simplify your network and accelerate its response time to business needs.

Together with our partners, we help our clients innovate, manage market transitions and turn technology into business advantage.

Next steps

For more information, visit the Digital Network Architecture website at:

http://www.cisco.com/go/dna.

Product or Solution	Description	Benefits
Network Analytics and Assurance	Proactively monitors the network, gathering and processing information from devices, applications and users. Correlates events and presents actionable insight through Cisco DNA Center. Evaluates trends within the network to identify areas where there might be performance degradation in the future.	Identifies root causes and provides suggested remediation for faster troubleshooting. Integration with Cisco DNA Center provides an easy-to-use single dashboard with insights and drill-down capabilities. Machine learning continually improves network intelligence to predict problems before they occur.
Digital-Ready Infrastructure	Physical or virtual routing, switching and wireless products that serve as the foundation for Cisco DNA.	Robust infrastructure built from the ground up with Cisco DNA software capabilities in mind to move faster, more efficiently and more securely.

Cisco DNA services are delivered through Cisco ONE™ Software, which provides simplified, high-value solutions with license portability and flexibility. You can start your journey today to a digital-ready network on our current portfolio of network equipment and then continue to adopt network innovations in the months and years ahead through the power of software.

Cisco Capital

Financing to help you achieve your objectives

Cisco Capital® can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce capital expenditures. 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.