The bridge to possible

Eliminate Congestion Surprises and Fire Drills Forever with Crosswork Cloud – Traffic Analysis as a Service

Cisco Knowledge Webinar

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Today's Presenters

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Agenda

- Cloud as a Service Platform
- Route Analysis as-a-Service
- Traffic Analysis as-a-Service
- Cloud-to-Ground: Data Gateway
- What Next
- Conclusion

Crosswork Network Automation

Software defined

API-centric, unlocking of operational data and simpler tool chain integration

Cloud scale

Lean in on SaaS to reimagine operations, continue to support hybrid workflows

Autonomous

Real-time visibility, assurance, and analytics to support zero-touch operations

Multivendor + multidomain

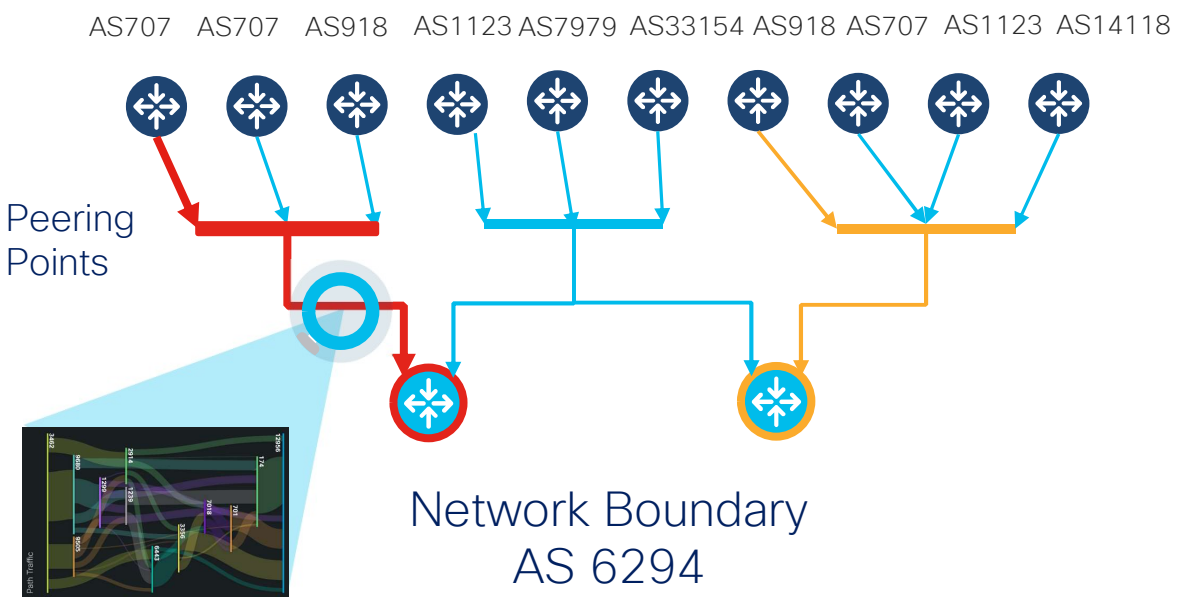
Robust support for vendors across technologies for the entire service

Scalable + adaptive

Effortlessly adjust to changes in size, volume, and frequency of workflows

Crosswork Cloud – Traffic Analysis

What's the challenge?



Business Outcomes

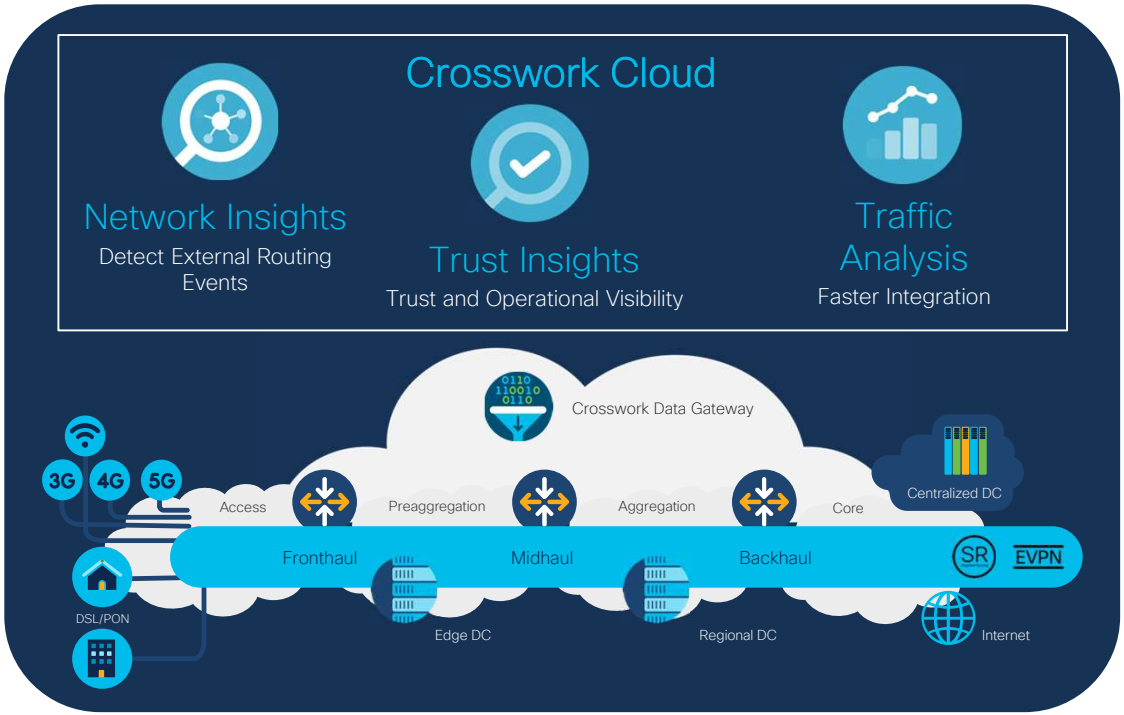
Improve Customer Experience
Peering recommendations to improve traffic
Identify hijacks & route leaks

Increase Provider Profitability
Dashboard of my top talkers
Identify remediations before issues occur

Operational Simplicity
Analytics translation into automatable actions
Visibility of network that's easy to understand

Analytics and Automation in the Cloud

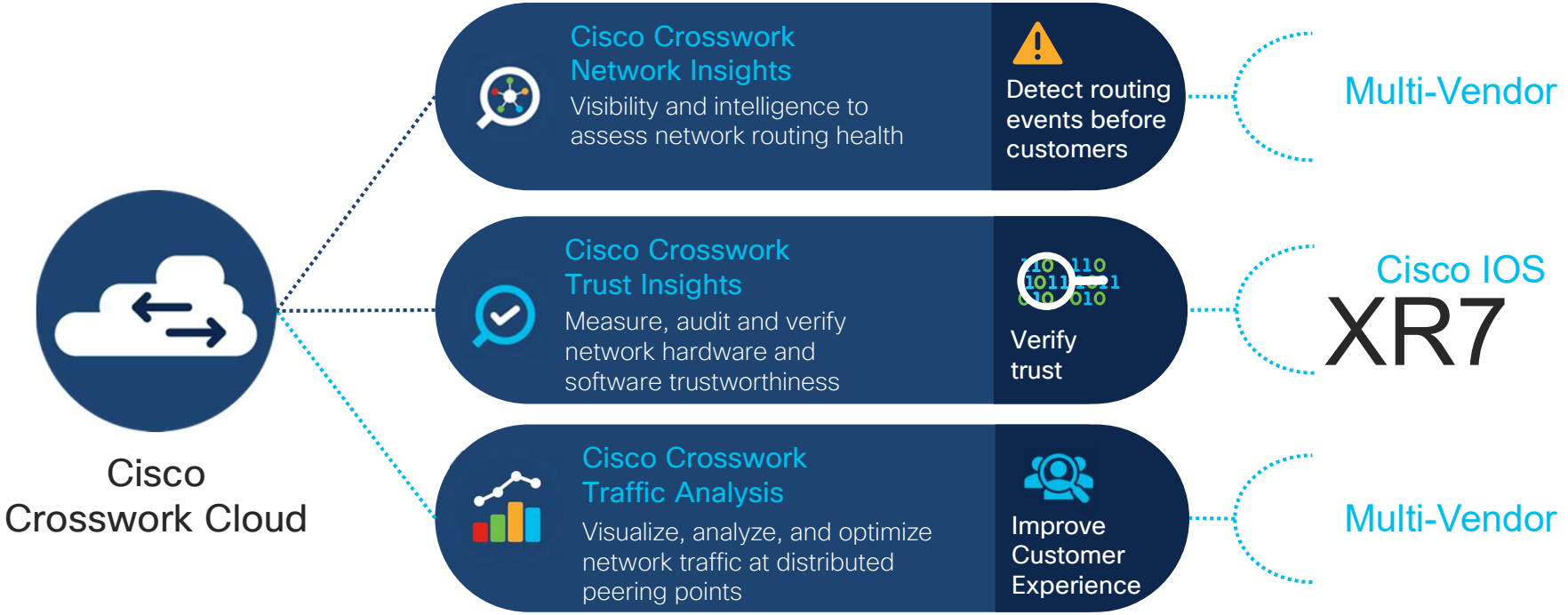
The Future of Network Operations



Advantages

- Immediate ROI
- Unified Operational Intelligence
- Low Insertion Costs
- Lowers Risk

