Enterprise Networking

Lösungsintegration mit echtem Mehrwert

www.acp.de

IT for innovators.

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Agenda

- Experience + Use Cases
- Future of Cisco Prime
- Artificial Intelligence (AI)
- Sustainability
- Full Stack Observability
- Wireless Value Generation

ACP

BRAIN SHARE

Project Experience + Use Cases

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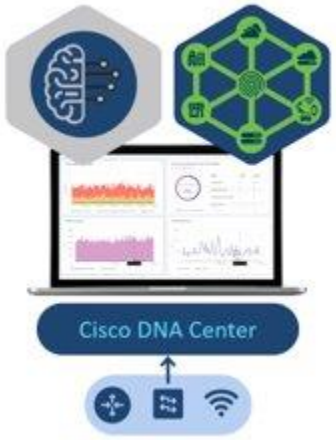
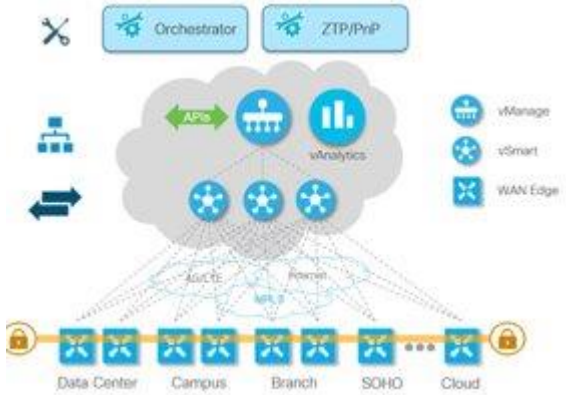
Software Defined Solutions

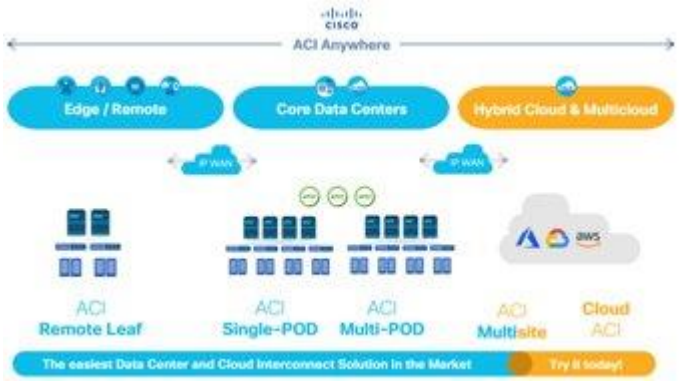
Cisco SD-Access



Cisco SD-WAN



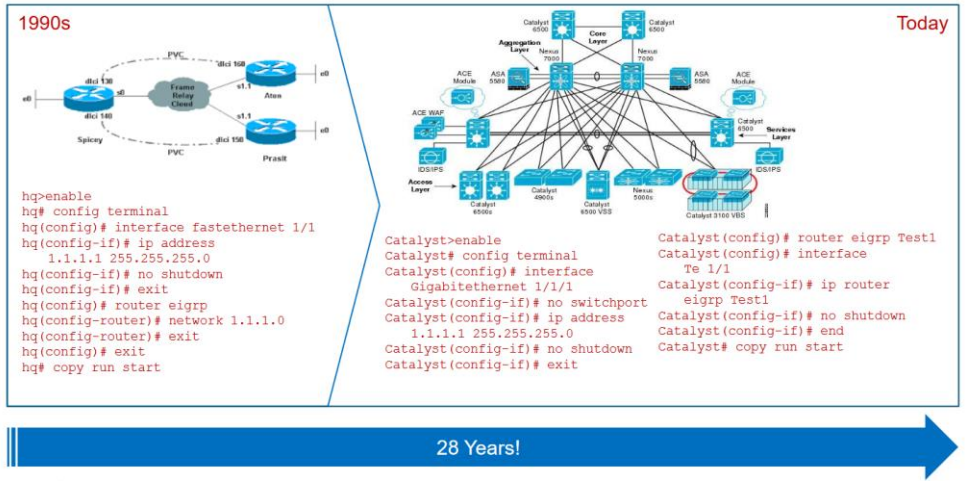
Cisco ACI

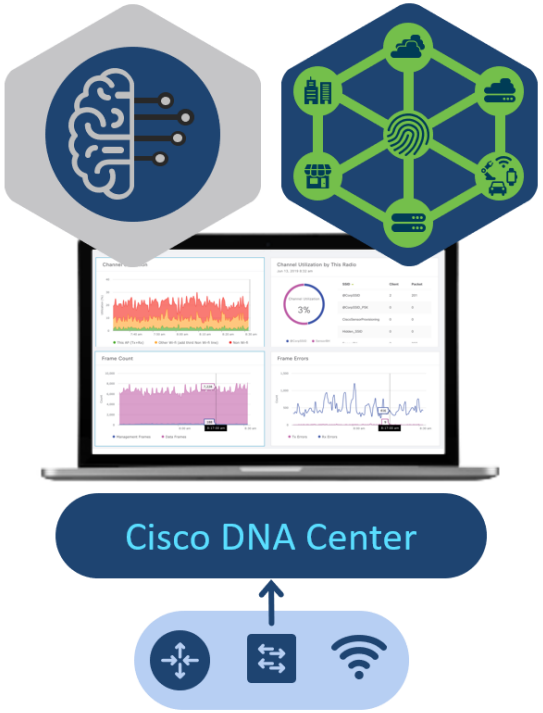


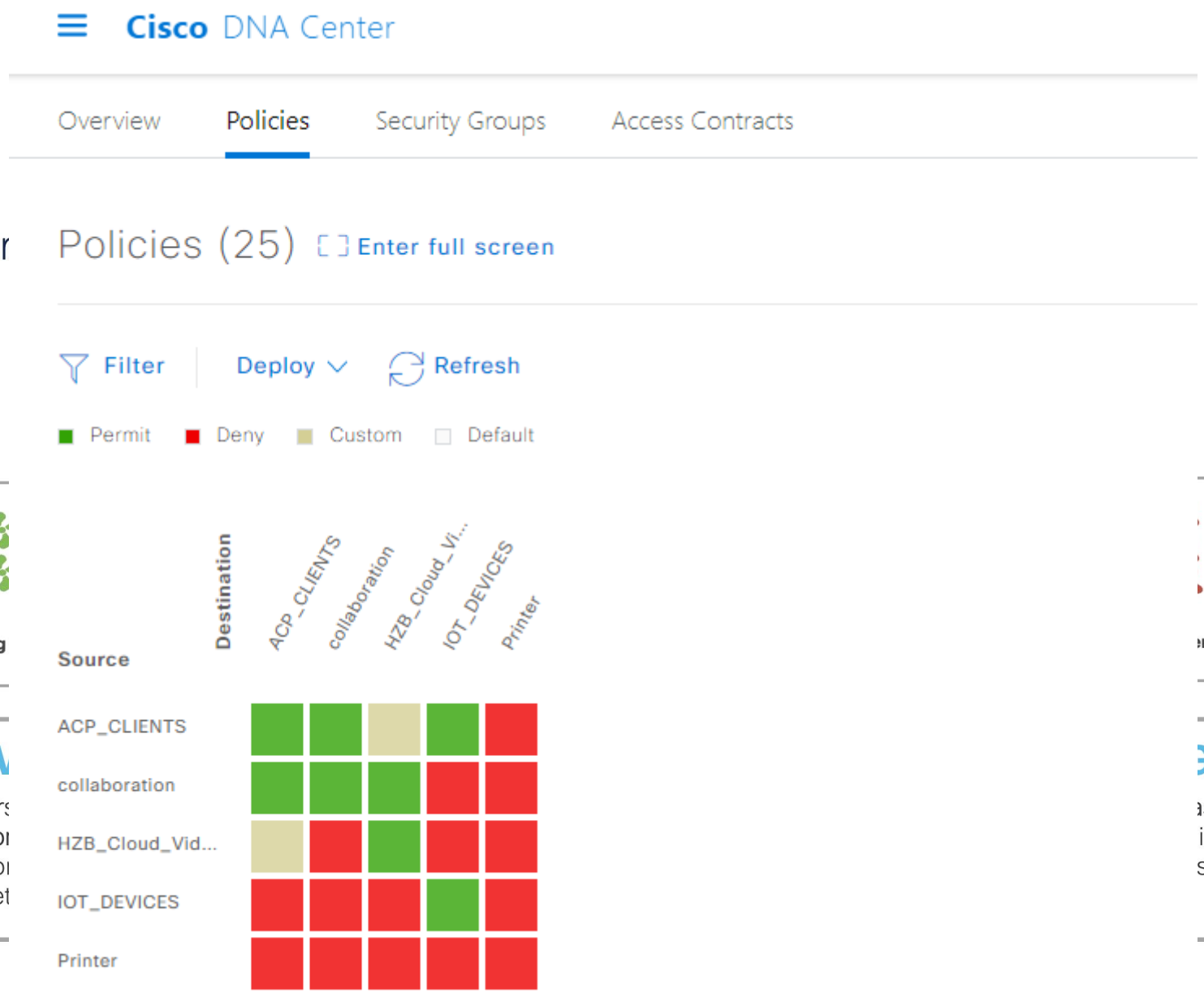
Umgesetzt SD-Projekte

- **11 Cisco SD-Access Projekte von 100 bis 15.000 User**
- **8 Cisco ACI Projekte von 500 bis 40.000 User**
- **5 Cisco SD-WAN Projekte von 200 bis 2.500 Usern**
- **Branchen:**
  - Industrie
  - Gesundheit
  - Versorger
  - Finanzen
  - Öffentlicher Dienst

