Your network is more strategic to your business than ever. This means that your IT resources need to manage—more than ever—a growing, complex network. More clients, both wired and wireless, more bandwidth-demanding applications, and more services depend on reliable, consistent, and secure network systems. Your organization’s IT resources are being stretched to their limits in transforming your operations to support the new digitally connected world. Finding time for these new IT projects that are key to your core business is the biggest challenge that IT departments are facing today.

With Cisco DNA Assurance, the days of time-consuming network troubleshooting tasks are over. Whether it is wired or wireless, Cisco DNA Assurance enables every point on the network to become a sensor, sending continuous streaming telemetry on application performance and user connectivity in real time. It then uses Cisco® AI Network Analytics to define the levels of performance required for optimal user experience on your network and to derive insights on optimization options. The clean and simple dashboard shows overall status and flags issues. Guided remediation then automates resolution to keep your network performing at an optimal level with less mundane troubleshooting work. With Cisco DNA Assurance, your staff can grow your network and still have time to take on the new IT projects that set your company apart from your competitors.

**Benefits of Cisco DNA Assurance**

- **Saves time:** Noise and false positives are reduced, while issues that have the greatest impact on your network are accurately identified.
- **Reduces work:** AI-driven technologies can proactively find the cause of your biggest network issues quickly.
- **Speeds troubleshooting:** Machine reasoning algorithms automate remediation options for fast issue resolution.
- **Helps you excel:** Your network’s performance is increased, while you spend less time running and troubleshooting it.
What makes Cisco DNA Assurance different?

Cisco DNA Assurance provides insights from every device, application, service, and client on your network, and uses the latest AI and machine learning technology to make sense of all this data. It adjusts performance thresholds, reduces alarms and false positives, and then automates the process of issue resolution and performance enhancement. No other system, or combination of systems, on the market offers similar levels of intelligence and performance enhancements.

**More data from more sources.** Cisco DNA Assurance collects data from a total of 17 different source types, including NetFlow, traceroute, IP SLA, syslog, Cisco Web Security Appliance (WSA), RADIUS, Dynamic Host Configuration Protocol (DHCP), Active Directory and users, command-line interface and Secure Shell (CLI/SSH), netconfig, pxGrid, DNS, AVC, Simple Network Management Protocol (SNMP), Cisco Connected Mobile Experiences (CMX), Apple iOS, and Samsung One UI. No other current network analytics and assurance software looks at this many sources for insight. More sources mean more points of view as well as more ways to view an event or issue. It also allows Cisco to offer a much more complete roadmap of future features and functionality.

**Correlation of data with AI and machine learning (ML).** Cisco AI Network Analytics, a new feature, uses a combination of local and cloud-based AI-driven analytics engines to make sense out of all this data and automate the process of issue resolution and performance enhancement.

**Clear and concise display of insights** with details and guided remediation. This results in an intuitive interface requiring little or no training of your IT team.

**Exclusive Cisco only features**

**Aironet® Active Sensor:** A compact wireless sensor that simulates real-world client experiences so IT can validate wireless performance in Cisco DNA Assurance for critical venues such as conferences or for VIP clients and ensure that there are no surprises. It provides high-fidelity insight at ground level.

**Wi-Fi Analytics for iOS:** This exclusive partnership with Apple allows a Cisco network to get the client’s point of view of the network—what access points it sees, the reasons for disconnections, and the current state of the user experience—provided through Cisco DNA Assurance.

**Third-party integration through an open, extensible platform:** The Cisco DNA Center platform allows extended use of analytics insights in other areas of your operation, connecting business goals with network outcomes.

Cisco DNA Assurance offers more insights from more areas of your network and provides more ways to apply these insights.
Cisco DNA Assurance allows users to define a set of policies to help ensure optimal network performance for the applications and services they rely on. Four complex and complete processes in Cisco DNA Assurance manage the baseline for each user experience:

- **Network telemetry and contextual data**: Data is collected from 17 sources in the network in real time. Collecting from so many different points allows Cisco DNA Assurance to view issues from many different angles and contexts. You can compare this to having multiple cameras in a football game, offering more detailed information on critical plays. Moreover, offering more than just multiple angles, these 17 sources also provide context for the many different conditions under which any event occurs.