Enhance Network Security with Crosswork Cloud

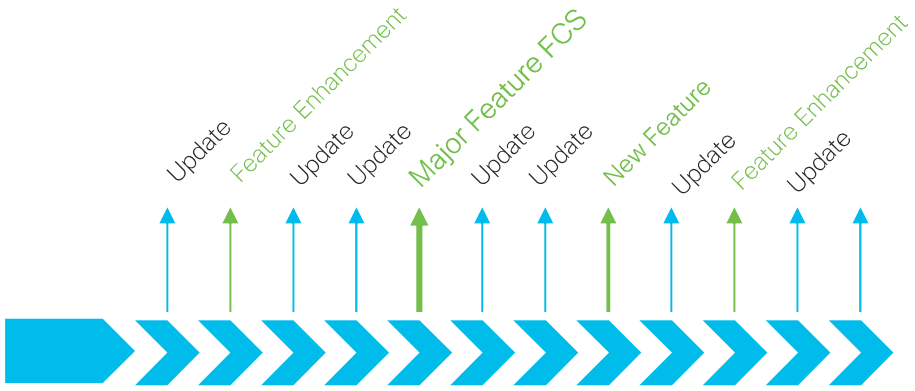


Cloud-enhanced operations

Operational Intelligence as a Service

- **Cloud SaaS:** Always-On, Immediate Time-to-Value, Always Advancing
- No software to deploy and maintain
- Cloud Scale and scale-out CDG for on-prem support
- Reduced Operational Cost and Seamless Scalability

A new way to consume software as a service

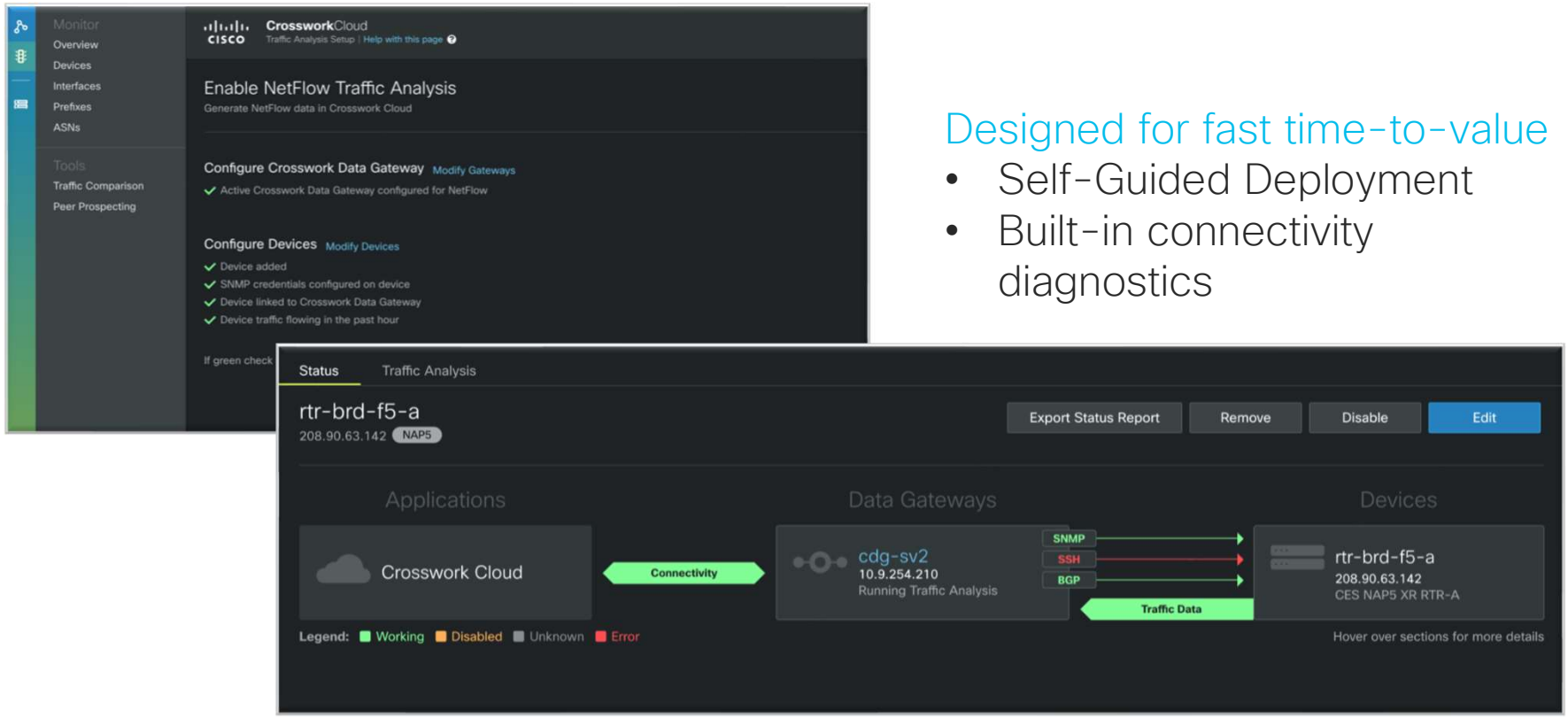


Continuous delivery of new features and software updates to the production cloud service.

No user testing or software maintenance required.

- Software delivered and maintained by Cisco
- Continuous (Weekly) delivery pipeline to production service
- Continuous pipeline for new features and fixes
- No customer action required for ongoing maintenance or upgrades