Classic vs. Software Defined



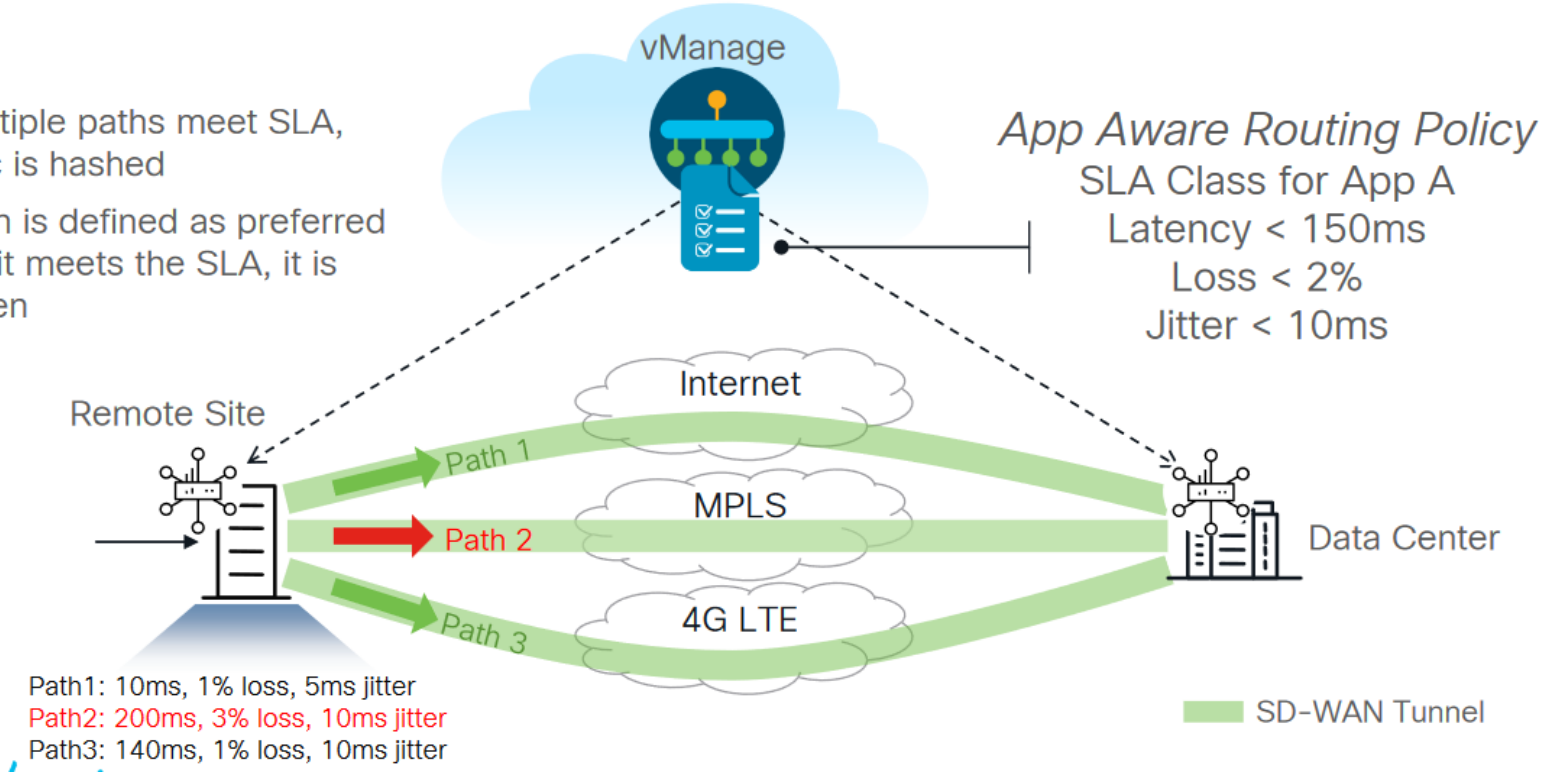



Cisco DNA Center
Overview
Policies
Security Groups
Access Contracts
Policies (25)
Enter full screen
Filter
Deploy
Refresh
Permit
Deny
Custom
Default
Destination
ACP_CLIENTS
collaboration
HZB_Cloud_Vi...
IOT_DEVICES
Printer
Source
ACP_CLIENTS
collaboration
HZB_Cloud_Vid...
IOT_DEVICES
Printer

SD-WAN Use Cases

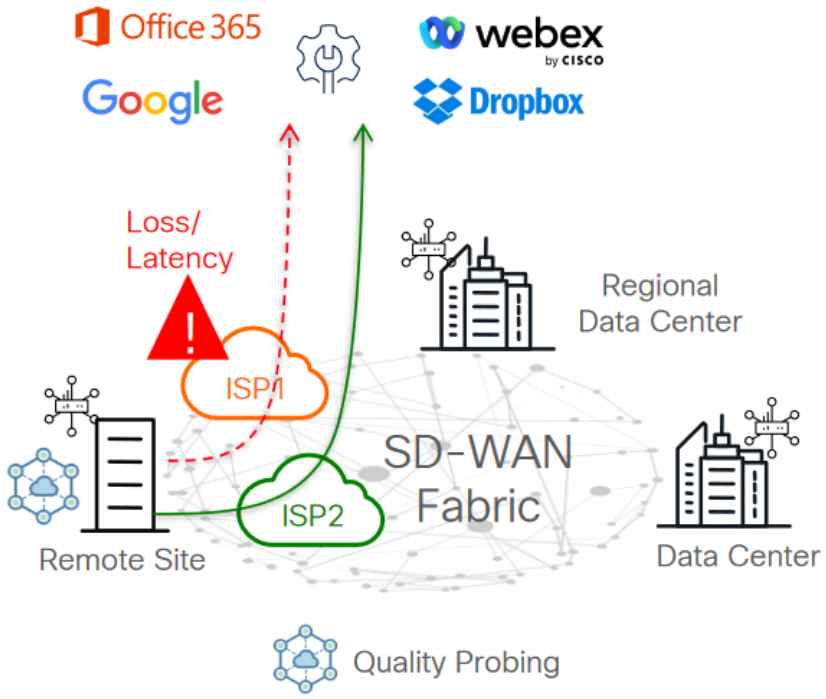
Application Aware Routing

- If multiple paths meet SLA, traffic is hashed
- If path is defined as preferred AND it meets the SLA, it is chosen



