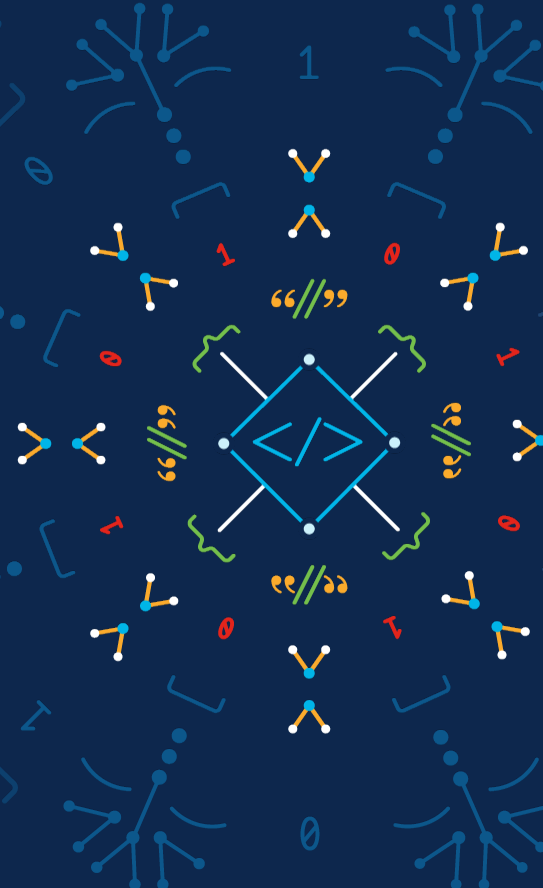


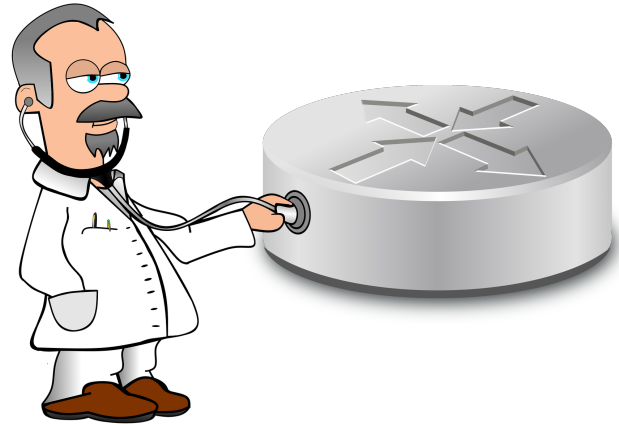
NSO & Crossworks Health Insights

How are my devices feeling today?

Dimitris Vlassopoulos
Technical Marketing
May 10th, 2022



Let's keep an eye on
it



Network Services Orchestrator



- best in class network services lifecycle management
- proven track record

NSO ecosystem



Automation across the lifecycle

Plan + Design



WAN Automation Engine
Planning and predictive modelling to
analysis potential scenarios



Network Insights
Provides routing data analytics to
significantly reduce mean time to repair



Trust Insights
"always on monitoring" to determine the
integrity of infrastructure



**Integration
Qualification Environment**
Rapid qualification and integration to support
new feature and software delivery into
production

Implement



Network Service Orchestrator
Multi-vendor, intent-based configuration
across domains

Operate + Optimize



Health Insights
learn and measure health of
network elements.



Change Automation
safely execute operational tasks with
structured workflows.



Optimization Engine
optimize network paths to improve
utilization & efficiency (SR-PCE)



Data Gateway
large scale distributed data
collection



How are my devices
doing?

The 'what' to monitor

- Availability
 - System alerts
- Configuration
 - out-of-band changes, network changes
- Performance
 - Real time KPI monitoring



The 'what' to monitor

compliance reports / apply templates

- Availability

- System alerts

transactional guarantees

- Configuration

- out-of-band changes, network changes

- Performance

- Real time KPI monitoring

check-sync

compare-config

NSO is not meant to be used as a monitoring system

The 'need' to monitor

- Establish a device health **baseline**
- Periodically **examine** device's health (cadence)
- **Identify** misbehaving devices in your environment
- **React** to changes / thresholds

Next in line ...