Designed for Ease of Use and Supportability



Designed for fast time-to-value

- Self-Guided Deployment
- Built-in connectivity diagnostics

Crosswork Cloud: Operational Intelligence Platform

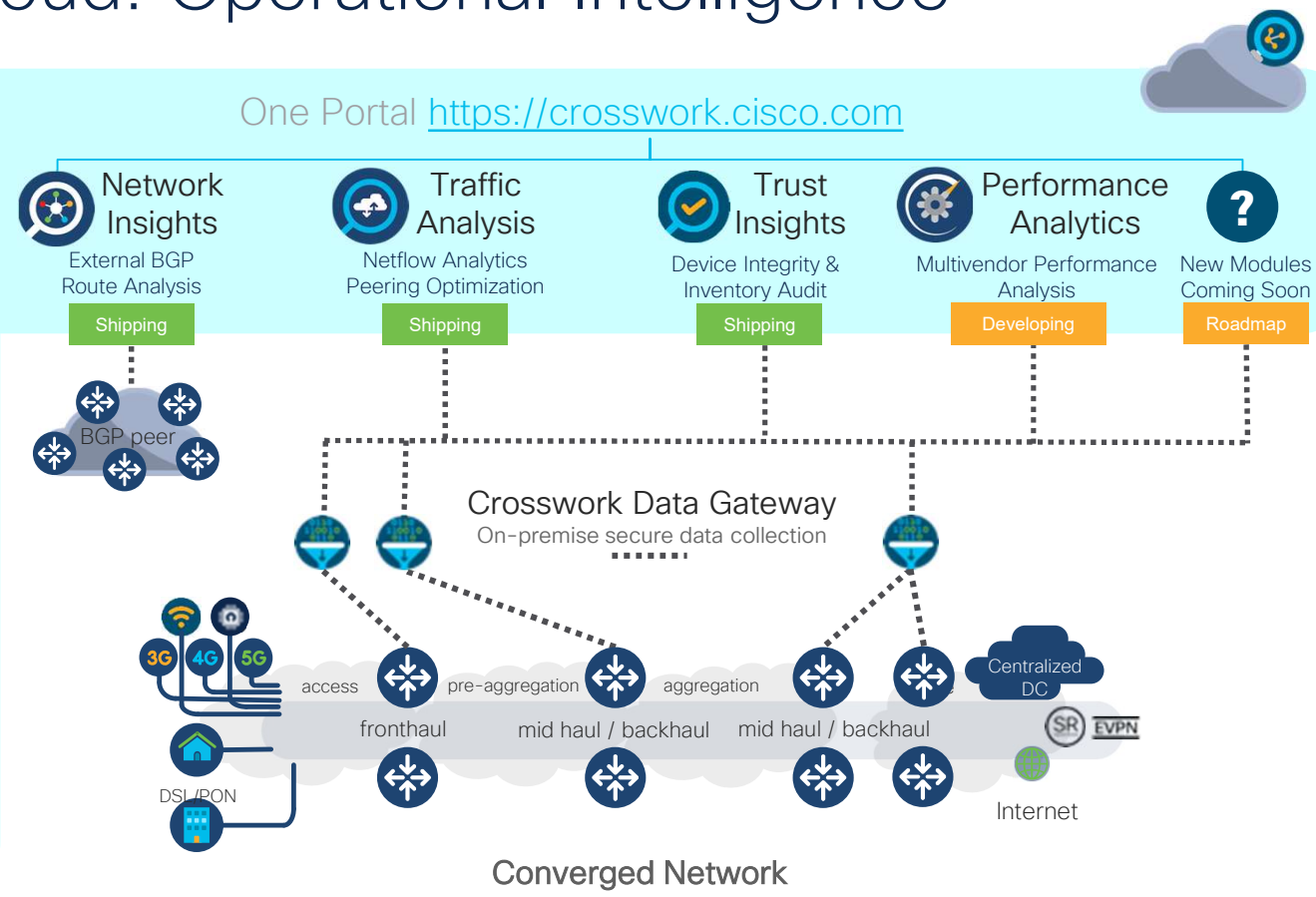
Key Points

- SaaS Delivered
- Immediate Deployment
- Always up-to-date
- Minimal Support OpEx
- Weekly Updates
- Dynamic Scalable Workloads
- Continuous New Features
- Task & Process Automation
- Focus on Analytics
- Give Answers not Questions

Operational Intelligence

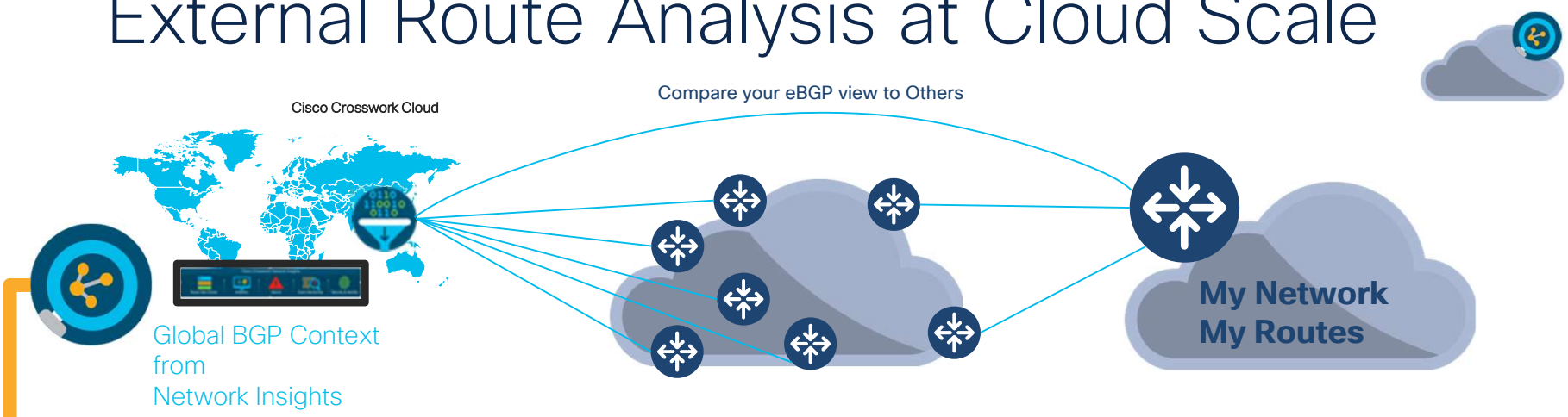
- Multiplatform Routing and Traffic Analytics
- Multivendor
- Multidomain
- IOS Device Insights and Analytics

Integrated Collaboration tools



Network Insights
External BGP Analysis

External Route Analysis at Cloud Scale



BGP Polices allow You to identify when things are not behaving as expected

eBGP Sensor Nodes
From Customers and from our own locations

External view of your network as seen by others

AWS S3 Azure Email slack sms splunk> Webex Teams webhooks

Crosswork Network Insights – Route Analysis

- A cloud-based SaaS offer that provides routing analysis and edge BGP event detection

Customer Challenges:

Know what changed and when?

Know what routes your Routers are advertising and receiving

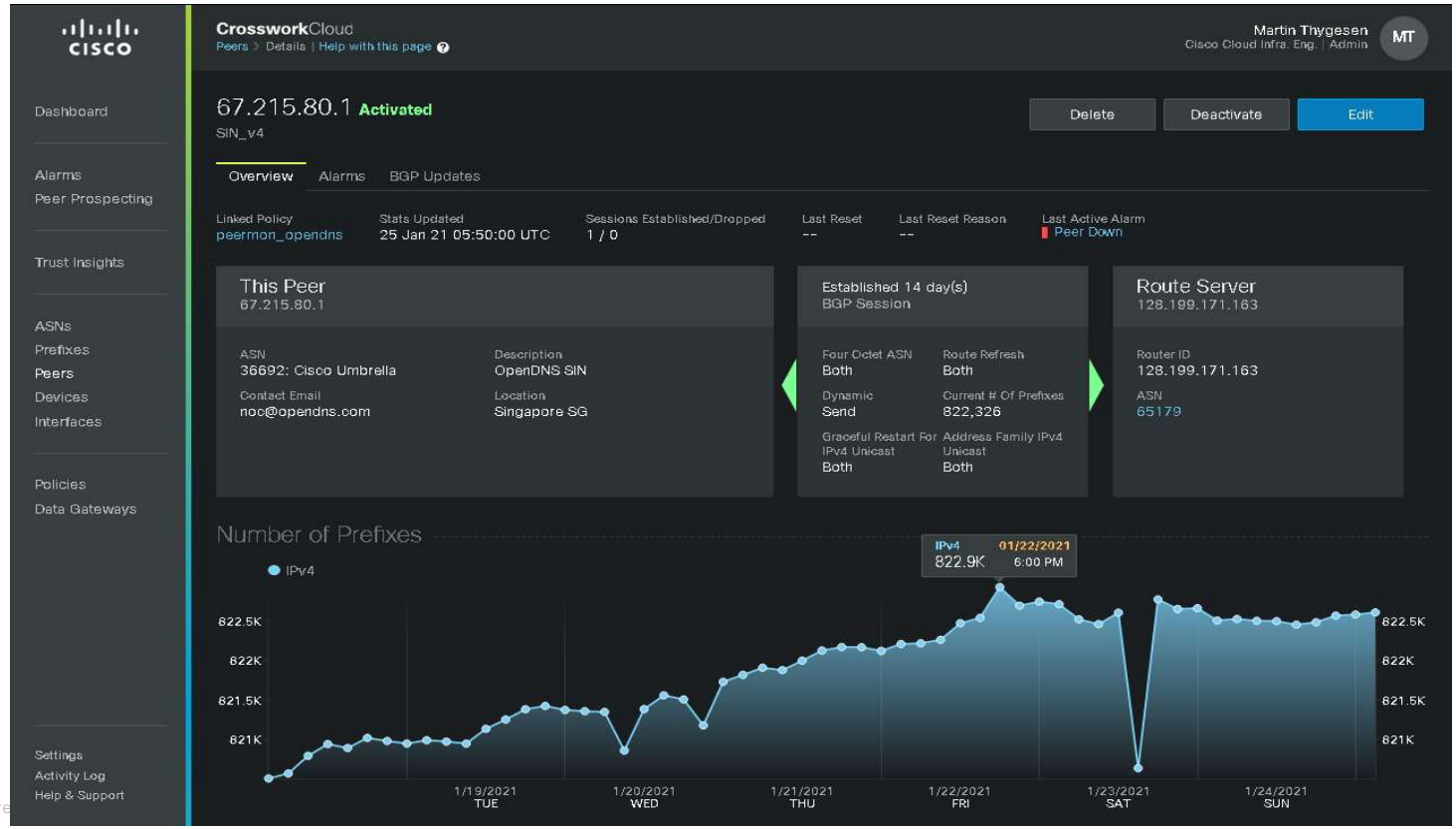
What is happening to my routes outside my network?