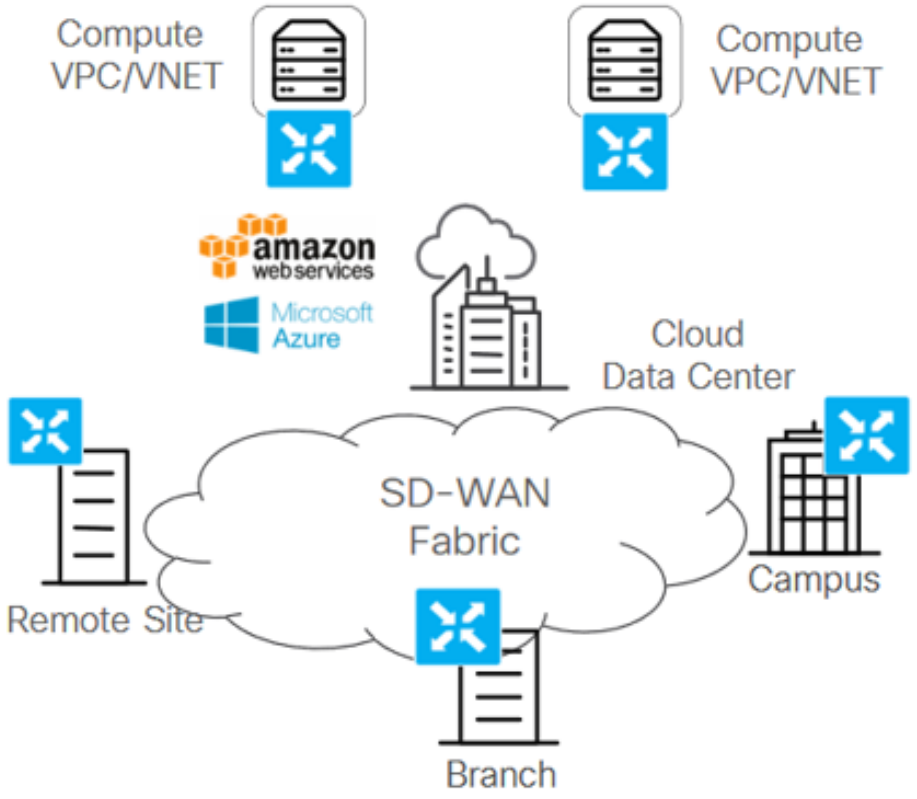
SD-WAN Use Cases

Cloud onRamp for SaaS – Internet DIA



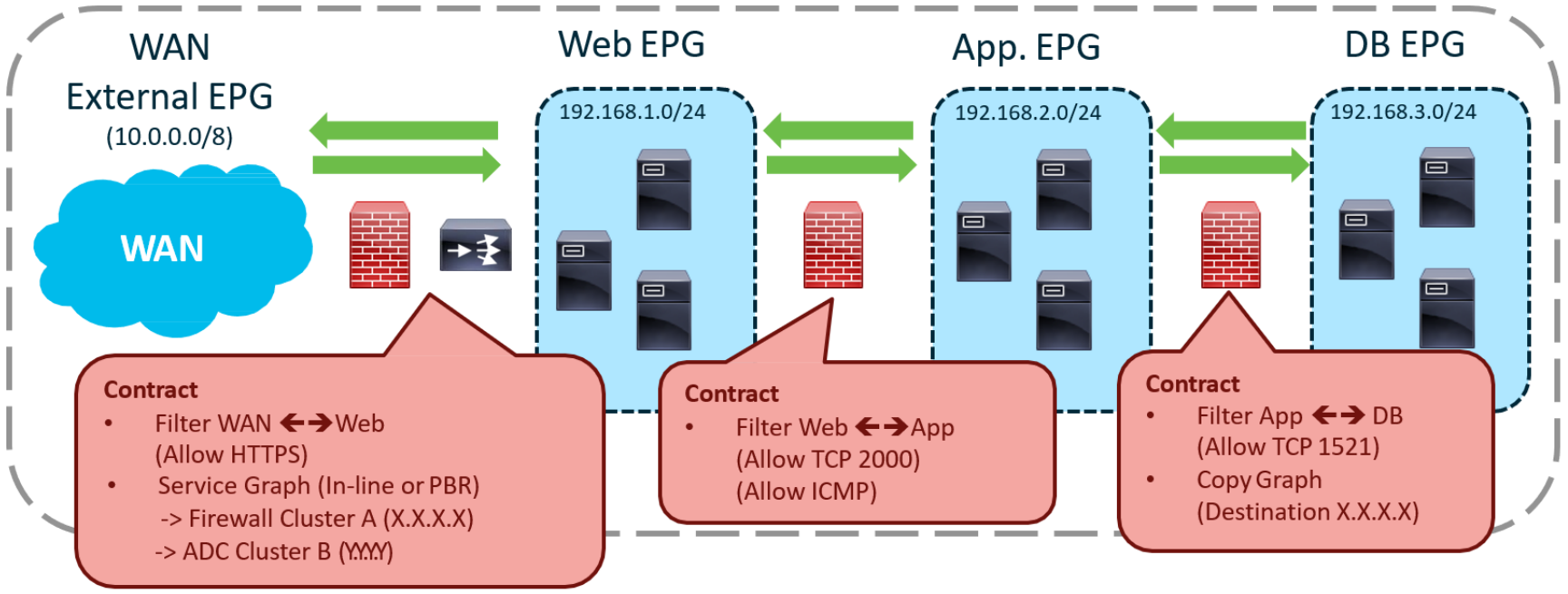
- WAN Edge router at the remote site performs quality probing for selected SaaS applications across each local DIA exit
  - Simulates client connection using HTTP ping
- Results of quality probing are quantified as vQoE score (combination of loss and latency)
- Local DIA exit with better vQoE score is chosen to carry the traffic for the selected SaaS application
