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Cisco Provider Connectivity Assurance Enhanced Service Demarcation

Automate and monitor services to resolve issues faster

Get a complete solution that helps you manage end-to-end network lifecycle for quick issue resolution and better overall performance.

Overview

As service providers roll out new services with more demanding Service Level Agreements (SLAs) and higher customer expectations, service demarcation is as important as ever. Maintaining customer satisfaction, while keeping service delivery and support costs down, is even more critical and challenging in highly competitive markets. Cisco® Provider

Connectivity Assurance (formerly Accedian Skylight) service demarcation capabilities automate service delivery and monitor all services with high performance, reliability, and precision in near real time. You can quickly identify and resolve service issues with built-in data analysis and intelligent machine learning capabilities.

Benefits

- Cost-effective, low-latency service demarcation with zero impact on end-to end service performance.

- Dependable service assurance visibility for:

  - Continuous performance monitoring regardless of scale and traffic.

  - Near real-time granular and high-precision performance metrics and KPIs.

- Automated delivery of new services, activation testing, validation, and performance monitoring.

- Performance data analytics in real time for proactive monitoring and issue resolution.

How it works

Cisco Provider Connectivity Assurance enhanced demarcation solution

The platform manages service delivery, enables precise and granular performance assurance, and provides near real-time actionable insights. The platform offers a multi-layered architecture featuring the following key elements: the AI-enabled analytics engine and graphical user interface with built-in sensor management capabilities, a range assurance sensors in software or hardware form factors, and a data collector for ingestion of model-driven telemetry and other sources of third party performance data.
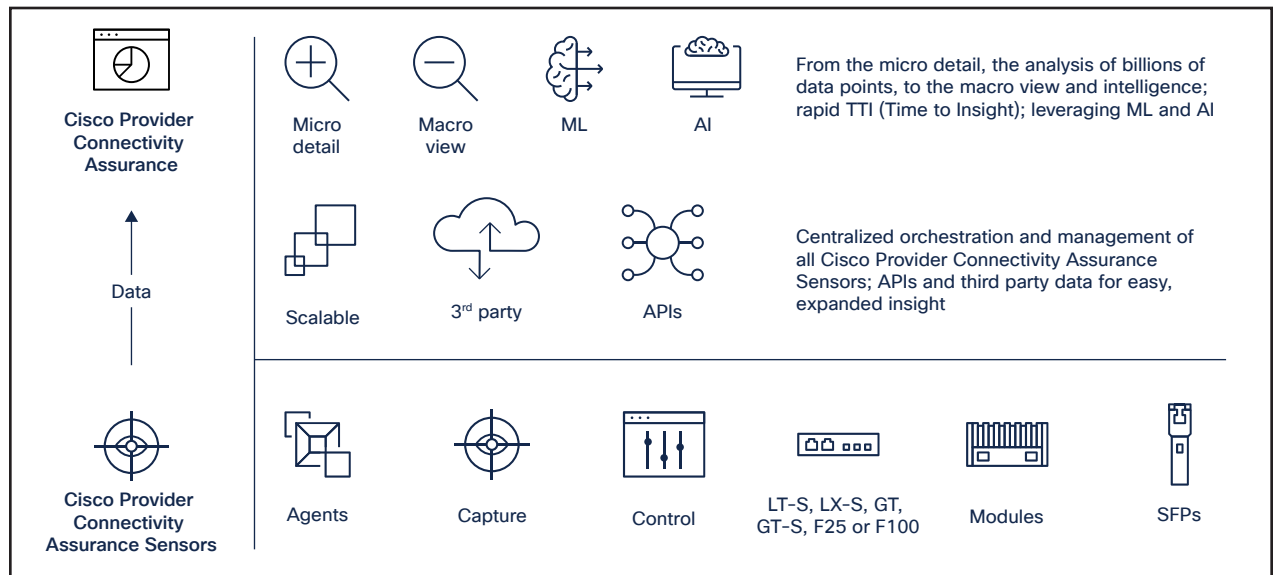

Cisco Provider Connectivity Assurance

Micro detail | Macro view | ML | AI

From the micro detail, the analysis of billions of data points, to the macro view and intelligence; rapid TTI (Time to Insight); leveraging ML and AI

Data

Scalable | 3rd party | APIs

Centralized orchestration and management of all Cisco Provider Connectivity Assurance Sensors; APIs and third party data for easy, expanded insight

Cisco Provider Connectivity Assurance Sensors

Agents | Capture | Control | LT-S, LX-S, GT, GT-S, F25 or F100 | Modules | SFPs

Figure 1.   Cisco Provider Connectivity Assurance platform components

Cisco Provider Connectivity Assurance Sensors

Assurance Sensors deliver industry-leading wire-speed performance, service assurance accuracy and granularity, scalability, and standards-based interoperability. The sensors also offer traffic conditioning and Hierarchical Quality of Service (H-QoS) enforcement that help optimize per-flow performance to maximize resource utilization. The industry-leading accuracy and precision of the performance metrics generated by Assurance Sensors are critical for real-time service assurance, regardless of the number of services or volume of traffic running on the devices.