Check your Route Registration Data is up to date

How do I know when key customer content networks are impacted and why

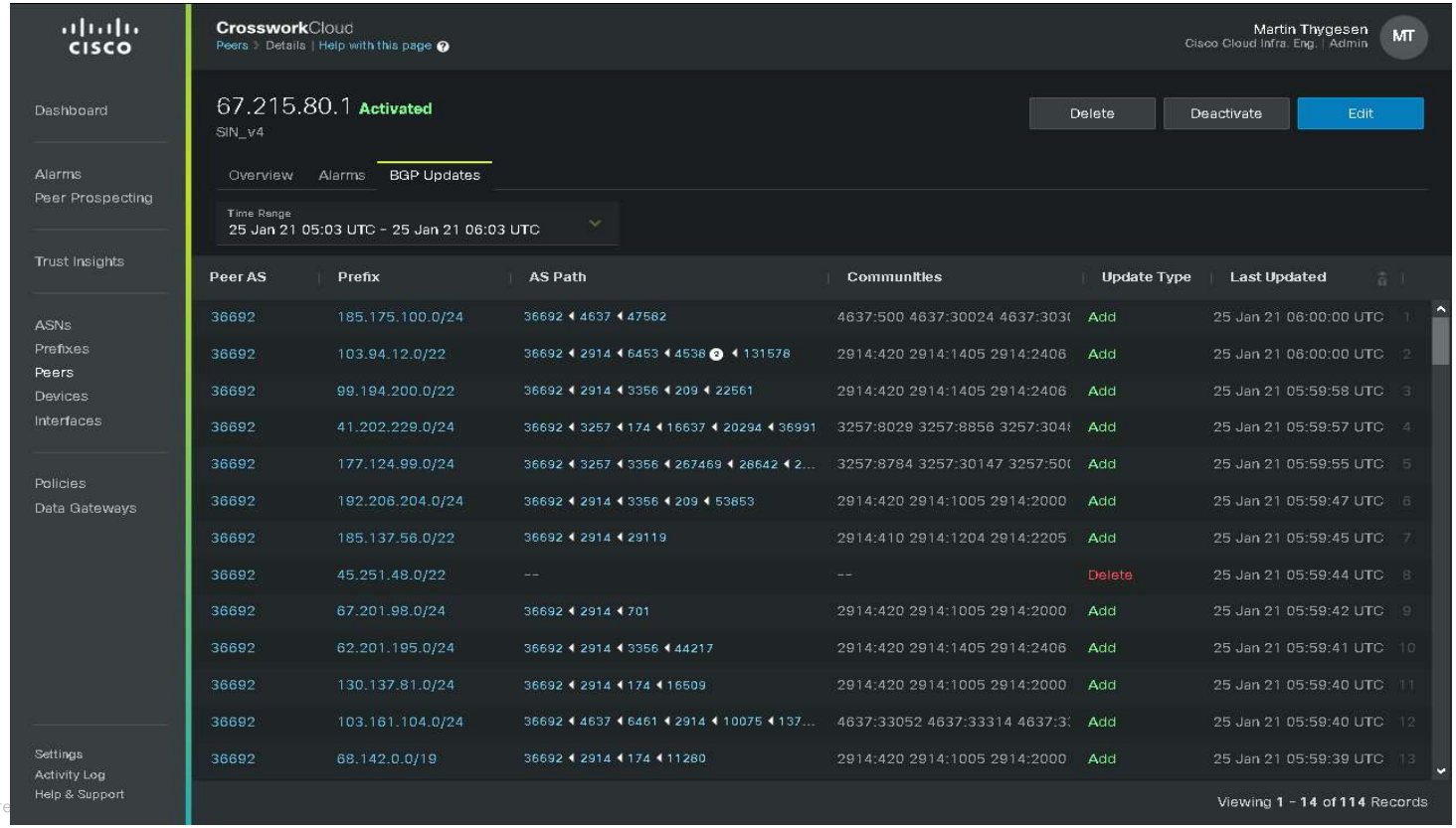
Crosswork Network Insights – Route Analysis

- ✓ **Unlimited Peer Route Tracking**
- ✓ **Peer Alarms**
- ✓ **A large routing sensor network**
- ✓ **Correlate BGP with other events**
- ✓ **Free Access**
- ✓ **Paid monitoring options**



Crosswork Network Insights – Route Analysis

- ✓ **3 months of Route Updates history**
- ✓ **Peer ID Information kept private**
- ✓ **No cost views of what your routers are advertising**



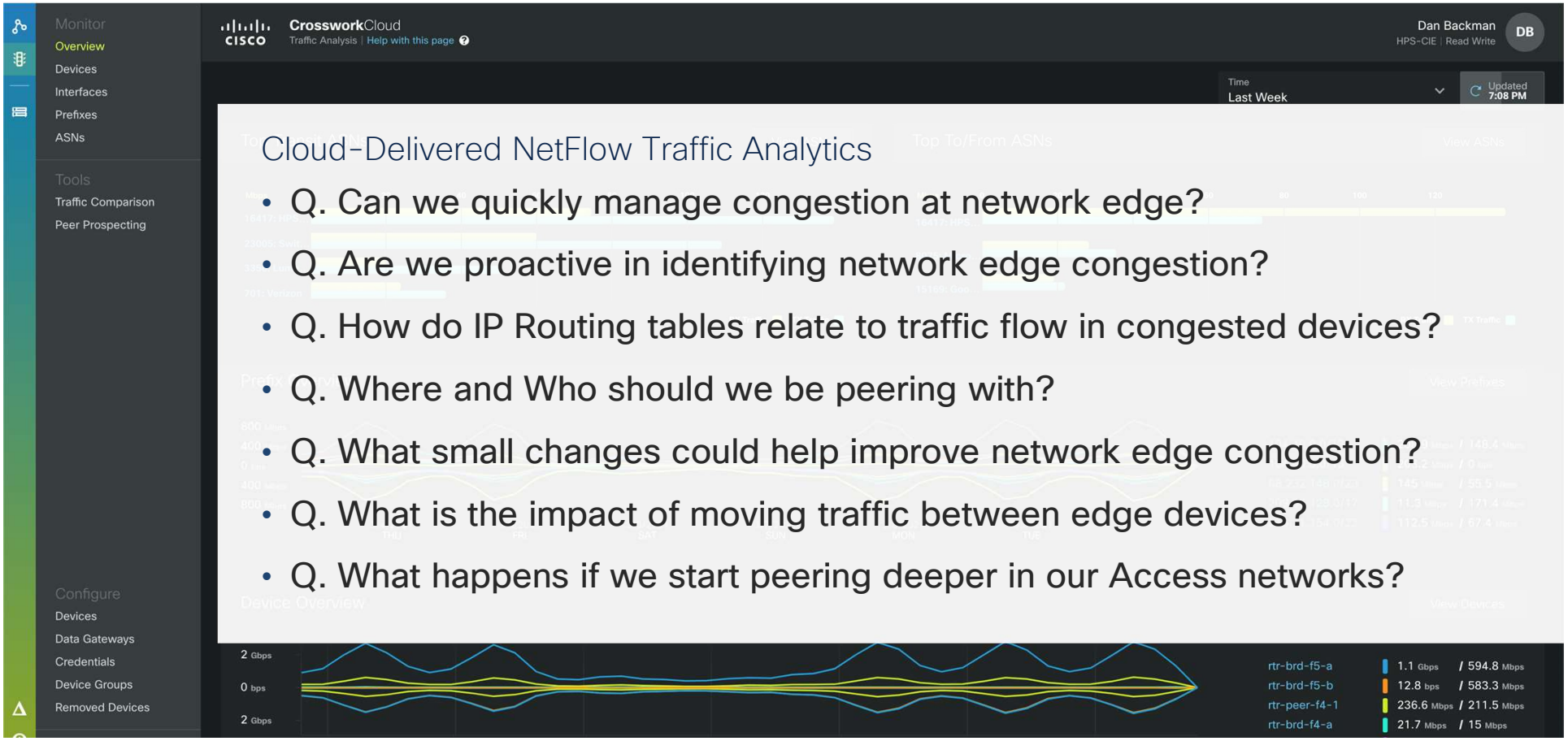
Demo

Network Insights

External BGP Monitoring

Traffic Analysis Netflow Analytics as a Service

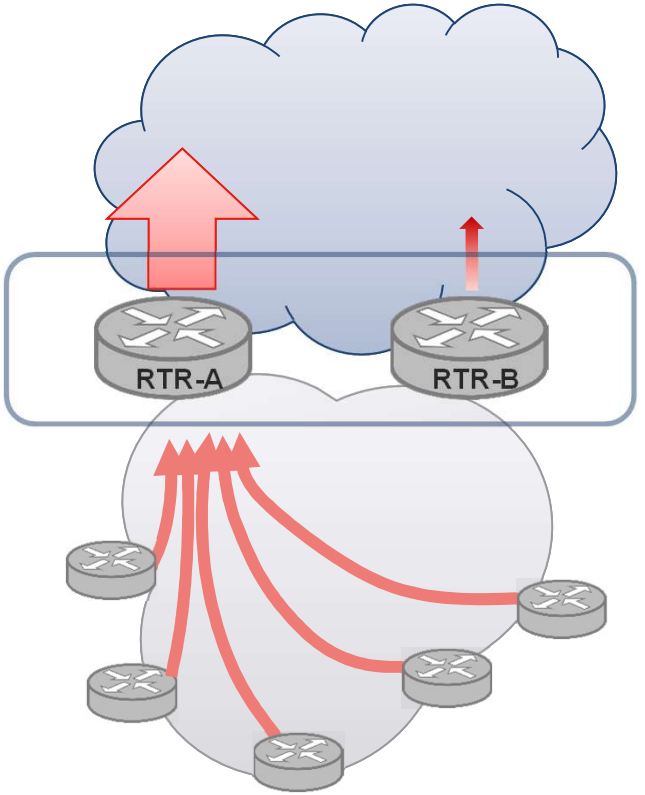
Crosswork Traffic Analysis



Where is Traffic Analysis needed?