  - Initial application flow may choose sub-optimal path until DPI identification is complete and cache table is populated

SD-WAN Use Cases

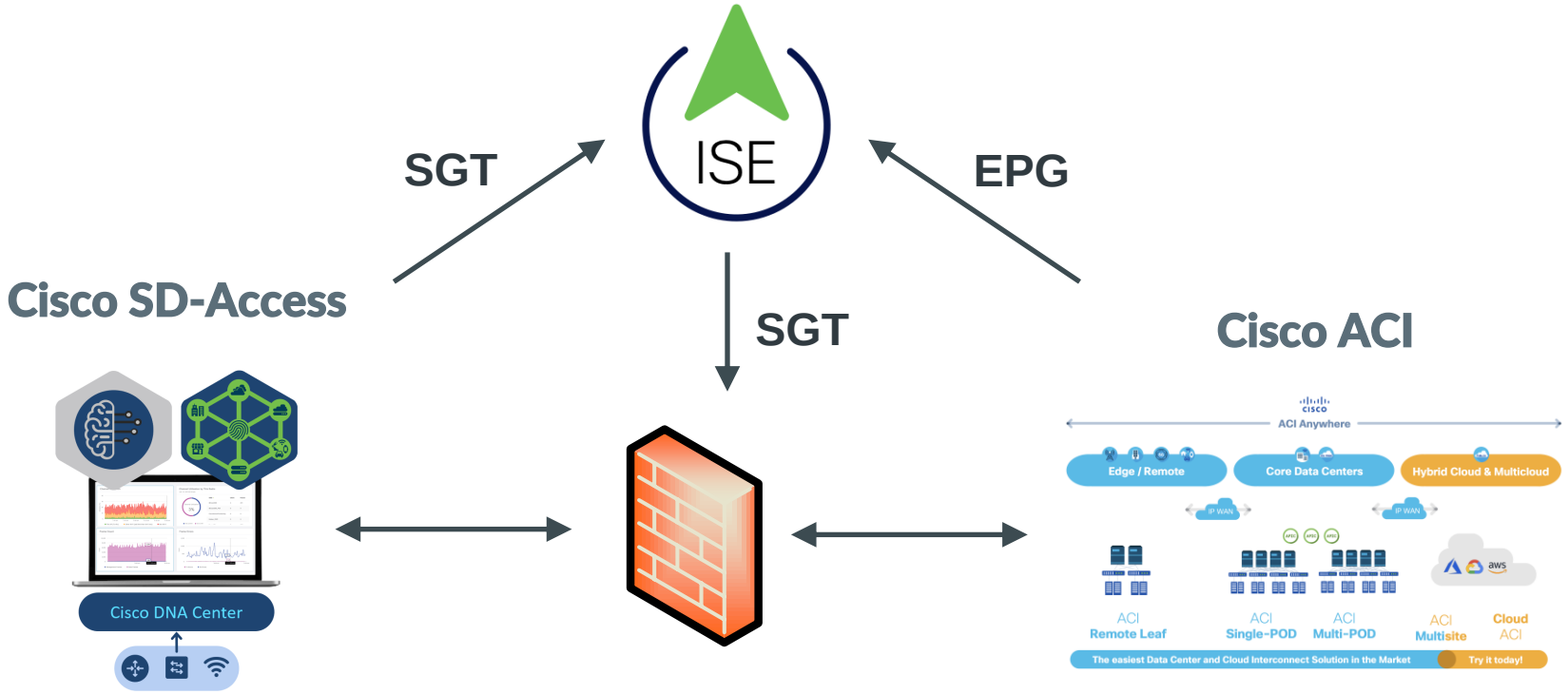


Cisco ACI Use Cases

Microsegmentation



Multidomain Use Cases



Office Clients → Citrix Server

Überwachungskameras → Video Server

02

Future of Cisco Prime?

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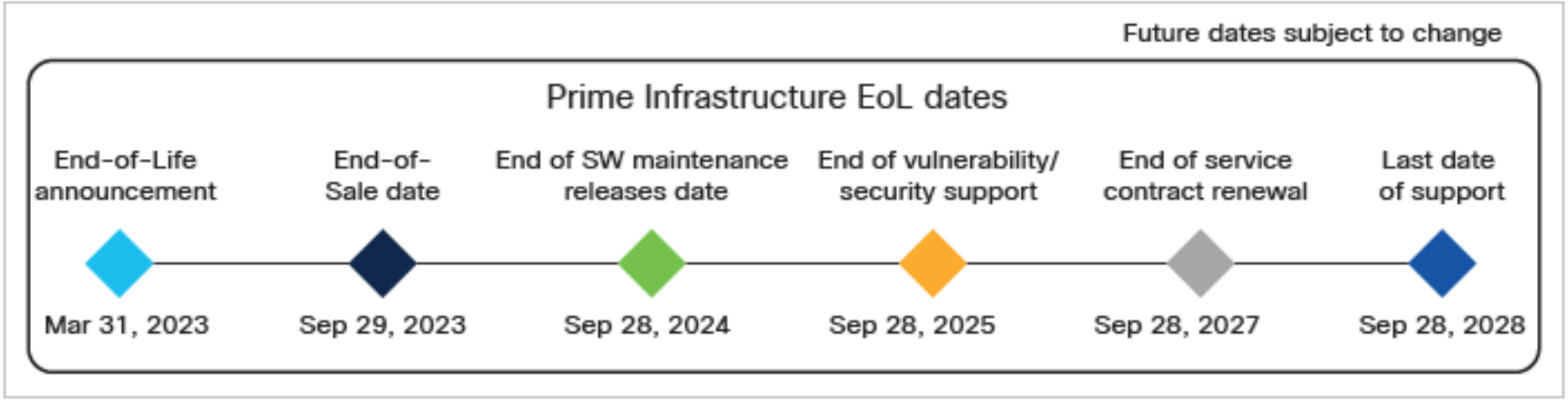
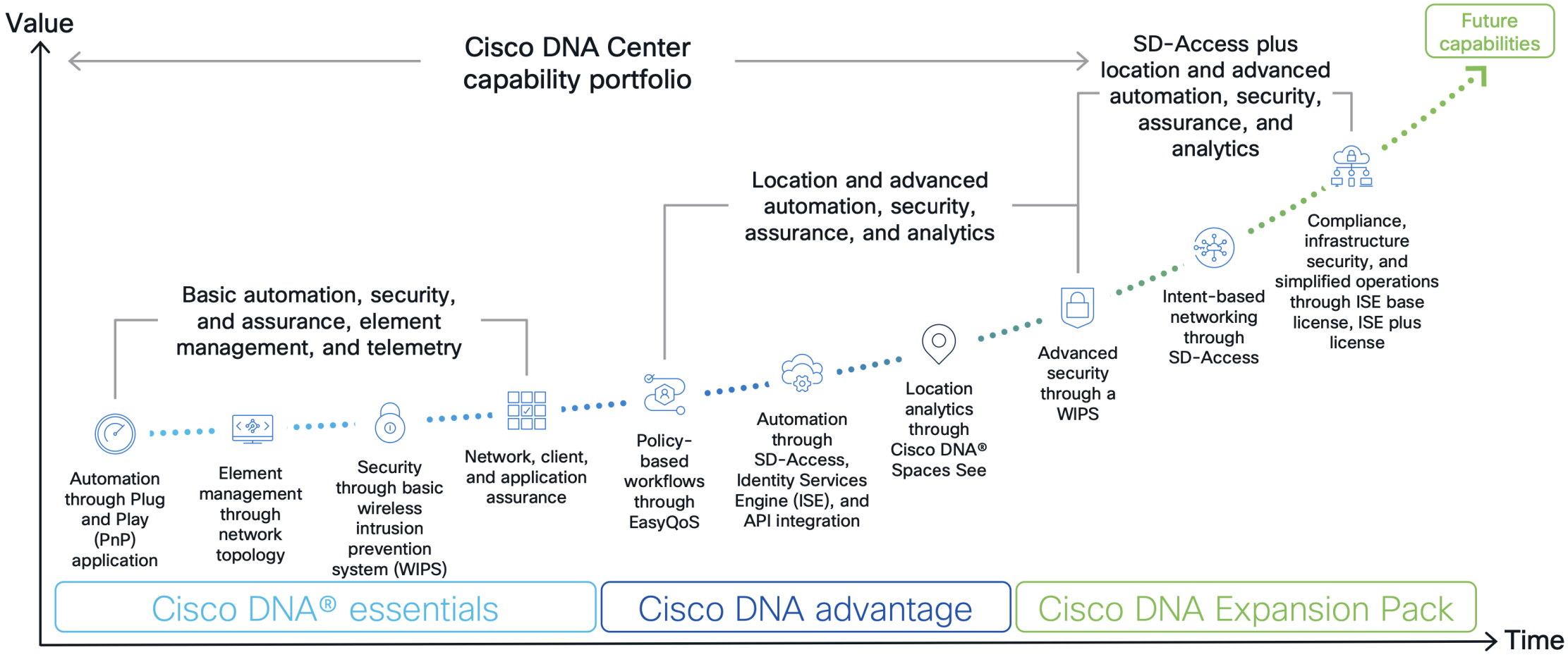
Future of Cisco Prime