The larger form-factor hardware-based Assurance Sensors support service demarcation and aggregation, as well as External Network-to-Network Interface (ENNI) demarcation scenarios. The more compact Assurance Sensors, like the Modules, are ideal for delivering services to customer locations with space constraints; 5G xHaul, small cell, and business Ethernet applications. For zero-footprint or fiber exhaust applications, the pluggable Assurance Sensor SFPs (1G or 10G) are ideal solutions.

AI-native predictive analytics

The platform provides both management of all Assurance Sensors as well as AI-native predictive performance analytics, dashboards, and reporting tools.

Built-in Assurance Sensor management capabilities automate service delivery, validation, fault management and performance monitoring. The platform is highly scalable and can quickly deploy and manage up to thousands of Assurance Sensors and performance assurance sessions across the network. Open APIs and a web user interface simplify lifecycle management and automation of service provisioning and performance data collection.

Provider Connectivity Assurance combines performance data and granular metrics from all of the Assurance Sensors and third-party data sources to provide dashboards and reporting tools. High volumes of time-series data can be analyzed in near-real-time, providing levels of visibility, flexibility and speeds that are not possible with legacy performance monitoring tools.

Provider Connectivity Assurance can also enrich the metrics with metadata and correlate this metadata, which helps segment the views of the network more precisely. This helps service

providers to keep service KPIs and SLAs on track, as well as enabling them to proactively manage their network evolution and resolve issues.

Use cases

Cisco Provider Connectivity Assurance service demarcation solutions can be tailored to support diverse use cases in mobile backhaul including 5G, business Ethernet, and edge computing applications.

Mobile backhaul

Delivering services to mobile cell sites is simpler with Provider Connectivity Assurance. Assurance Sensors support optical or electrical interfaces and can be deployed to deliver services in different environments and temperature conditions. The smaller form factor sensors can be deployed when limited real estate is available, while Assurance Sensor SFPs can be used for zero-footprint environments. These devices also support quick and effortless bandwidth upgrades while maintaining performance assurance precision and accuracy. Provider Connectivity Assurance zero-touch provisioning automation means new services can be deployed quickly on a large scale.

Higher capacity 1GB, 10GB, 25GB or 100GB Assurance Sensors support thousands of services without impacting performance monitoring accuracy and precision. For ENNI demarcation use cases, the sensors can monitor all services and enforce SLAs to third-party network providers of Ethernet access and mobile backhaul services. An example is AAV/Type II service providers providing an E-Access service purchased by a carrier of record delivering an E-Line service.
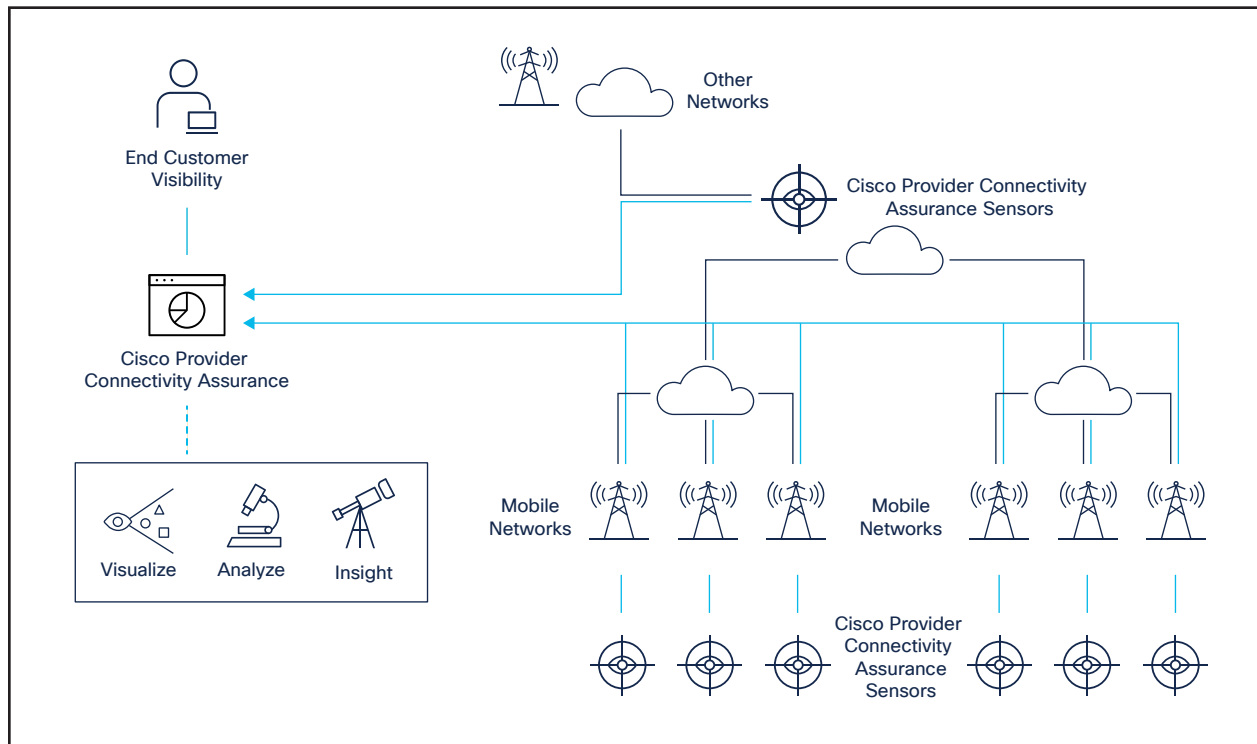

