

CONTRAIL INSIGHTS

Product Overview

Contrail Insights allows you to monitor, troubleshoot, and optimize the performance of your network infrastructure, providing end-to-end visibility into the physical and multicloud environment to eliminate any potential issues and render operations simpler and more effective. Contrail Insights uses machine learning algorithms to help you correlate network issues across the layers, perform real-time and historic troubleshooting, and automatically remediate network events.

Product Description

In today's large-scale multicloud networks, operations teams must have real-time and historical visibility into their infrastructure to ensure service reliability and minimize operational costs. Cloud infrastructure is typically built in layers of abstraction and, as operations become more automated, performance monitoring replaces manual changes as the most common task. As telemetry data increases, however, and abstraction layers are peeled back to examine and troubleshoot the state of the network infrastructure, monitoring complexity increases as well. Operators may have visibility into data, but they do not truly understand what they are seeing.

To improve visibility and identify issues, monitoring automation and analytics—with the help of artificial intelligence—have become critical to providing the reliability and agility that cloud users—and their businesses—demand.

Contrail® Insights provides monitoring, troubleshooting, and performance optimization across multicloud environments to simplify operations in cloud data center networks.

Architecture and Key Components

Contrail Insights delivers the following attributes.

- **Microservices-based distributed architecture:** Contrail Insights is designed with a horizontally scalable architecture based on Docker containers. This enables an extensible platform, with each service being self-contained and reliable to ensure the timeliness of operational data as well as the scalability of the deployment.
- **Interactive web-based user interface:** The Contrail Insights dashboard provides a comprehensive visual representation of all assets—network devices, hosts, servers, and applications—via live and historical heatmaps and real-time traffic charts. Standard and customizable dashboards are also available, with drill-down mechanisms for further analysis.
- **Streaming, open, standards-based telemetry:** The Contrail Insights platform performs predictive analytics over streaming telemetry captured using SNMP, Junos® telemetry interface (JTI), standards-based OpenConfig (gRPC), and traffic flow monitoring technologies (sFlow, NetFlow, and IPFIX).
- **Machine learning-based analysis:** Contrail Insights applies machine learning to dynamically understand and baseline the performance of applications and infrastructure elements as they operate, generating alarms when real-time metrics deviate from historical trends that exceed a user configured threshold. This helps customers correlate network issues across layers, perform real-time and historical troubleshooting, and facilitate automated remediation of network events.
- **Integrations for platform extensibility:** Contrail Insights integrates with third-party systems such as Service Now, PagerDuty, Slack, and Kafka message bus out of the box to send customized notifications and actionable insights, as well as to facilitate closed-loop automation.

Working with Contrail Networking™ and Contrail Security, Contrail Insights is a fundamental building block of the **Contrail Enterprise Multicloud** solution, a multicloud-enabled platform for policy orchestration and advanced analytics. Contrail Insights is also a component of **Contrail Cloud**, a platform for designing, implementing, and operating telco clouds for service providers. Whether working as a standalone platform or with these other solution bundles, Contrail Insights provides comprehensive visualization and smart monitoring features to detect issues and automatically take remedial action based on predefined business outcomes.

Features and Benefits

Powerful Visualization for Real-Time and Historical Visibility

Contrail Insights delivers a single pane of glass solution that provides users with real-time and historical topology views into network devices, hosts, workloads, and applications, as well as the connectivity between them. When overlaid with a live traffic heatmap, the highly scalable topology visualization provides granular visibility that allows you to quickly investigate issues and simplify operations.

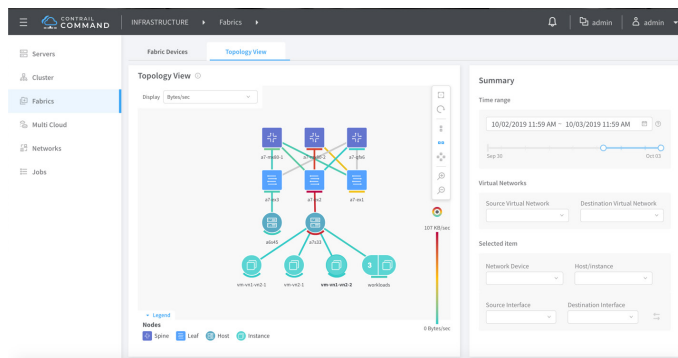


Figure 1: Live topology view with traffic heatmap

Network Health Monitoring and Risk Analysis

Contrail Insights provides real-time and dynamic, context-aware monitoring using traditional poll and new streaming push-based mechanisms to collect telemetry and data from resources. These metrics and insights can then be used to perform threshold-based alarming, event correlation, custom notifications, and intent-based operations.