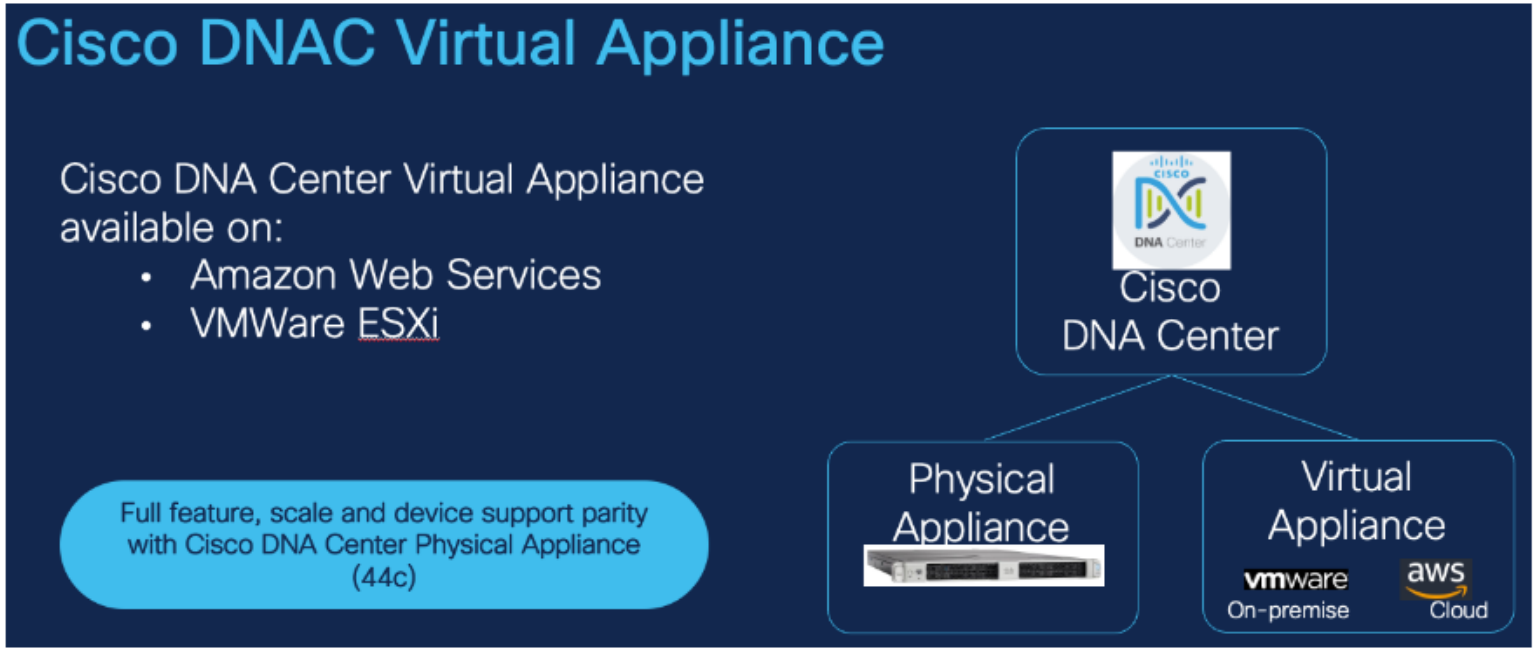
Nachfolger?

- Nachfolger: Cisco DNA-Center
- 95% Feature Parity
- DNA-Center Device Support
  - Catalyst 9000 Serie
  - Catalyst 3650 und 3850
  - Catalyst 6800 Serie
  - WLCs 2960
  - Alle Access Points (Wave1, Wave2, Wi-Fi6 / 6E)

DNA gleich SD-Access?



DNA-Center Deployment Models



03

Enterprise Networking + AI

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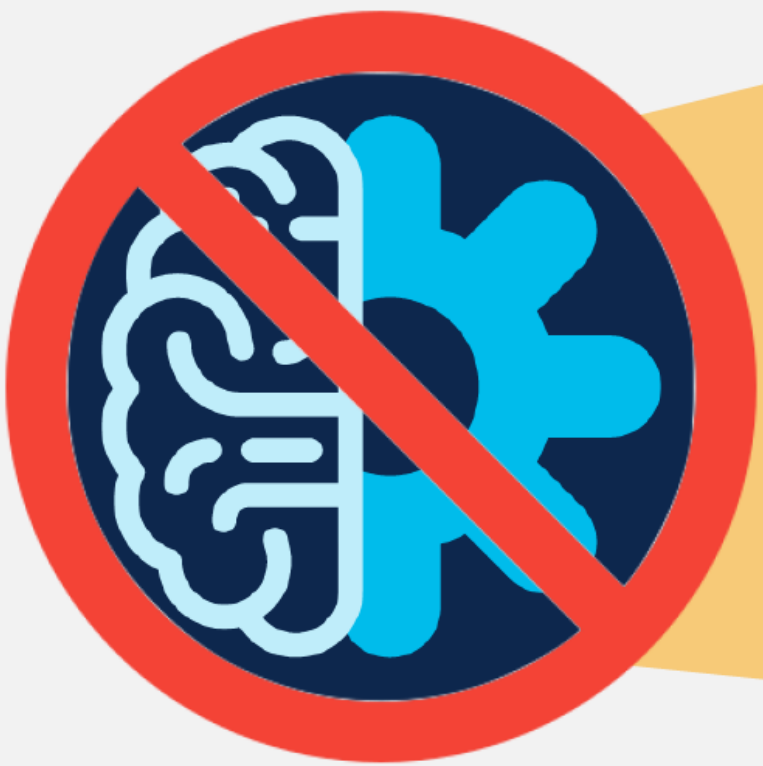
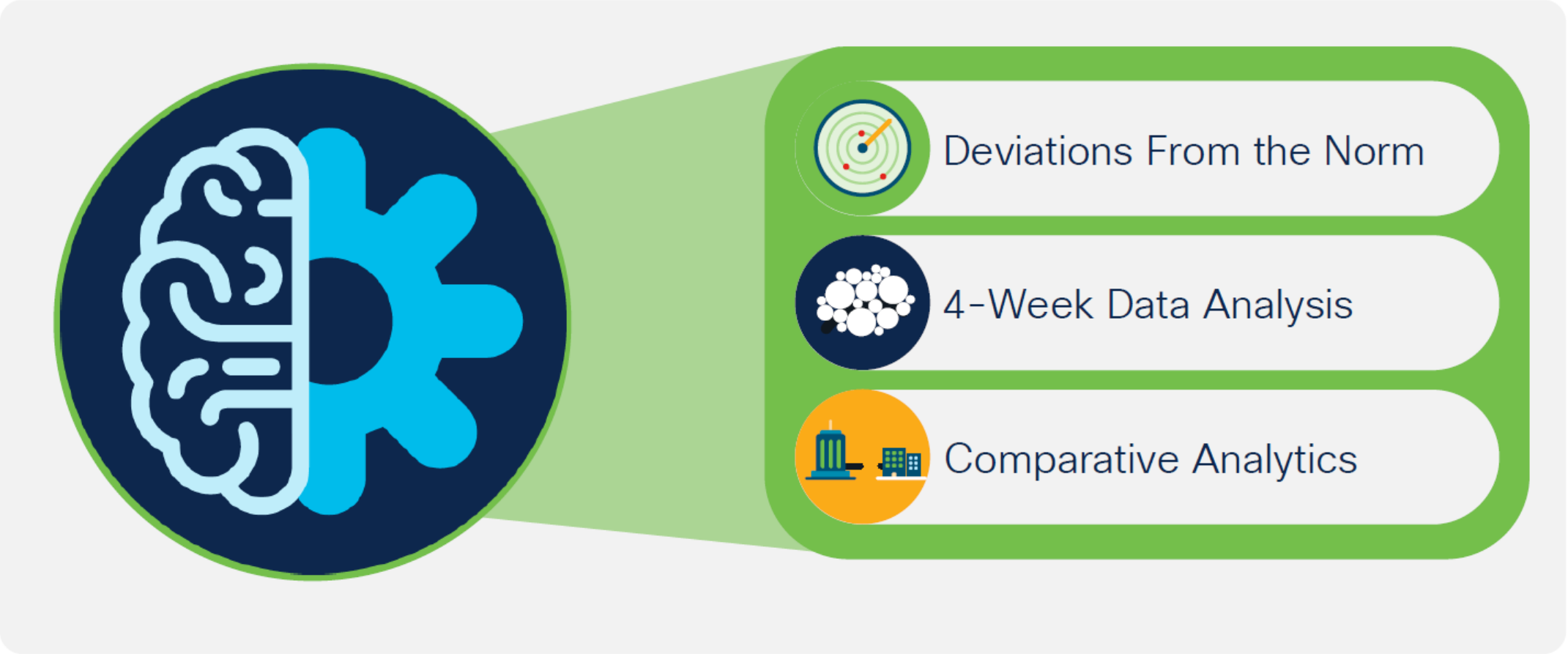
Klassische Monitoring Plattformen