Figure 2.   Mobile backhaul demarcation and capacity upgrade with Cisco Provider Connectivity Assurance

Business ethernet

Provider Connectivity Assurance supports a variety of business services applications. Service providers can deploy a single service to customer locations using any of the hardware-based Assurance Sensors. When delivering multiple services to a customer or serving multiple customers at the same site, it is often more cost effective to deploy multiport Assurance Sensors. The higher-capacity multiport elements are also ideal for serving multiple customers or delivering multiple services in the same building or area. Once deployed, it's easy to roll out additional services from that same unit without the need to deploy any additional hardware.

The small form factor sensors make it easy to upgrade bandwidth quickly for end customers. For business services that require extended temperature solutions, the hardened version of the Assurance Sensors can be deployed. Small footprint sensors save space and improve rack port density or power efficiency of the chassis in colocation data centers.
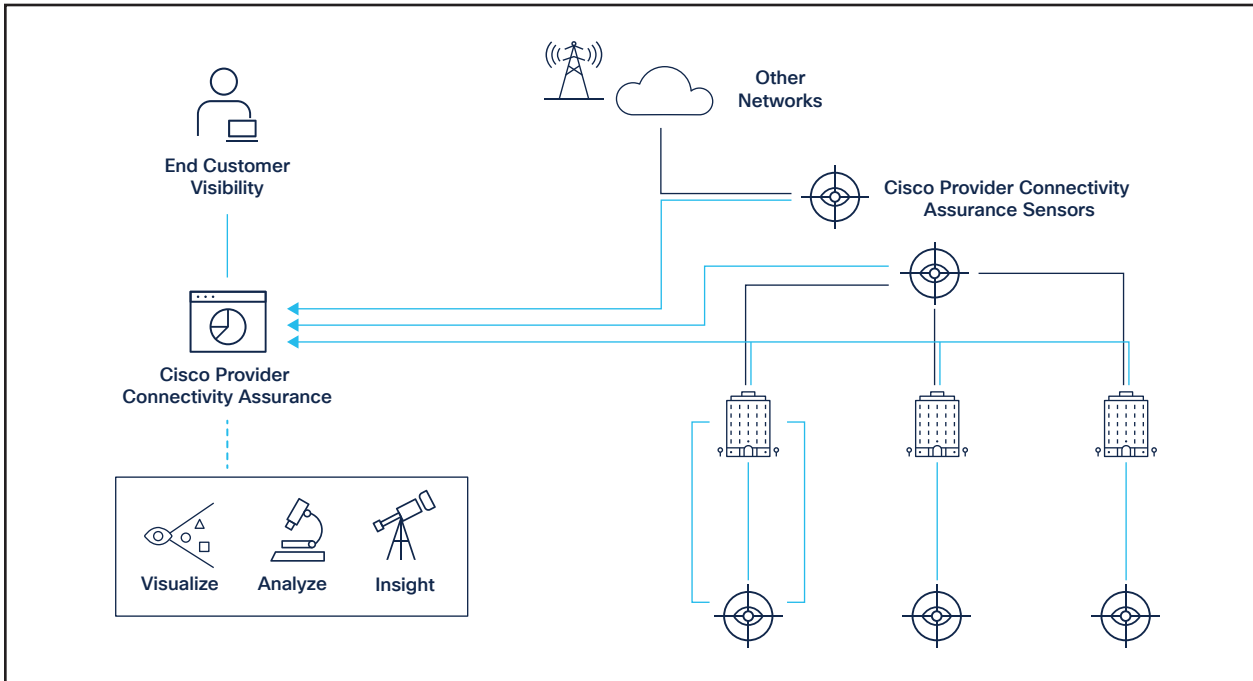
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Figure 3.   Business ethernet services delivery and visibility with Cisco Provider Connectivity Assurance

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The Cisco Advantage

Cisco knows networking. Since the beginning, we've connected companies, industries, partners, customers, and colleagues so they could work more productively together. Cisco is a longtime leader in network management, automation, and performance and has partnered with hundreds of organizations to add even greater value and functionality in those areas. When you choose Cisco for networking performance solutions, you're tapping into a deep well of expertise, cutting-edge innovation, and ongoing services to help you make the most of your solution.

Learn more

To learn more about how Cisco Provider Connectivity Assurance Enhanced Demarcation Service can help your networks operate at peak efficiency, please visit **cisco.com**.