Network Edge Congestion occurs where two or more different networks interact

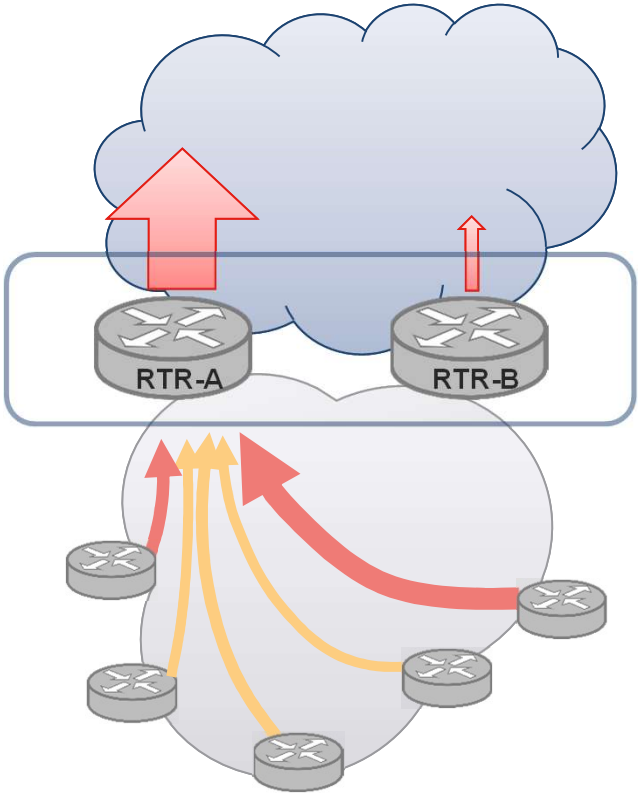
- Most network protocols will seek a common transit point
- This leads to under used assets and accelerated congestion
- This problem applies to Enterprise, Service Provider and Overlay Networks



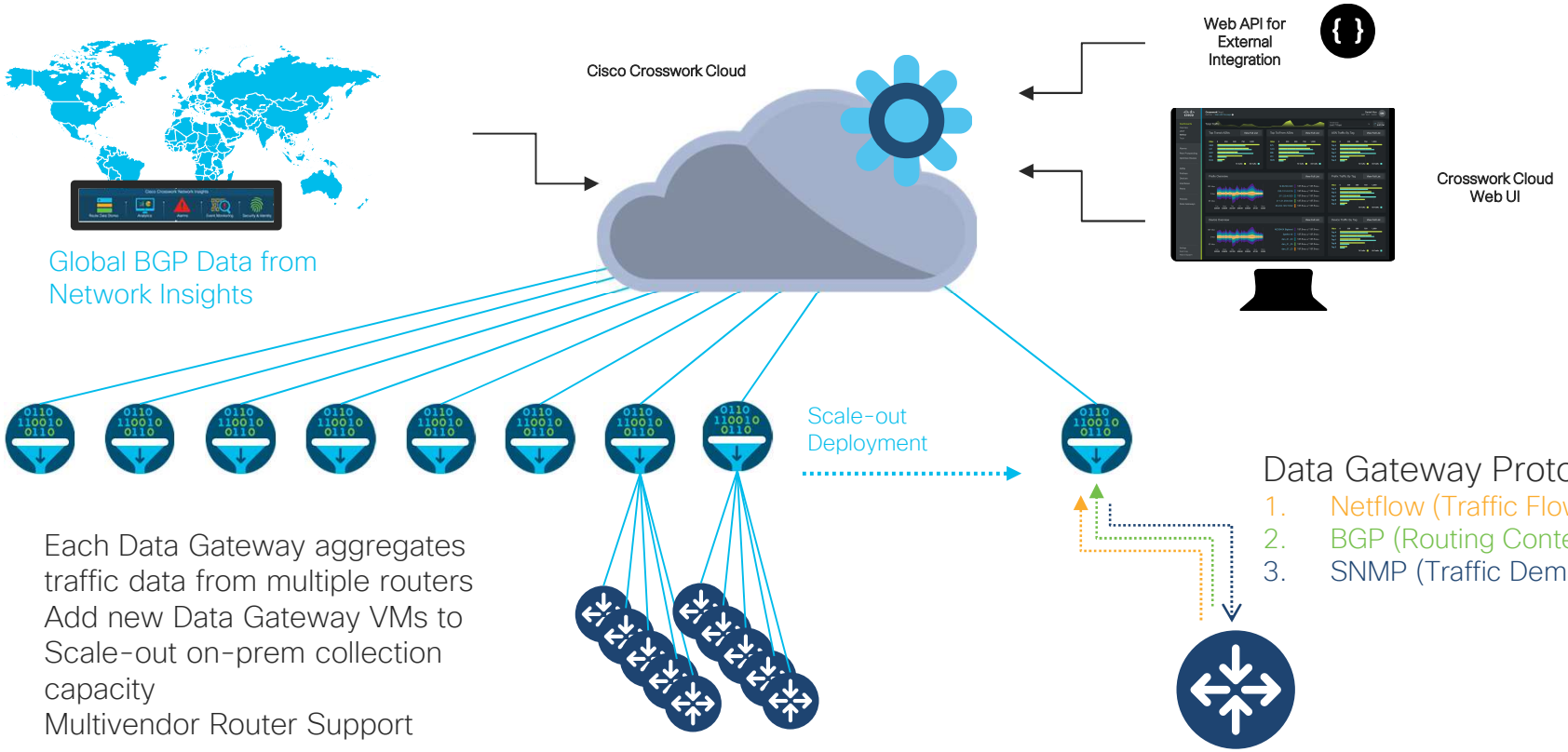
Where is Traffic Analysis needed?

When Edge Congestion occurs, Operators need to understand the root cause and what actions they can take.

- Network Operators control Routing not Application Protocols
- Protocol Information tells us what the traffic is, but Routing is the key to making changes.
- Network Operators need to understand the source of flows and the size in order to quickly identify what actions can be taken



How Traffic Analysis Works



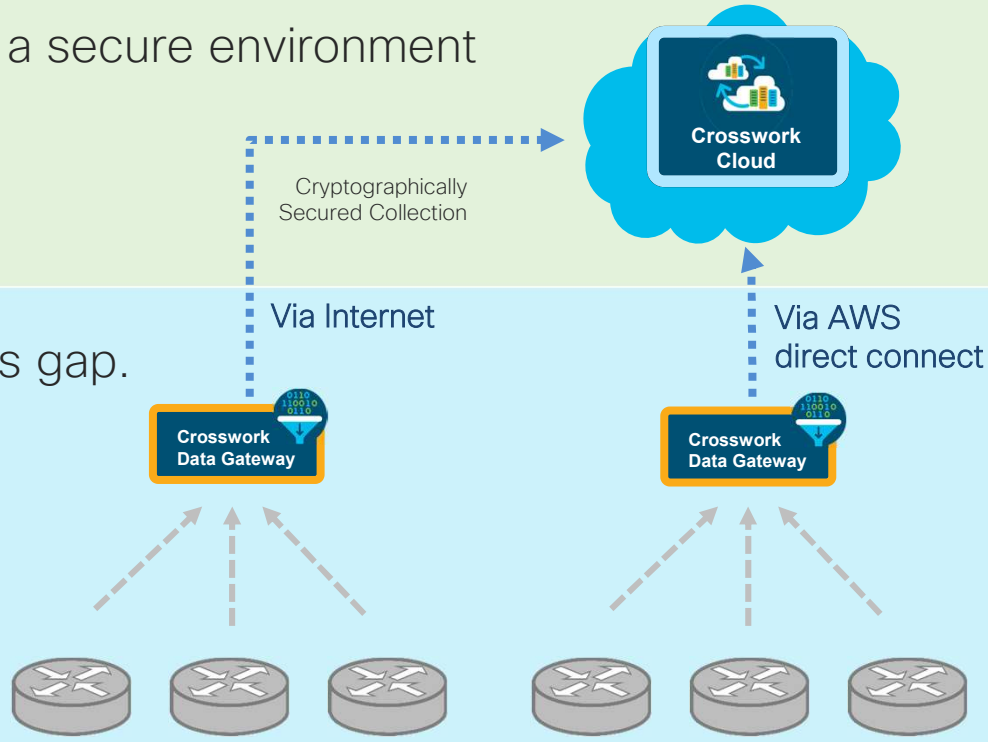
- Each Data Gateway aggregates traffic data from multiple routers
- Add new Data Gateway VMs to Scale-out on-prem collection capacity
- Multivendor Router Support

Data Gateway Protocols

1. Netflow (Traffic Flows)
2. BGP (Routing Context)
3. SNMP (Traffic Demands)

Connecting Cisco's Cloud to your network

Cisco's Cloud is hosted by Cisco in a secure environment



Crosswork Data Gateway bridges this gap.