- Lack of Contextual Intelligence
- Underlying Issues Are Not Obvious in the Short Term
- Lack of a Wide-angle Holistic View

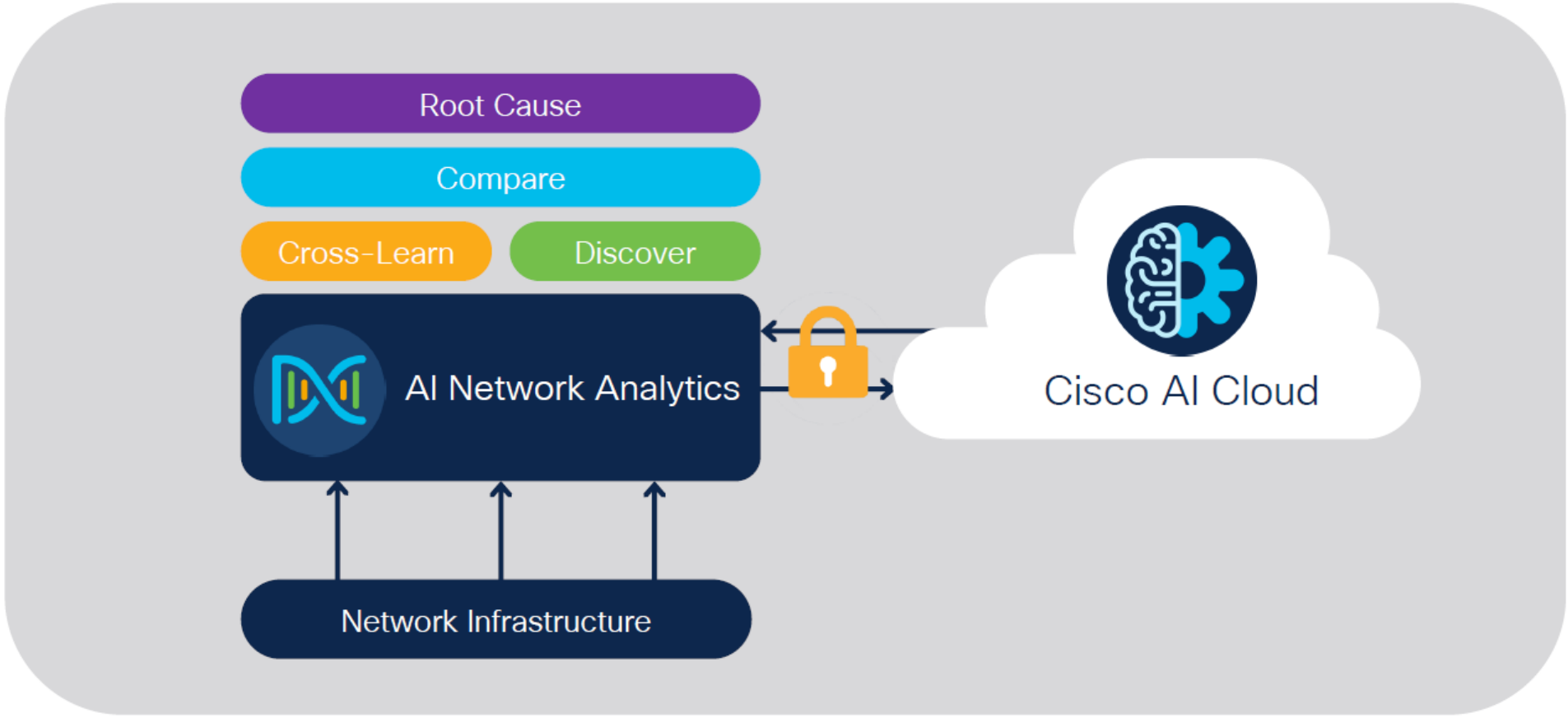
Cisco AI Networks Analytics



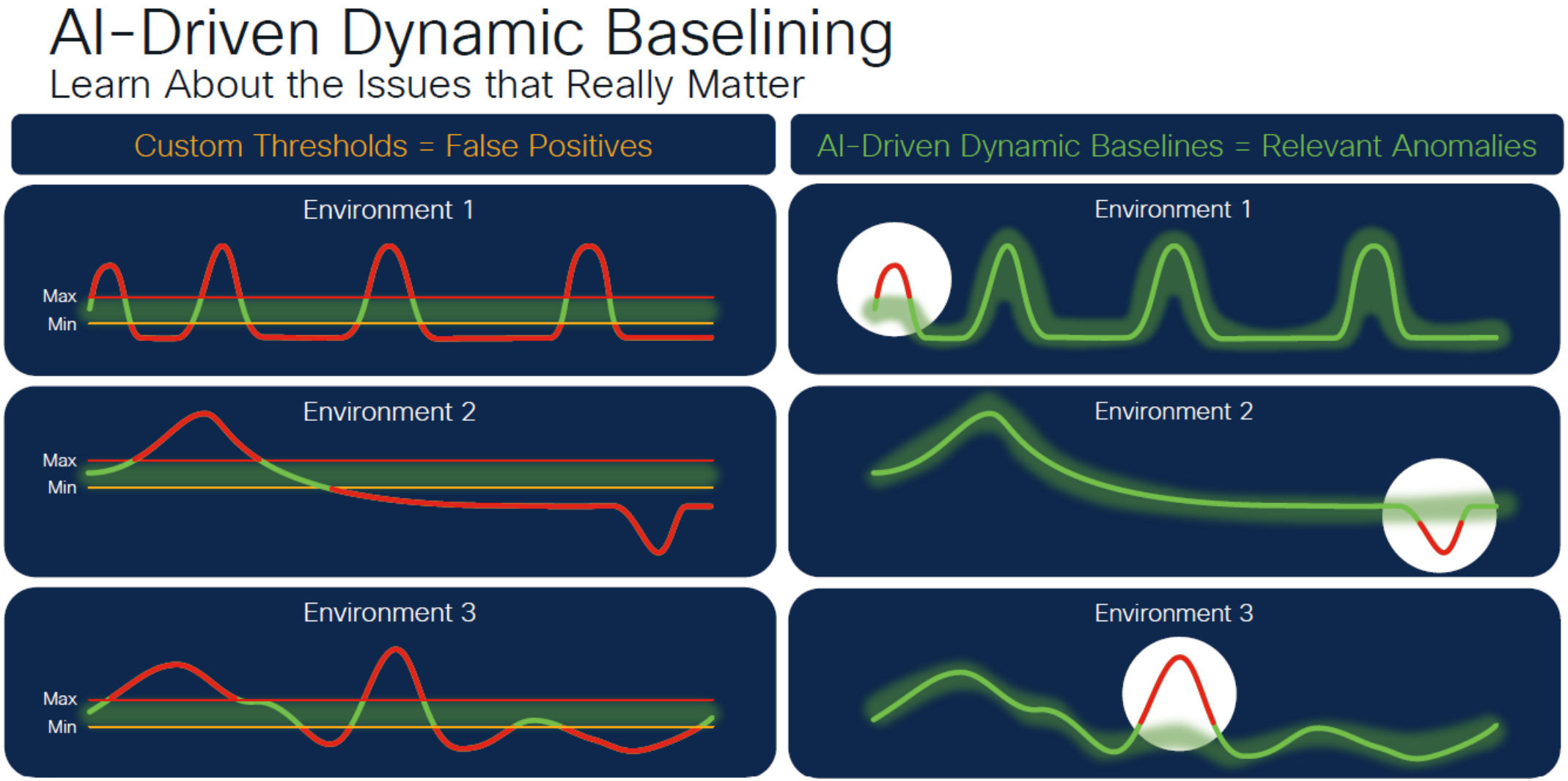
AI + DNA-Center

Cisco AI Network Analytics Architecture

Proactively Discover and Root Cause Your Issues



AI + DNA-Center

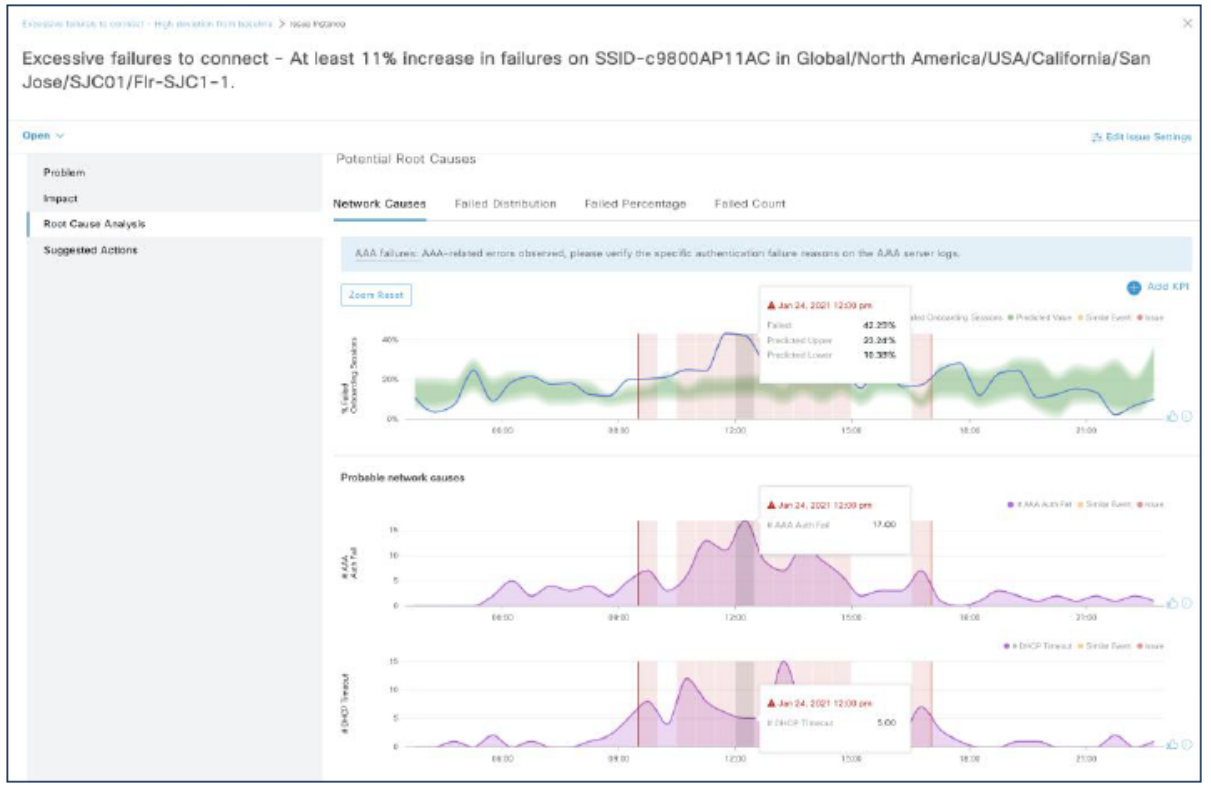


AI + DNA-Center

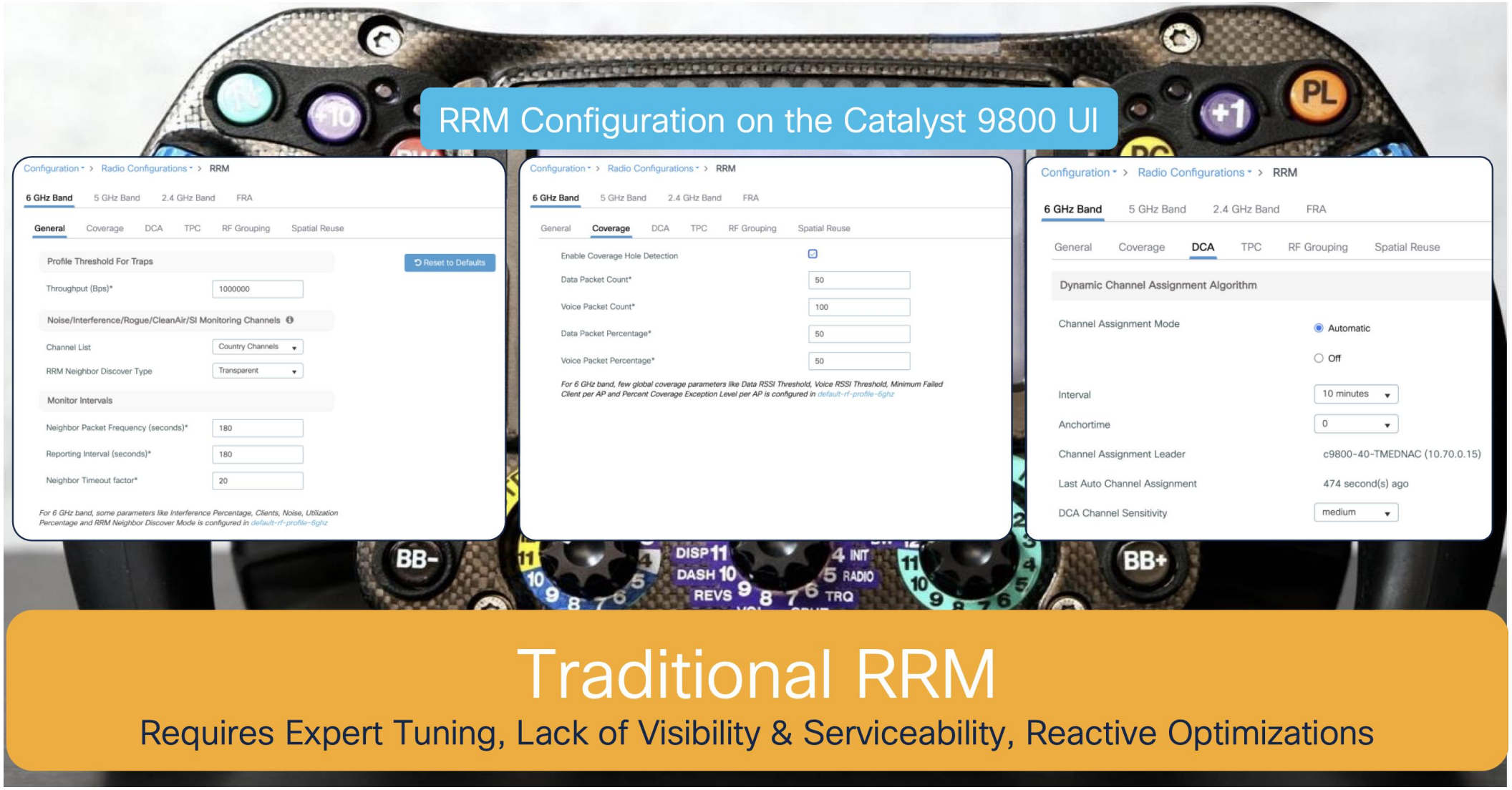
AI Driven Issues

Discover and Root Cause network risks and anomalies from the AI-generated baselines