Crossworks Health Insights

Taking care of the 'what' and 'how' to monitor
... just say when

Core Crosswork Features



Visibility

Gain consolidated views on state and operations to verify and monitor customer experience.



Insights

Gather operational intelligence through correlated data to identify patterns on network services health and trends.



Action

Plan, design, test, and implement changes using automated, intent-based actions to drive agility.



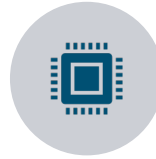
Health Insights (HI)

- a crossworks network automation product
- records and analyzes device real-time data
- can affect network changes (using Change Automation)

Key Performance Indicator (KPI)

- Defines what to monitor
- How often (cadence)
- Can be grouped into 'KPI profiles'
- Enable KPI profile(s) on device(s)

Main HI Features



GNMI Support for both Cisco and 3rd Party Devices (IETF-JSON and Proto Modes)



Support for OpenConfig Models
Support for SNMP (standard MIBs)

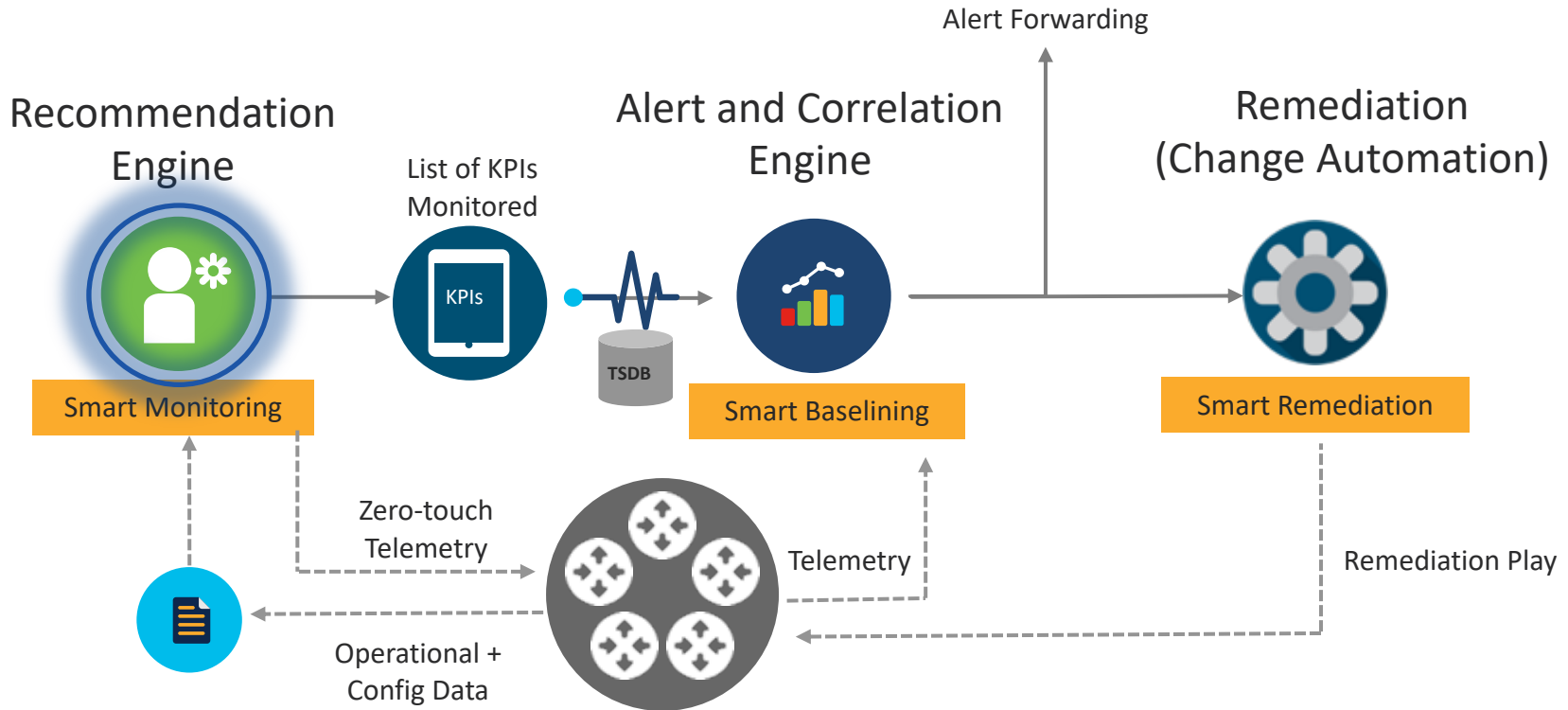


External Kafka on Health Insights

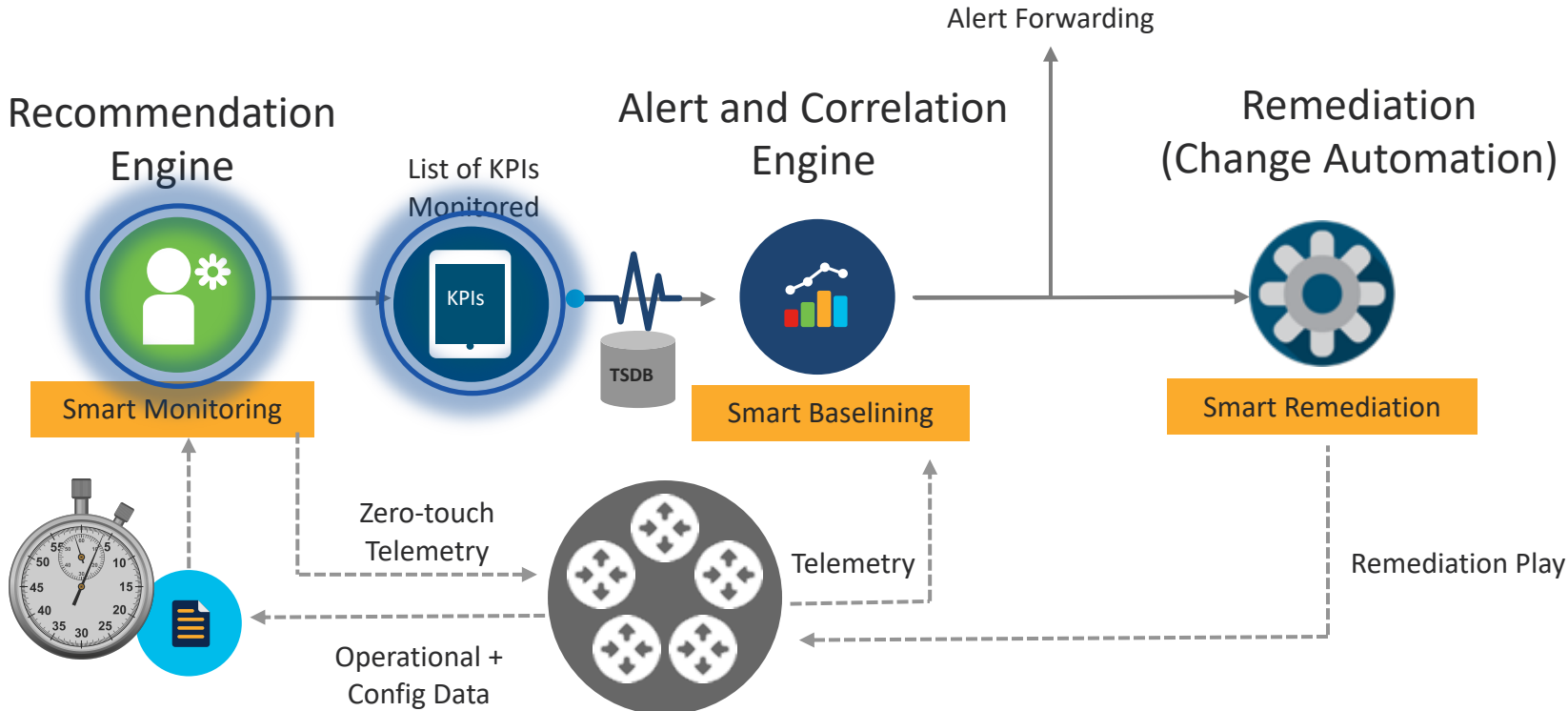


Distributed Alerting Stack

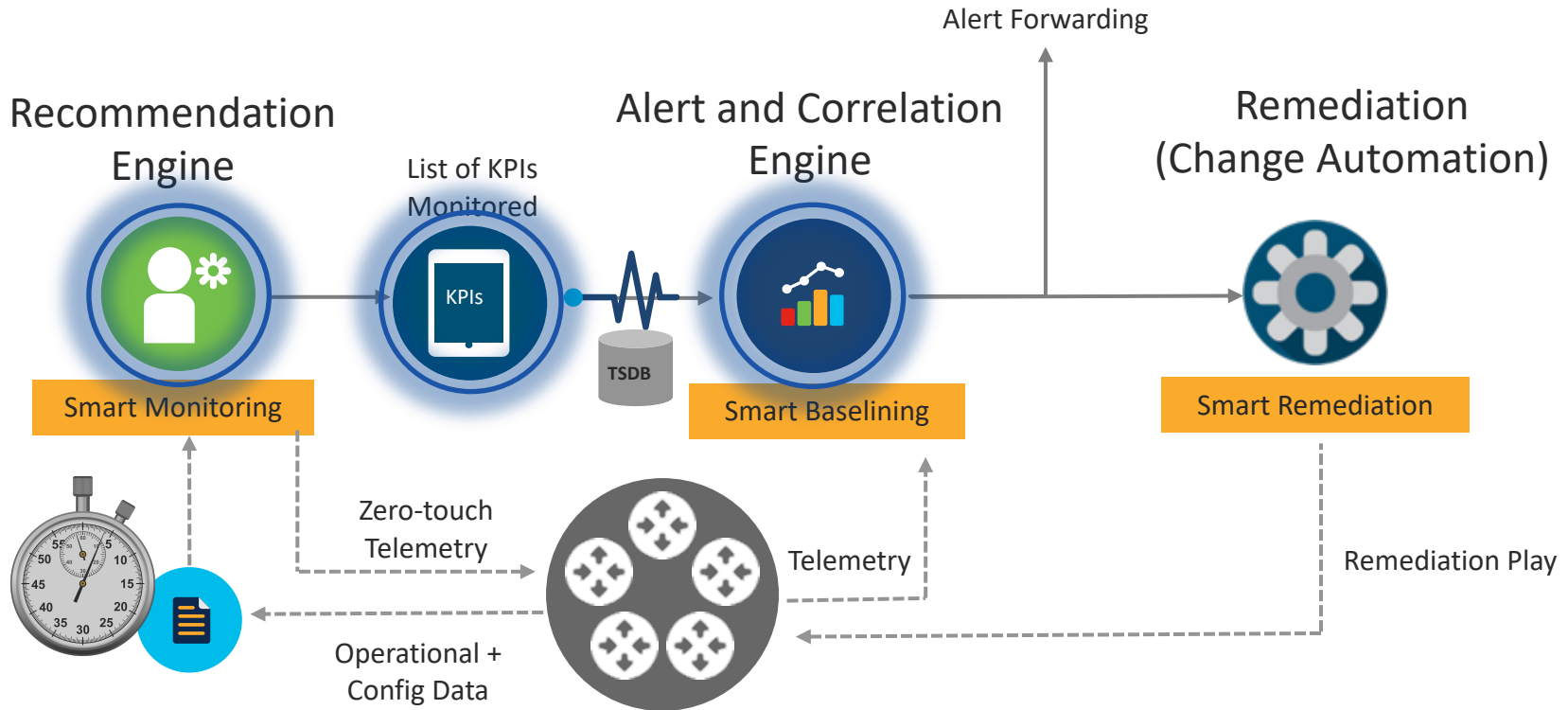
Health Insights: Make Your Data Actionable