- **Complex event processing**: A series of analytics engines divides the event processing between critical metrics, which need instantaneous action, and noncritical metrics. Distributed on-device analytics located on select Cisco switches, routers, and wireless controllers handle critical decisions in real time and at the source of the incident. Cisco DNA Center’s centralized analytics engine can collect and process the full set of data coming from all areas of the network.

- **AI/ML insights**: Using AI and machine learning, Cisco AI Network Analytics customizes your network baseline for alerts, reducing noise and false positives while enabling IT teams to very accurately identify issues, trends, anomalies, and root causes. Comparative benchmarking between peers or sites improves network performance consistency across branch offices and can identify network optimization opportunities and allocate IT resources.

- **Automated remediation**: Cisco AI Network Analytics uses machine reasoning to automate logical remediation options for appropriate workflows and client issue resolution. It is fast, simple, and intuitive for greater IT efficiency.

**Getting started with Cisco DNA Assurance**

Getting started with Cisco DNA Assurance is as simple as installing the Cisco DNA Center appliance and licensing the devices on which Assurance capabilities are desired (for example, wireless access points and wireless controllers). Cisco DNA Assurance capabilities are delivered through three software subscription offers: Cisco DNA Premier, which is Software-Defined Access (SD-Access) and Assurance ready; Cisco DNA Advantage, which is SD-Access and Assurance capable; and Cisco DNA Essentials, for basic monitoring, and automation. The most value-rich offer, Cisco DNA Premier, delivers policy-based automation with SD-Access, Cisco DNA Assurance, and enhanced security. Customers can enable all Cisco DNA use cases with Cisco DNA Premier.

You can start your journey today to an intent-based network on your current portfolio of network equipment, then continue to adopt network innovations in the months and years ahead through the power of software.

**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.

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“Cisco AI Network Analytics is like having an owl in my network. It helps me see in the dark.”

Shai Silberman
Director of Network Services
San Jose State University
San Jose, California

Cisco AI Network Analytics

Cisco’s intent-based networking just got smarter by applying advanced analytics and machine learning, both on premises and in the cloud. Cisco AI Networks Analytics works inside of Cisco DNA Assurance to increase intelligence in the network, empowering administrators to accurately and effectively improve performance and facilitate issue resolution.

Visibility—AI-driven baselining: No two networks are the same. AI-driven technologies can learn the user trends, services, and application metrics that are specific to your network. Cisco DNA Assurance can then create a customized performance curve for analytical decisions. The AI-driven baseline for the performance parameters that are unique to your network is constantly adapted as your network grows and changes.

Insight—intelligent issue analysis: When every device is sending streaming telemetry, every client is communicating errors, and applications are subject to deep packet inspection, the IT team can suffer from data overload—too much noise from too much data. Cisco AI Network Analytics uses machine learning to make sense of all this data, accurately detecting performance issues and ignoring unusual but harmless network anomalies. This reduces noise and false positives while accurately identifying issues that have the greatest impact on your network. Comparative analytics leverages AI technologies to improve network performance consistency across branch offices through comparative benchmarking between peers or sites. Teams can correctly identify network optimization opportunities and allocate IT resources intelligently.

Action—accelerated remediation: Cisco AI Network Analytics uses machine reasoning to perform the logical troubleshooting steps that an engineer would execute in order to resolve a problem. This helps users detect issues and vulnerabilities, perform complex root cause analysis, and execute corrective actions faster than ever. Machine reasoning accelerates remediation, making your team more precise in problem solving and more productive overall.

Cisco AI Network Analytics is now a standard part of Cisco DNA Assurance and is included in the Cisco DNA Advantage licensing tier.
Cisco Customer Experience

Accelerate your intent-based networking journey with our services for enterprise networking. Our team helps accelerate adoption of Cisco DNA Center Assurance while reducing risks. Customer Experience experts help speed time to value, allowing you to troubleshoot and monitor your network using Cisco DNA Assurance. We provide a comprehensive lifecycle of advisory, implementation, optimization, managed, technical, and IT training services to help you move to an open, secure, and automated intent-based network with ease and confidence.