13 KPIs: Onboarding & Throughput



AI + DNA-Center



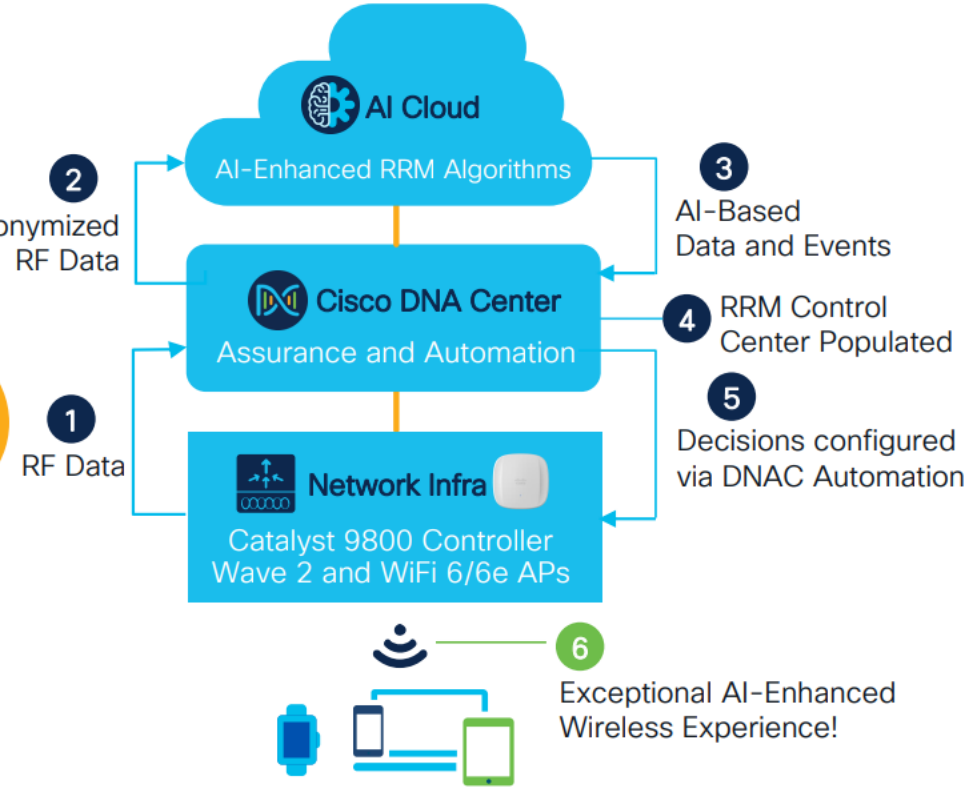
AI + DNA-Center

AI-Enhanced RRM Architecture and Data Flow

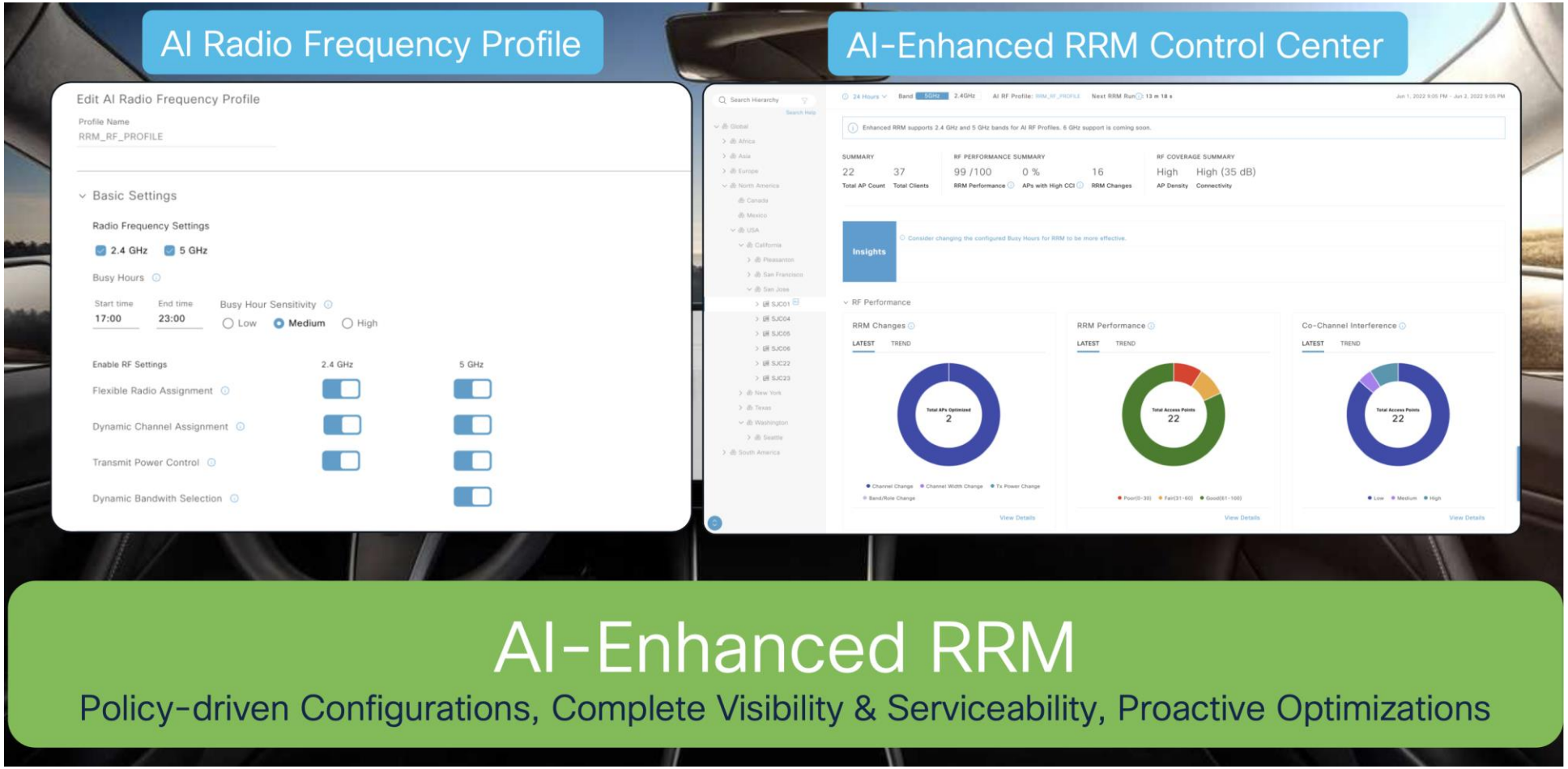
AI-Enhanced RRM is built into Cisco's AI Cloud.

AI processes 2 weeks of RF data to discover patterns.

Proactive optimizations make Wi-Fi exceptional!



AI + DNA-Center

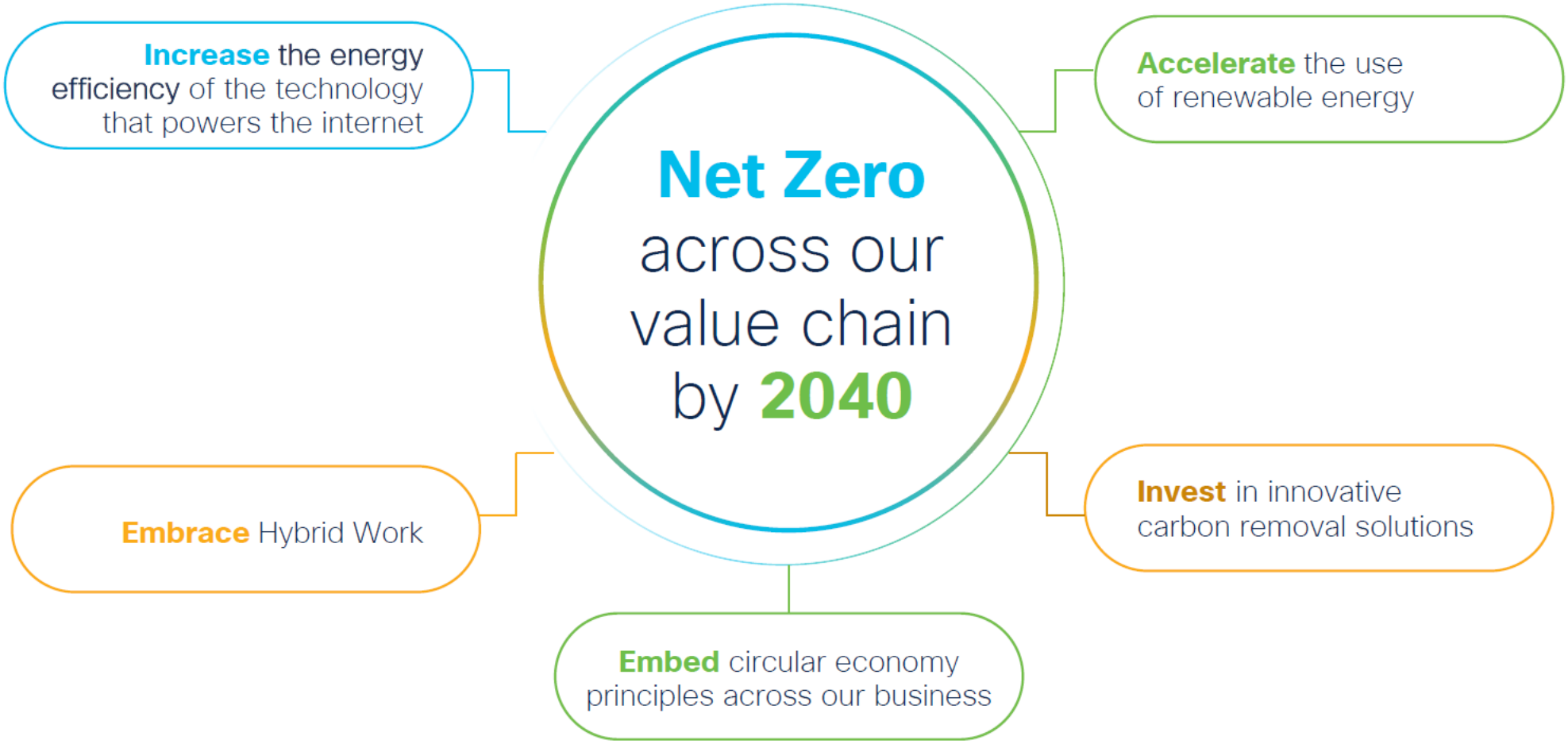


04

Sustainable Networks

IT for innovators.

Cisco´s Net Zero Goal



Cisco´s Net Zero Goal

Cisco Catalyst 9000 switches sustainability impact

Powering smart buildings

90W PoE enables 18% reduction in energy waste

“No paint project”

Eliminated oil-based wet paint, reducing 300 tons of CO2 and 200 tons of hazardous chemicals, and facilitating recyclability

Eliminating foam and paper

Working to eliminate foam and paper from packaging in Catalyst® 9300 and 9200 Series

Increasing bandwidth

Increasing bandwidth without significant increase in power

Cisco´s Net Zero Goal

Cisco Catalyst 9000 wireless sustainability impact

Reducing energy consumption

LOW power consumption

PoE analytics gives visibility into power consumption by switch

Designed with field-effect transistors (FETs), reducing power draw by 0.75W on an 802.3at powered device

AI radio resource management (RRM) allows optimized power consumption

Monitoring the environment

Embedded sensors measure humidity, temperature, and air quality

Provides protection of sensitive IT assets

Detects total volatile organic compounds (TVOC) for regulatory compliance, staff/visitor safety, and COVID workplace protocol

Reducing waste in shipping

Using multipack shipping for APs to reduce the number of shipments

Eliminating foam and paper from packaging in Catalyst 9100 and 9800

Mounting brackets for all APs can be reused

Enabling smart buildings

Target Wake Time allows AP and client to schedule data exchange, reducing energy by 3x to 4x compared to Wave 1 and 2 APs