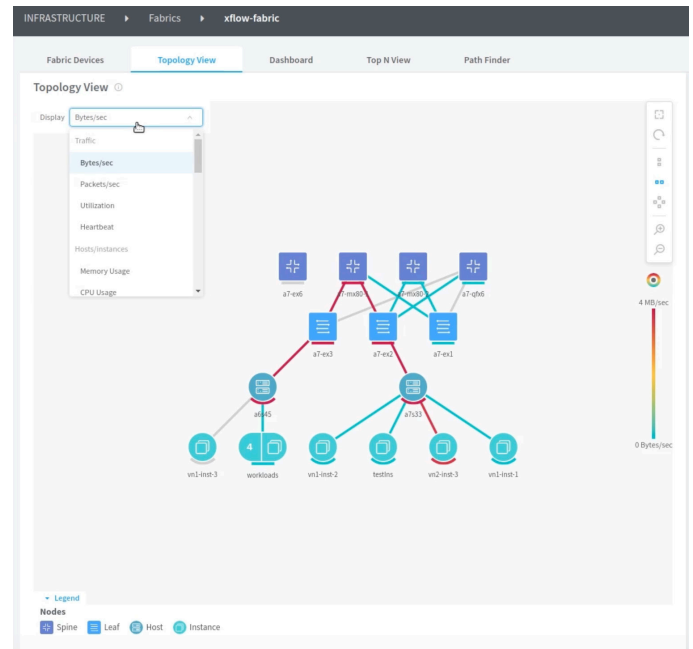


Figure 2: Network monitoring for health and risk

Troubleshooting and Traffic Analysis

Contrail Insights provides enhanced filtering, querying, and drill-down capabilities that allow data center operators to proactively discover hotspots, congestion, and other network issues. By enabling you to trace traffic flow paths across the physical underlay infrastructure and virtual overlay networks, Contrail Insights delivers the ability to perform deep network diagnostics, tenant workload analysis, and root cause analysis.

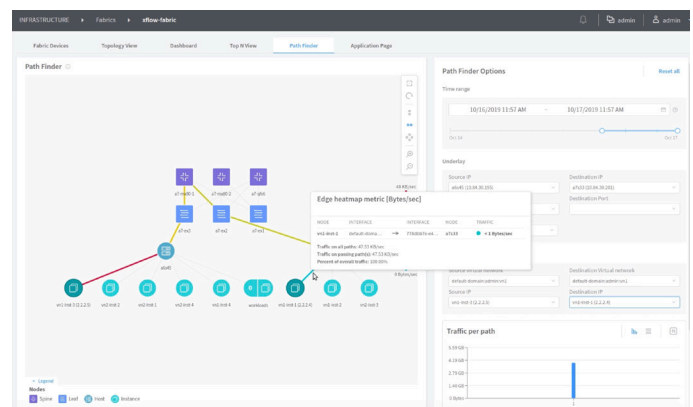


Figure 3: Underlay-overlay correlation using path tracing

Machine Learning-Based Baseline

Contrail Insights uses machine learning algorithms to create performance baselines for infrastructure elements, performing anomaly detection across historically learned performance data combined with machine-defined baselines.

Specifications

- Microservices and container-based distributed architecture
- Streaming telemetry collection: SNMP, JTI, OpenConfig (gRPC), sFlow, NetFlow, IP Flow Information Export (IPFIX)
- Machine learning-enabled baselining and anomaly detection
- REST API-enabled northbound integration
- JavaScript Object Notation (JSON)- and XML-based notifications framework
- Third-party systems integration into Service Now, Slack, PagerDuty, and Kafka, as well as custom webhooks
- Static and dynamic alarming
- Automatic remediation recipes

Ordering Information

For more information about ordering Contrail Insights, please visit www.juniper.net/us/en/how-to-buy/ or contact your Juniper sales representative.

Learn More

To learn more about Contrail Insights, please visit the [product page](#).

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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