- **Secure connectivity** to Crosswork Cloud
- Simple and repeatable deployment model with VMs
- **Scales** as you grow with a horizontal design
- Deploys **on premise** in your secure network

You have devices in your secure network

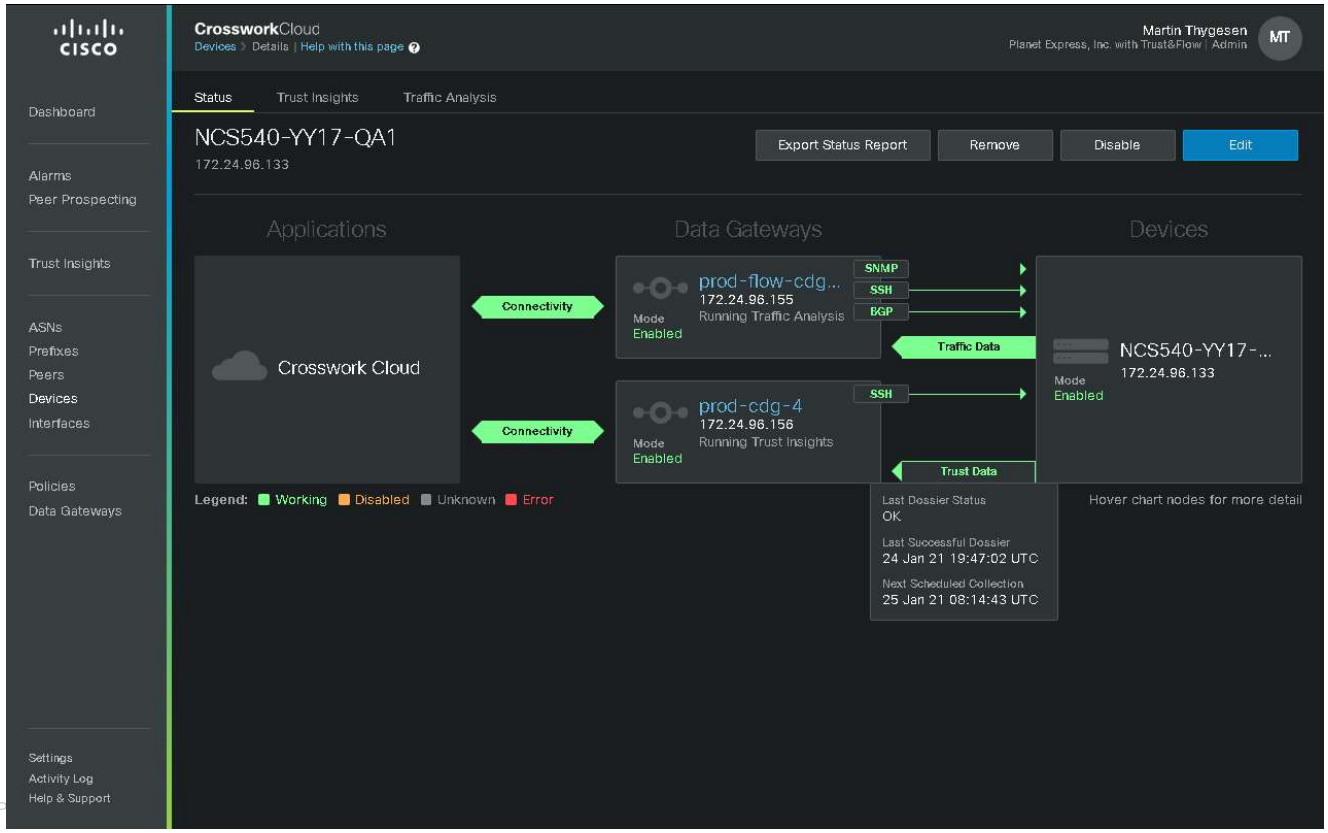
Crosswork Traffic Analysis – Key use cases

Crosswork Cloud Traffic Analytics

Traffic Matrix Visibility	Natively integrate with multiple vendor platforms to get a unified view of the traffic matrix
Top X Visibility	Automatically Identify Top X IP Routes which are consuming network capacity in different locations and directions.
Monitor Critical Flows	Search for Critical Networks using multiple methods – locate key services using ASN and IP Route Prefix information combined with WHOIS and IANA registration data.
Device Statistics	Congestion Awareness by identifying which Devices and Interfaces are congested, map device groups and interface functions to quickly locate opportunities to mitigate congestion.
Peering Prospects	Recommend who to Peer with by analyzing BGP path information and Top talkers to better understand opportunities to improve peering locations and ASN candidates.
Peering Engineering	Network Congestion for network boundaries is often the result of a poor distribution of traffic over edge devices. The cloud-enabled analytics continuously recommends routing changes to better influence flows through groups of edge devices.
Event Thresholds and Alarms	Cloud based event rules and alarms to detect when traffic event thresholds are identified and relay notifications to different endpoint types based on a policy workflow to trigger automated and manual actions.

Crosswork Data Gateway

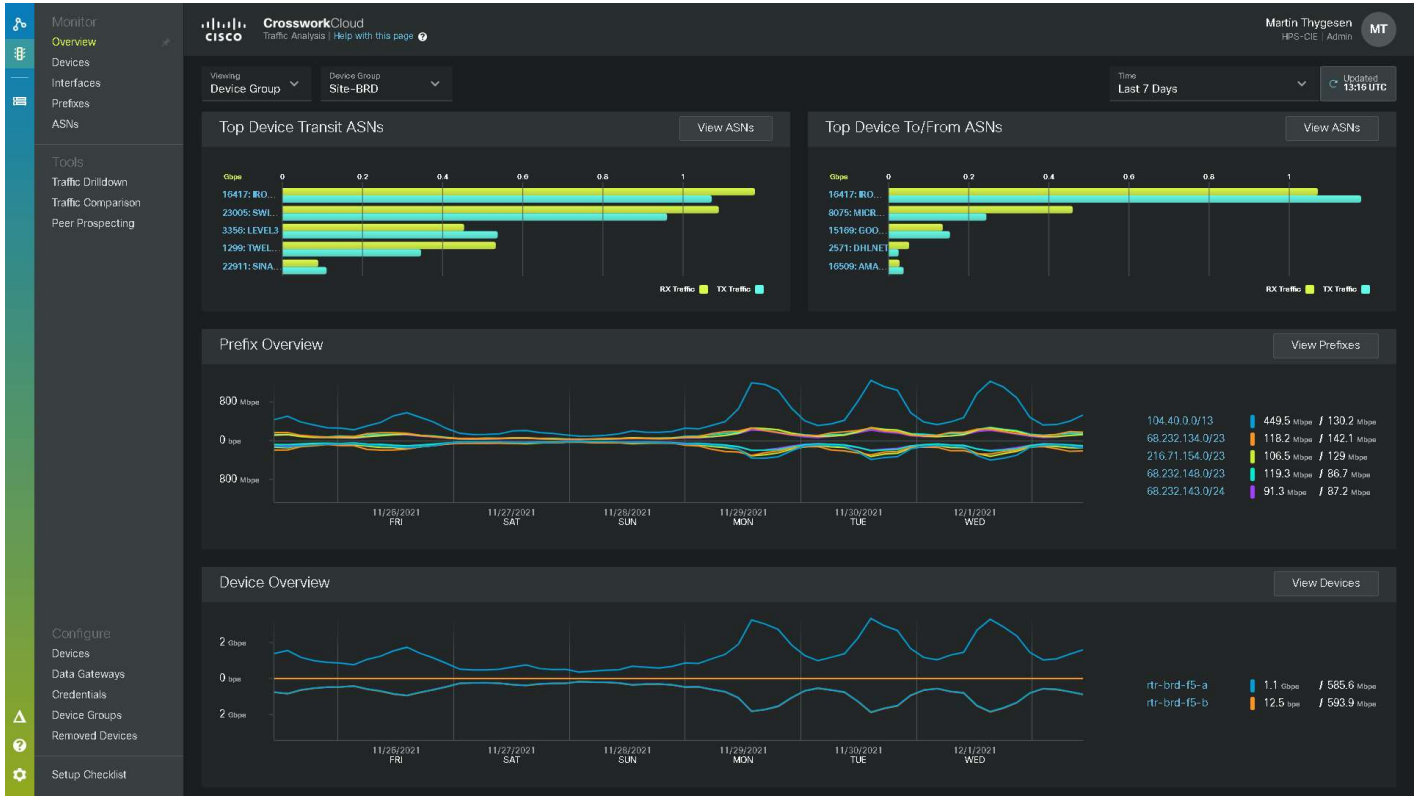
- ✓ **Visibility of connection state**
- ✓ **Clear linkage between protocol collection and devices**
- ✓ **Platform health, resource management & reporting**