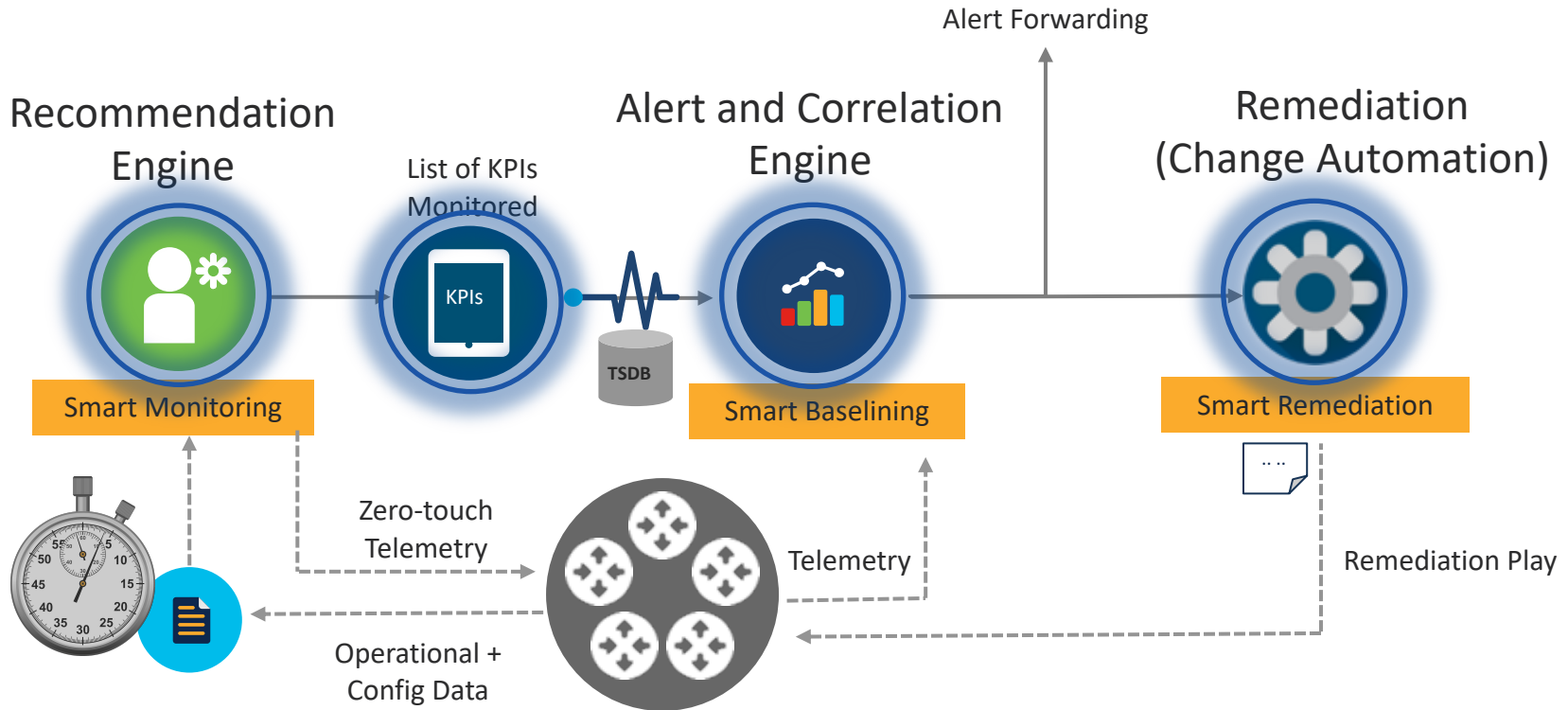
Health Insights: Make Your Data Actionable