Get started with our Cisco DNA Center Advise and Implement services that provide solution design and implementation support to help you quickly deploy your Cisco DNA Center solution. Using an architectural approach to network design, automation, and assurance, Cisco experts work with your IT staff to manage, scale, and securely integrate Cisco DNA Center with IT and business systems for greater efficiency.

Table 1. Features of the Cisco DNA Assurance solution

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<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Benefit</th>
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<tbody>
<tr>
<td><strong>Network health dashboard and client health dashboard</strong></td>
<td>The main Cisco DNA Assurance dashboard gives a quick overview of the health of every device and client on the network, wired and wireless, Cisco and Meraki®.</td>
<td>Offers a general overview of the operational status of every network device provisioned from Cisco DNA Center. Any poorly connected devices will be highlighted, with suggested remediation.</td>
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<tr>
<td><strong>Device 360 and client 360</strong></td>
<td>A drill-down feature that displays device or client connectivity from any angle or context. Includes information on topology, throughput, and latency from different times and applications.</td>
<td>Provides a detailed view of the performance of any device or client over time and from any application context. Provides very granular troubleshooting in seconds.</td>
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<tr>
<td><strong>Path trace</strong></td>
<td>A drill-down feature that lets an operator see the path of an application or service from a client through all devices to the server.</td>
<td>A common, and critical, troubleshooting task that normally requires 6 to 10 minutes of research is displayed instantly upon clicking on a client or application.</td>
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<tr>
<td><strong>Network time travel</strong></td>
<td>A drill-down feature that allows an operator to see device or client performance in a timeline view to understand the network state when an issue occurred.</td>
<td>Enables an operator to go back in time and see the cause of a network issue, instead of trying to re-create the issue in a lab.</td>
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<td><strong>Aironet active sensor</strong></td>
<td>A compact network sensor designed to be placed anywhere in your operation to monitor your wired or wireless network.</td>
<td>Simulates real-world client experiences in order to validate wireless performance for critical venues and high-value locations, such as conference halls and meeting rooms.</td>
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<tr>
<td><strong>Intelligent capture</strong></td>
<td>Uses network sensors with the Aironet Active Sensor and the Aironet 2800, 3800, and 4800 Series and Cisco Catalyst® 9120AX Series APs to provide advanced troubleshooting for wireless issues. All of these APs offer on-demand RF scanning, real-time client location, Wi-Fi application analytics, and anomaly-based packet captures.</td>
<td>Offers an unprecedented level of wireless service facilitation based on detailed and proactive analysis of wireless performance per access point or per Wi-Fi client. Allows system administrators to prepare for special events or VIP visits, or simply to troubleshoot a stubborn wireless issue.</td>
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<tr>
<td><strong>On-device analytics</strong></td>
<td>Assurance and analytics are performed on a Cisco switch, router, or wireless controller where the anomaly is discovered.</td>
<td>Critical metrics can be identified and immediately acted on before an incident occurs. Key performance indicators (KPIs) that are core to business operations can be maintained in real time and close to the users that rely on them.</td>
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Why Cisco?

You need a network that is constantly learning, constantly adapting, and constantly protecting. This is the future of networking.

With our deep understanding of technology and relationships with IT, Cisco can help bring your IT and the boardroom together to work effectively toward better outcomes for IT and the business. 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 operations and accelerate your response to changing IT and business needs.

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

Customer success stories

Cisco customers in every industry are changing the way they manage their network with Cisco DNA Assurance. Take a look at the latest customer case studies to learn how customers are deploying Cisco DNA Assurance and how it is aligning their network operations with their business goals. Read stories.

Next steps

For more information, visit the Cisco DNA Analytics and Assurance website: https://www.cisco.com/go/ciscodnaassurance.

Get started with programming to take full advantage of the Cisco DNA Center platform capabilities. Learn more at Cisco DevNet.

Cisco DNA Assurance allows you to run the network with maximum performance, reliability, security, and open interfaces. Unlock the power of data by starting your journey with Cisco DNA Assurance today.

Cisco Capital

Flexible payment solutions to help you achieve your objectives

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. Learn more.