Crosswork Traffic Analysis – Top-down Traffic Patterns

Aggregate Traffic

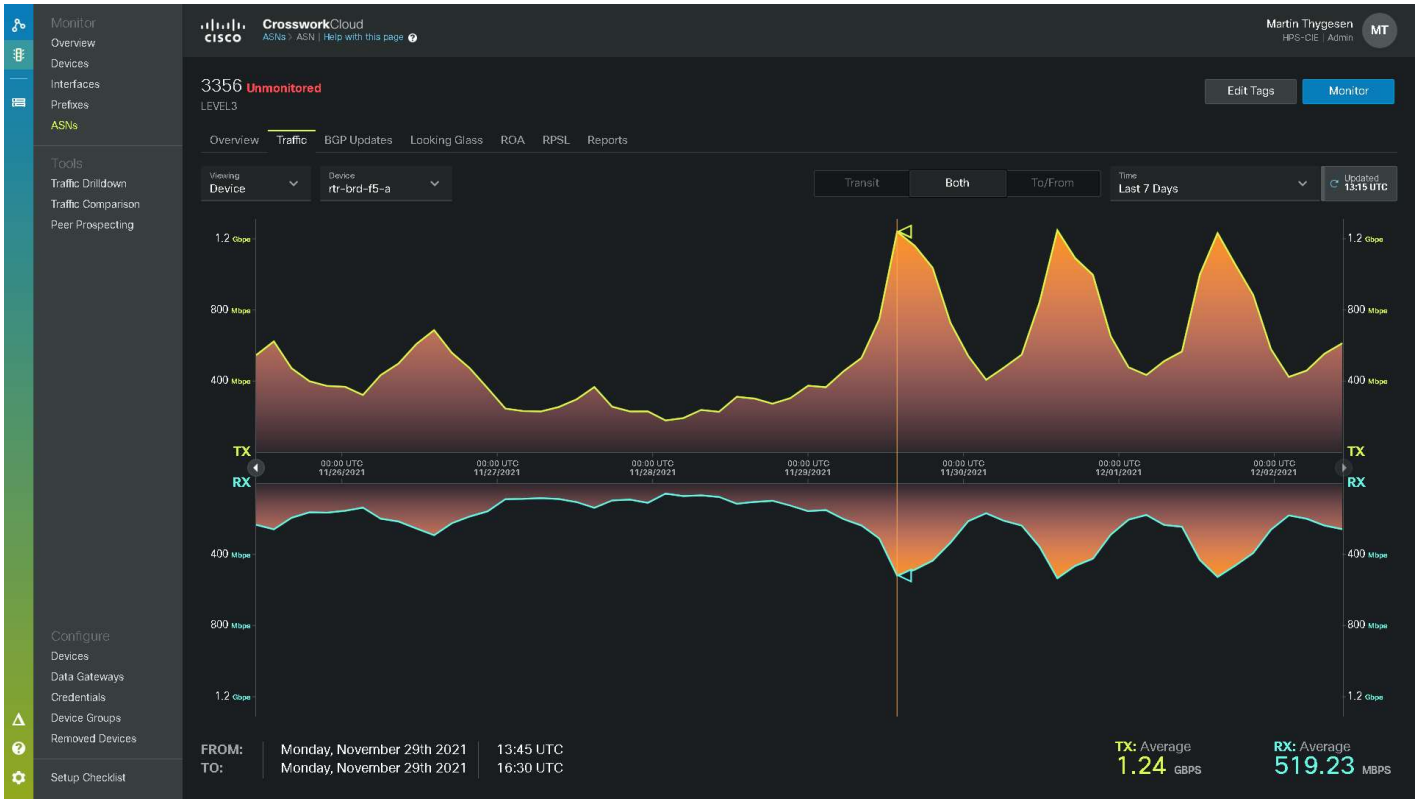
- **Provide a unified view of traffic flow into/out of and transit through your network**
- **Classify flows across routers my source/dest ASN and IP prefix**
- **Support for IPv4 and IPv6**



Crosswork Traffic Analysis – ASN and Prefix Analysis

ASN and Prefix Traffic Analysis

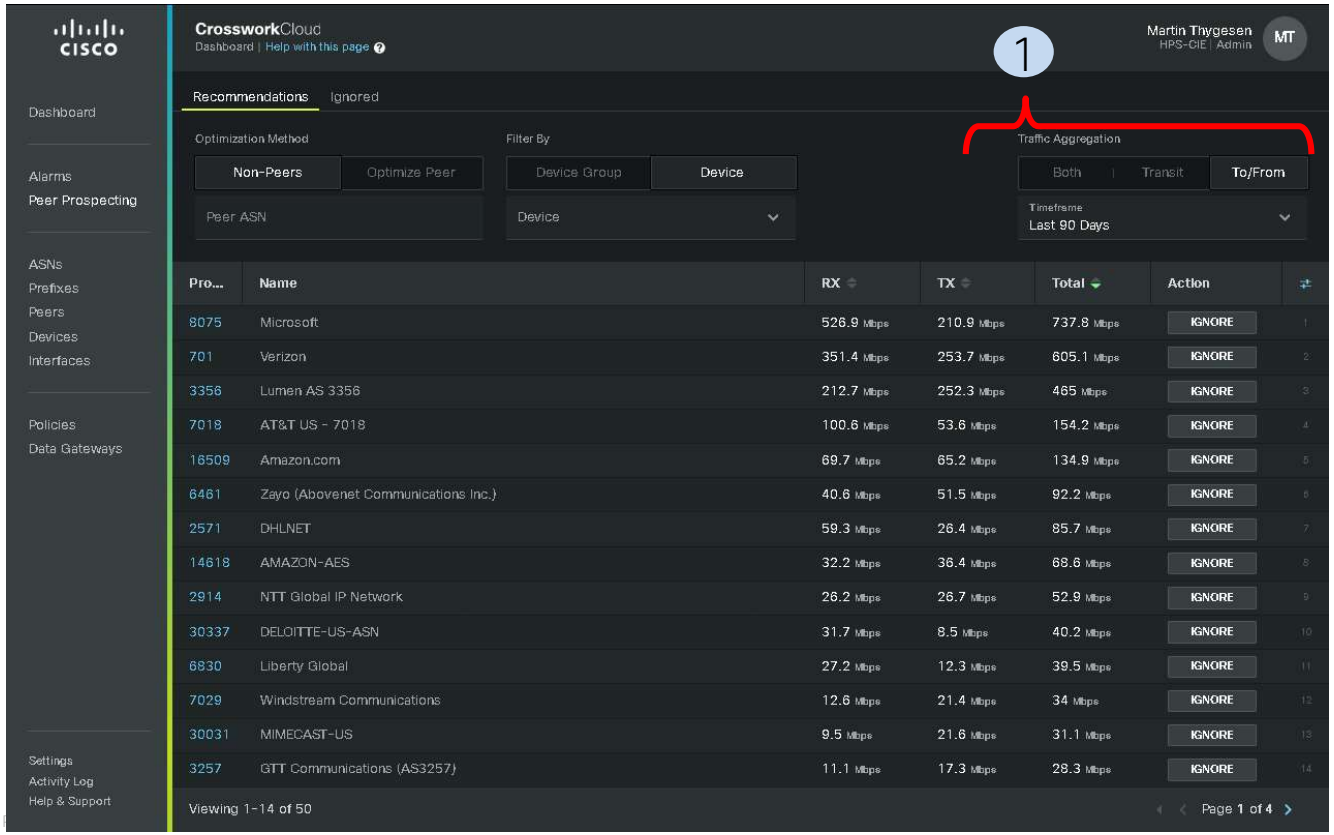
Provide a view of sample based Traffic information to or from a specific ASN or IP Prefix (route)



Crosswork Traffic Analysis – Peering Prospects

Peering Prospect Recommendation

Provide Analysis & Recommendation of Top Talkers that I should peer with to provide a better customer experience.



1 Transit ASN's have common paths vs just remote Top Talkers where the traffic is unique to the remote network.
Here Top Talkers excludes connected ASN Peers.