Health Insights: Make Your Data Actionable



Health Insights: Make Your Data Actionable



Dashboards

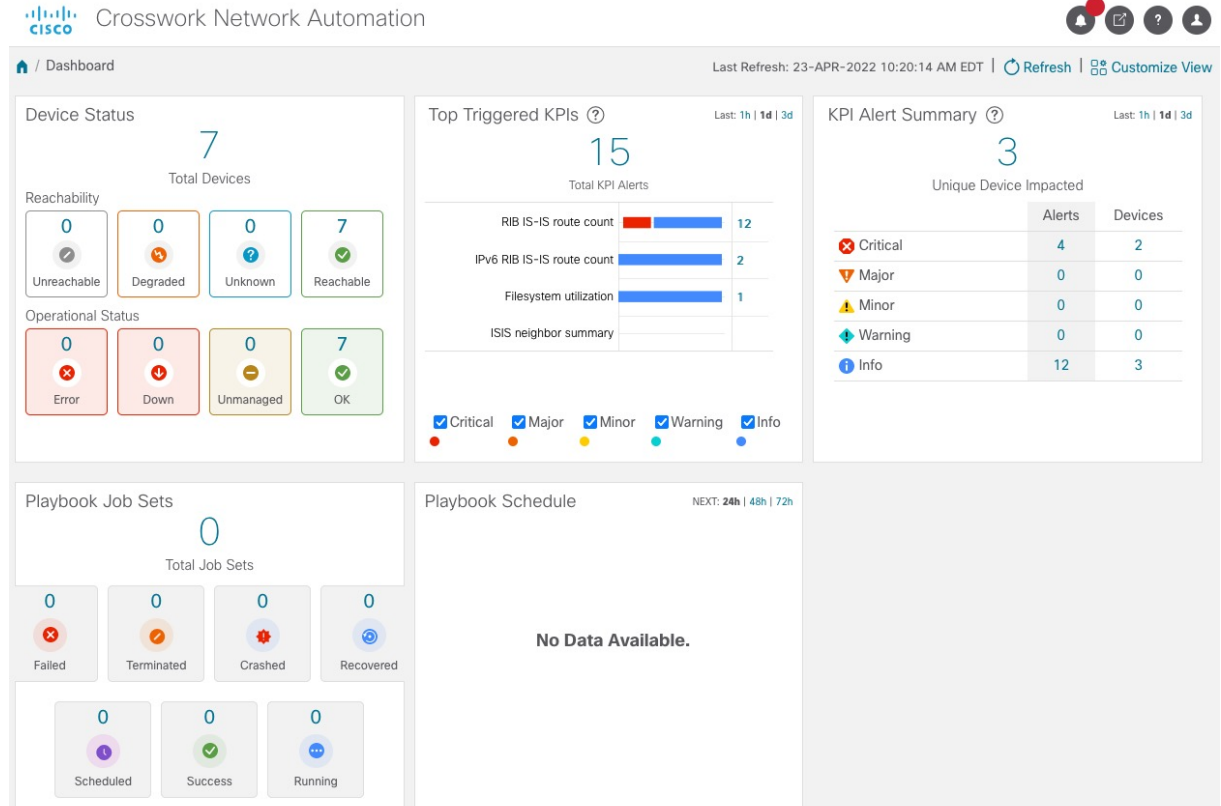


Health Insights: Alert Visualization

KPI Recommendation Engine



Smart Monitoring & Alerts



Health Insights: Alert Visualization and Analysis

KPI
Recommendation
Engine



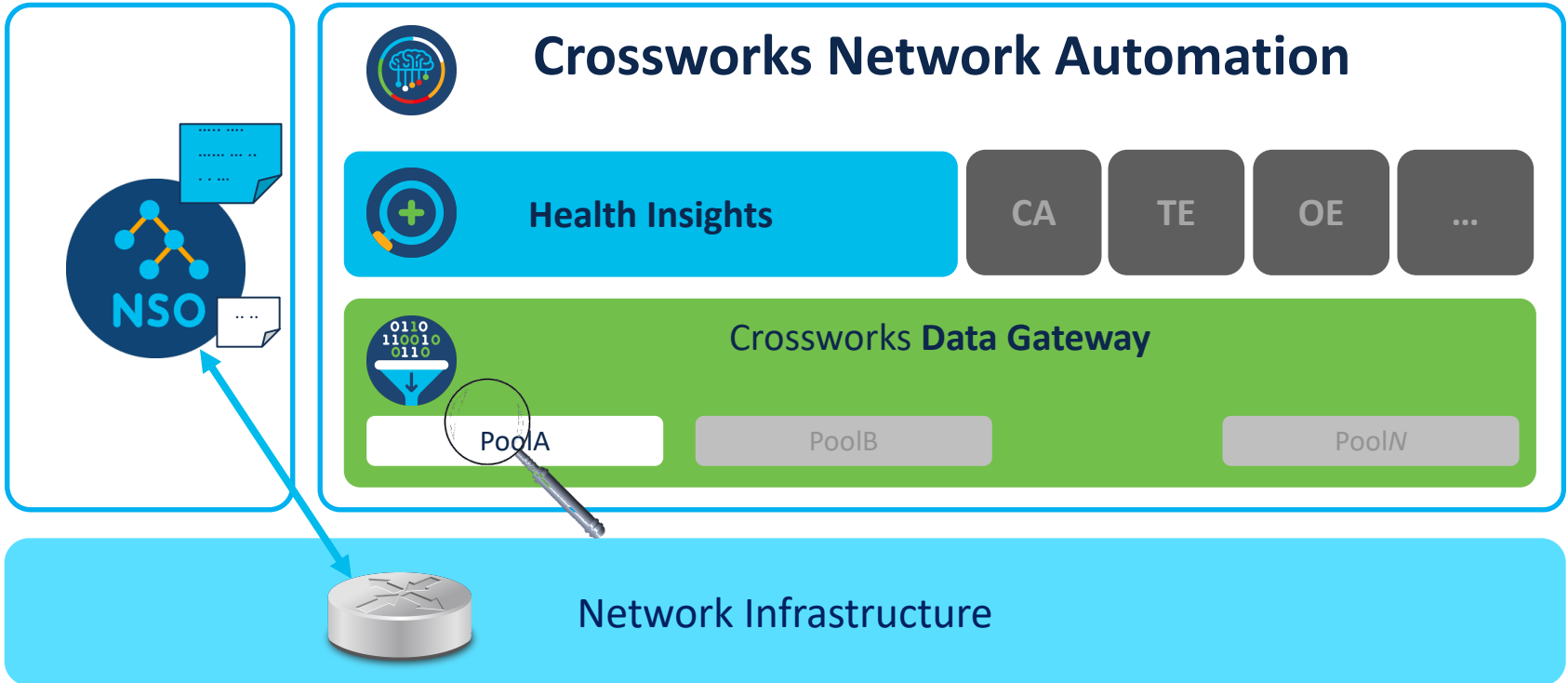
Smart Monitoring &
Alerts



Demo



Demo Architecture



Demo



Demo Resources

- Demo available on Cisco's dCloud

<https://dcloud.cisco.com/>

Onboarding and Monitoring VNFs with Cisco Crosswork Health Insights using NSO v1

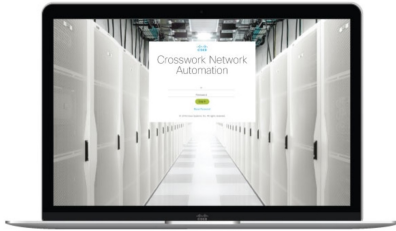


dCloud

To Learn More

Products & Services / Cloud and Systems Management /

Cisco Crosswork Network Automation



Transforming Mass Scale Network Operations

Plan, design, implement, operate, and optimize your service provider network with Cisco Crosswork Network Automation. Cisco Crosswork is designed to help service providers gain the mass awareness, augmented intelligence, and proactive control for a comprehensive data-driven, intent-based automated network.

▶ Watch the transformation (2 min)

▶ See the value of closed-loop network automation (60 sec)

 **DEVNET**

Documentation >



dCloud

<https://www.cisco.com/go/crosswork>

<https://developer.cisco.com/docs/crosswork/>

<https://dcloud.cisco.com>

(search for Crosswork)



The bridge to possible