Demo

Traffic Analysis

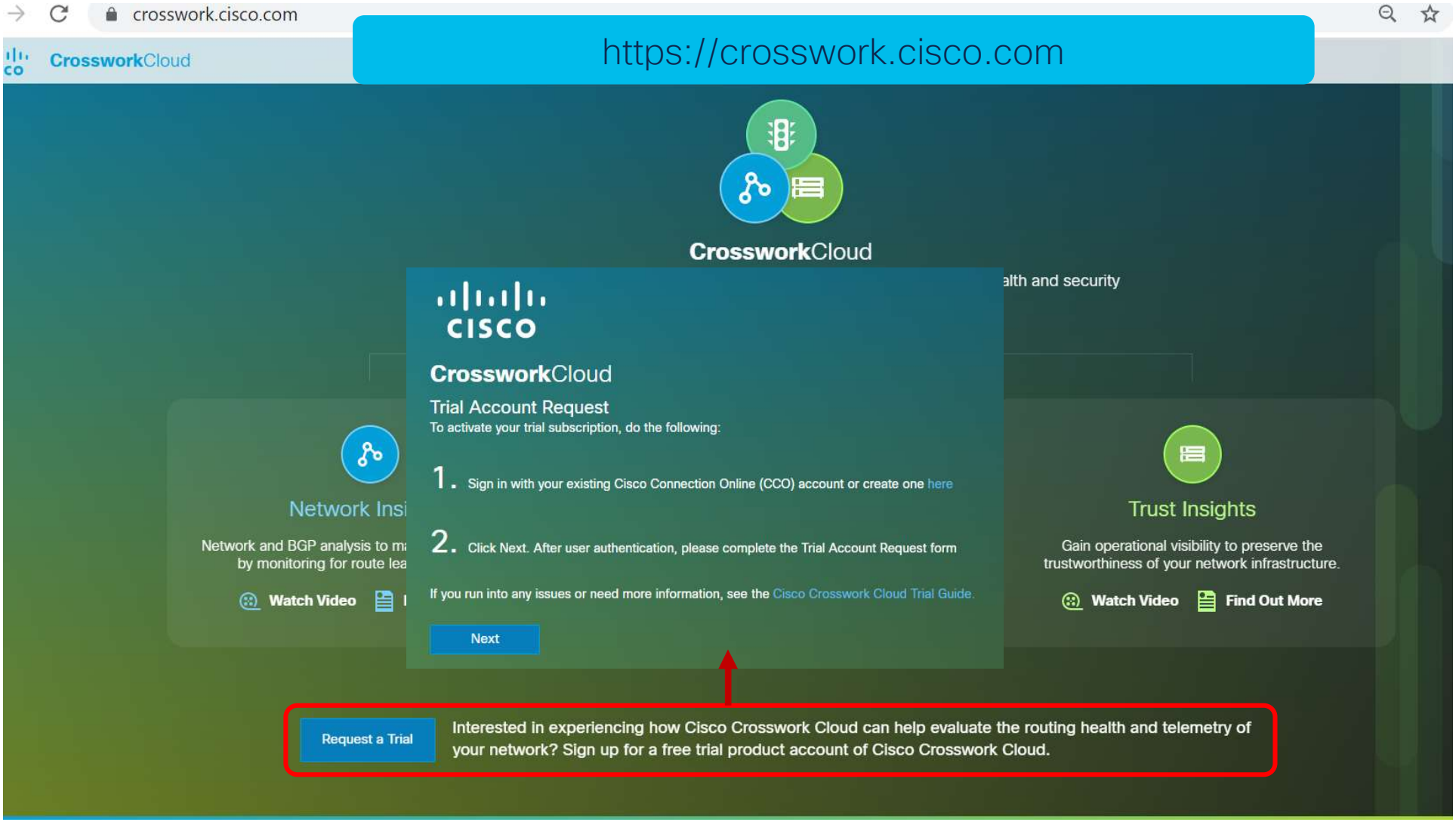
Netflow Analytics as a Service

Crosswork Traffic Analysis

What are our Traffic Analysis Use Cases?

MPLS & IP Core		
Top Talkers	Detailed review of IP Prefix top talkers per Device/IGP	Shipping
Peering Recommendation	Recommends new peering ASN's based on top talkers not directly connected	Shipping
Netflow Proxy	Leverages CDG to forward replicated Netflow to other Netflow listeners	Shipping
Flow Automation API	Traffic Analysis Flow API, Devices, Interfaces, Prefixes, ASN, etc..	Shipping
Peering Optimization Egress	Recommends Route changes to influence egress traffic balancing	CY21 – Q3
Peering Optimization Ingress	Recommends Route changes to influence ingress traffic balancing	CY21 – Q3
Netflow Proxy Resample	Leverages CDG to downscale replicated Netflow to other Netflow listeners	CY21 – Q3
Per Route Traffic Alarms	Provides notification when traffic for a specific IP Route exceeds a threshold	CY21 – Q4
Per Device Traffic Alarms	Provides notification when traffic for a specific Router exceeds a threshold	CY21 – Q4
Device Group Alarms	Provides traffic alarms collective across a group of Routers based on thresholds	CY21 – Q4
DDoS integration	BGP Flowspec Route & Traffic validation checks	Roadmap
Integration COE/CNC	Recommend IGP/ASN entry / exit changes based on device traffic thresholds	Roadmap

How do I get started?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2. Click Next. After user authentication, please complete the Trial Account Request form
If you run into any issues or need more information, see the Cisco Crosswork Cloud Trial Guide.
Next
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Network and BGP analysis to m
by monitoring for route lea
Watch Video
Trust Insights
Gain operational visibility to preserve the
trustworthiness of your network infrastructure.
Watch Video
Find Out More
Request a Trial
Interested in experiencing how Cisco Crosswork Cloud can help evaluate the routing health and telemetry of your network? Sign up for a free trial product account of Cisco Crosswork Cloud.

For more information on Cisco's Automation Portfolio please visit

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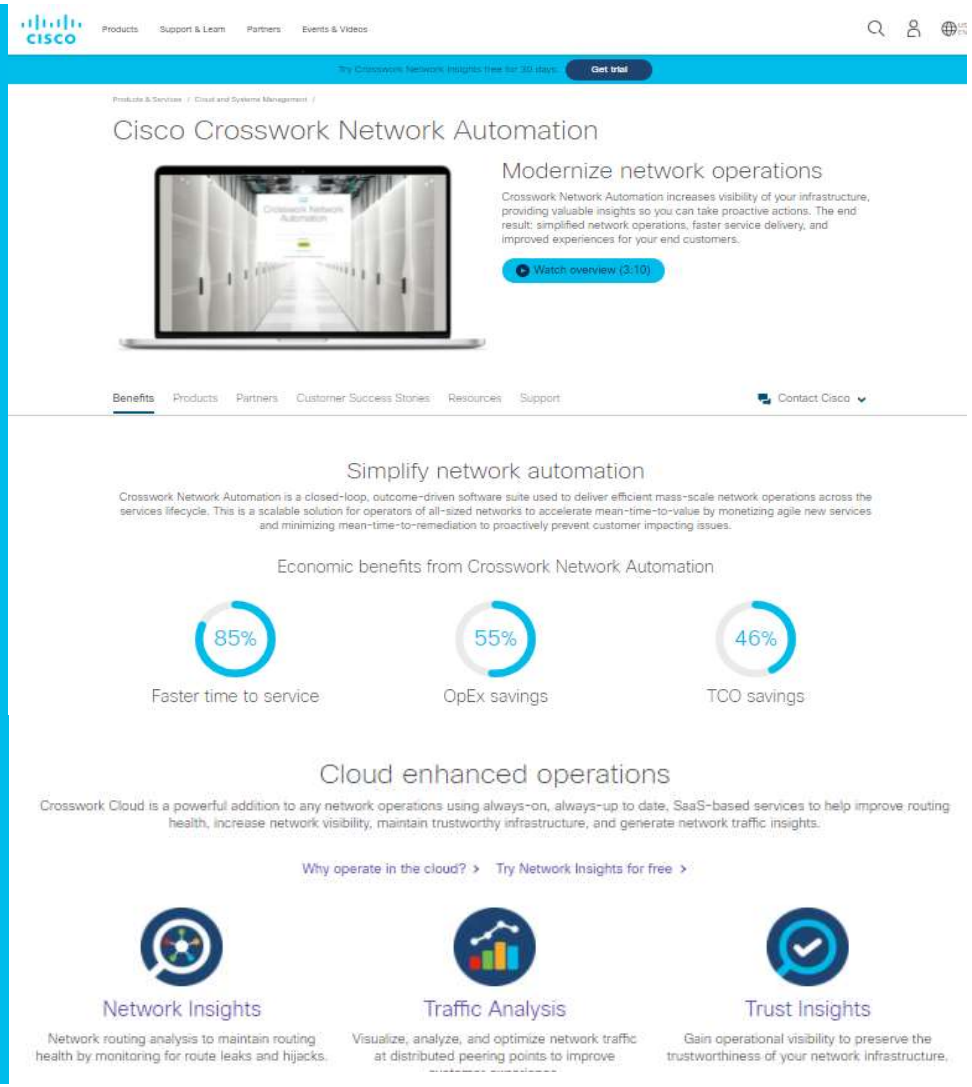

Questions?

The bridge to possible