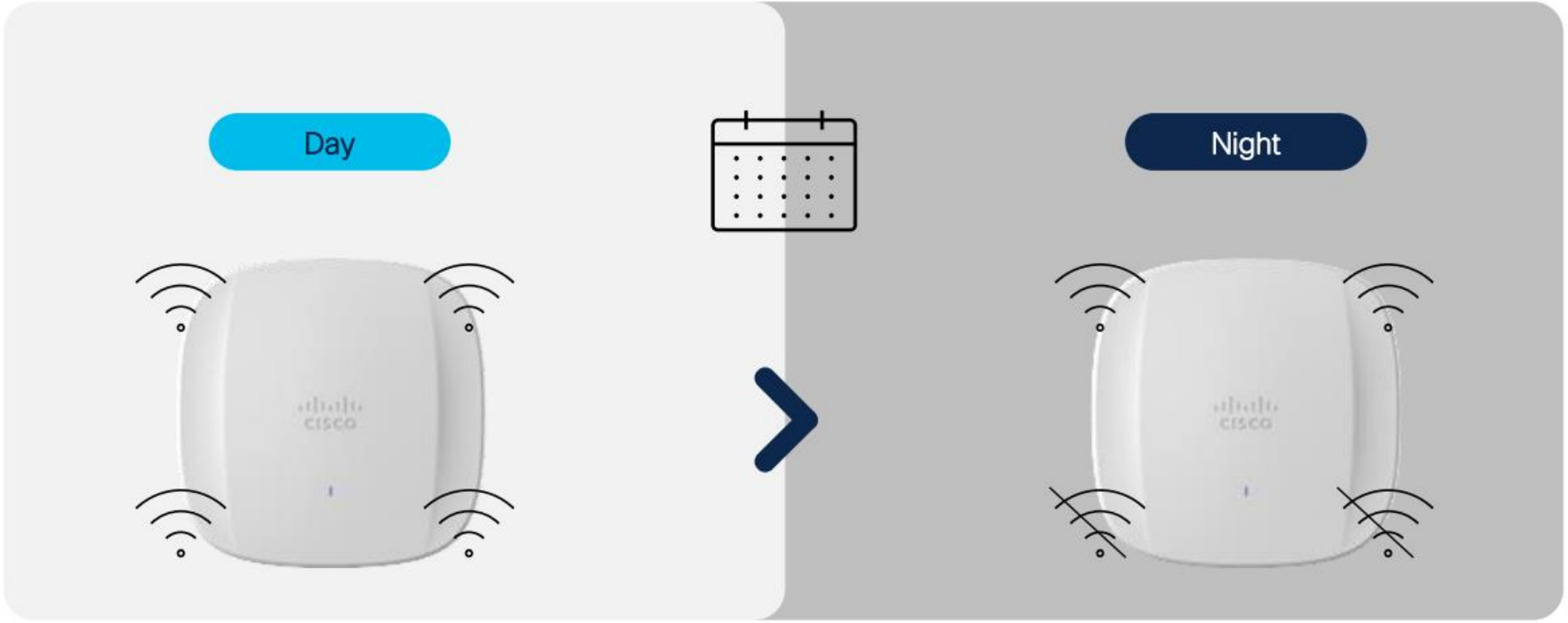
Scheduled on/off SSID on Catalyst 9800 Series

Cisco DNA Spaces rich map integrates environmental monitoring and energy consumption in a console

Cisco´s Net Zero Goal

AP Power Optimizations Feature Suite

The New AP Power Optimization Feature Suite allows administrators to schedule periods to lower an AP's power consumption through means such as turning off a radio or lowering its spatial stream.



ACP

BRAIN SHARE

05

Full Stack Observablity

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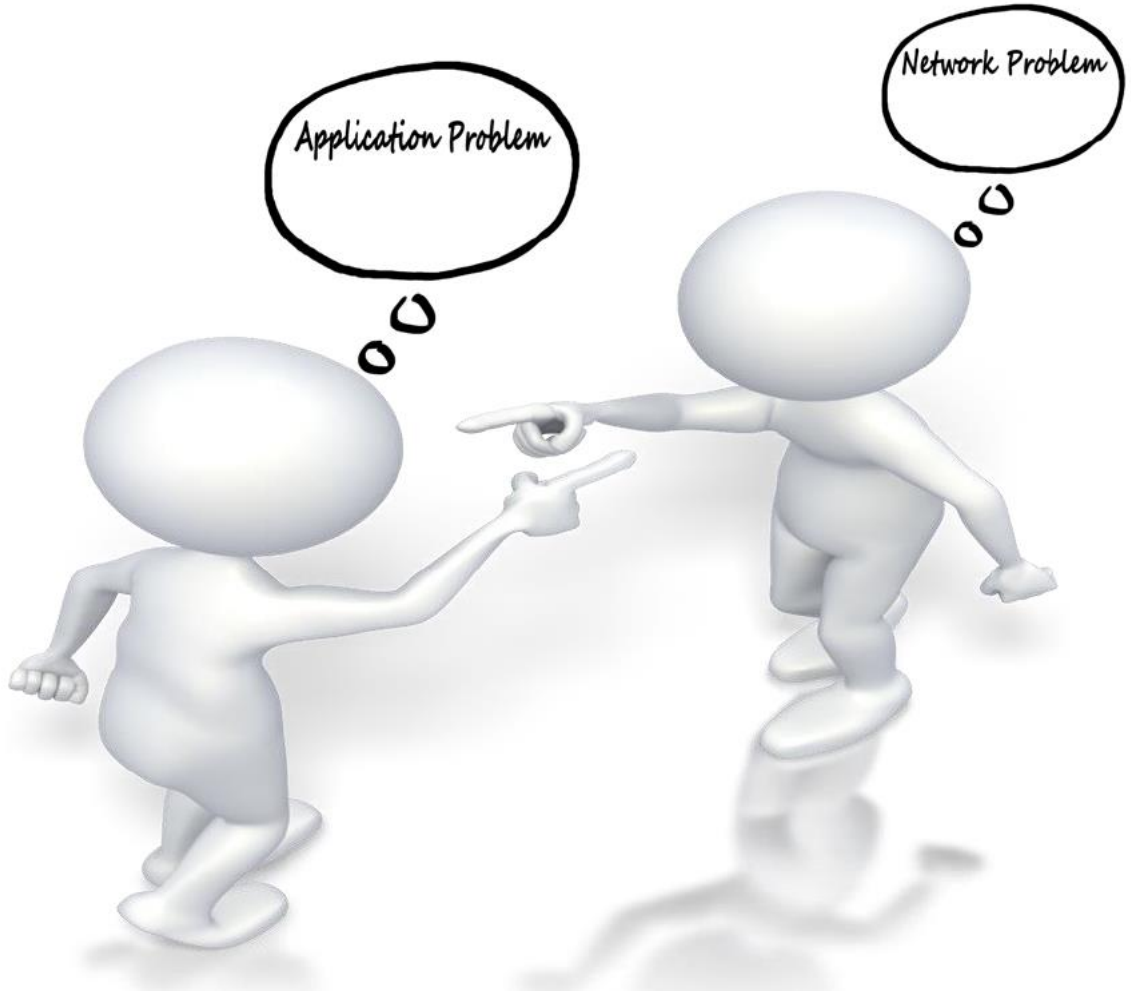
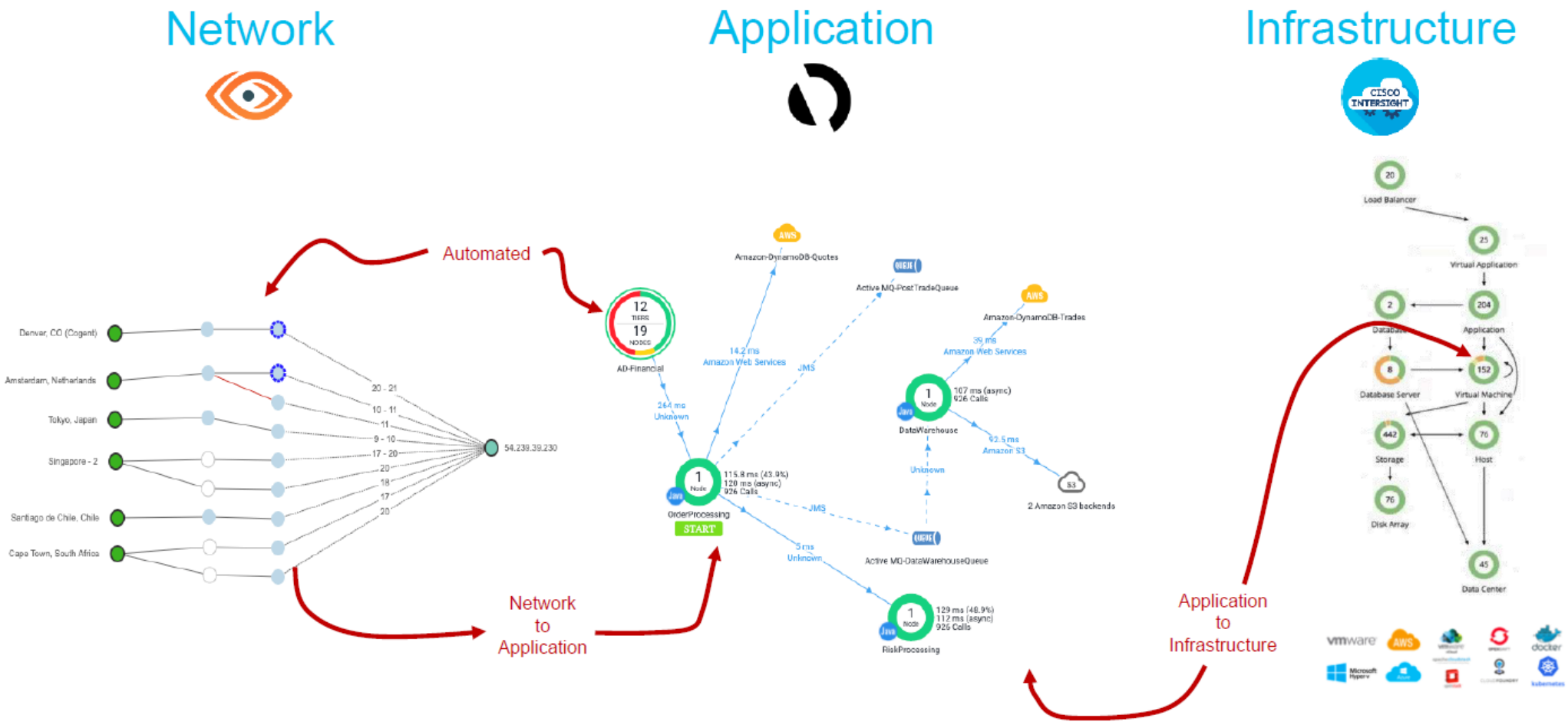
Full Stack Observability

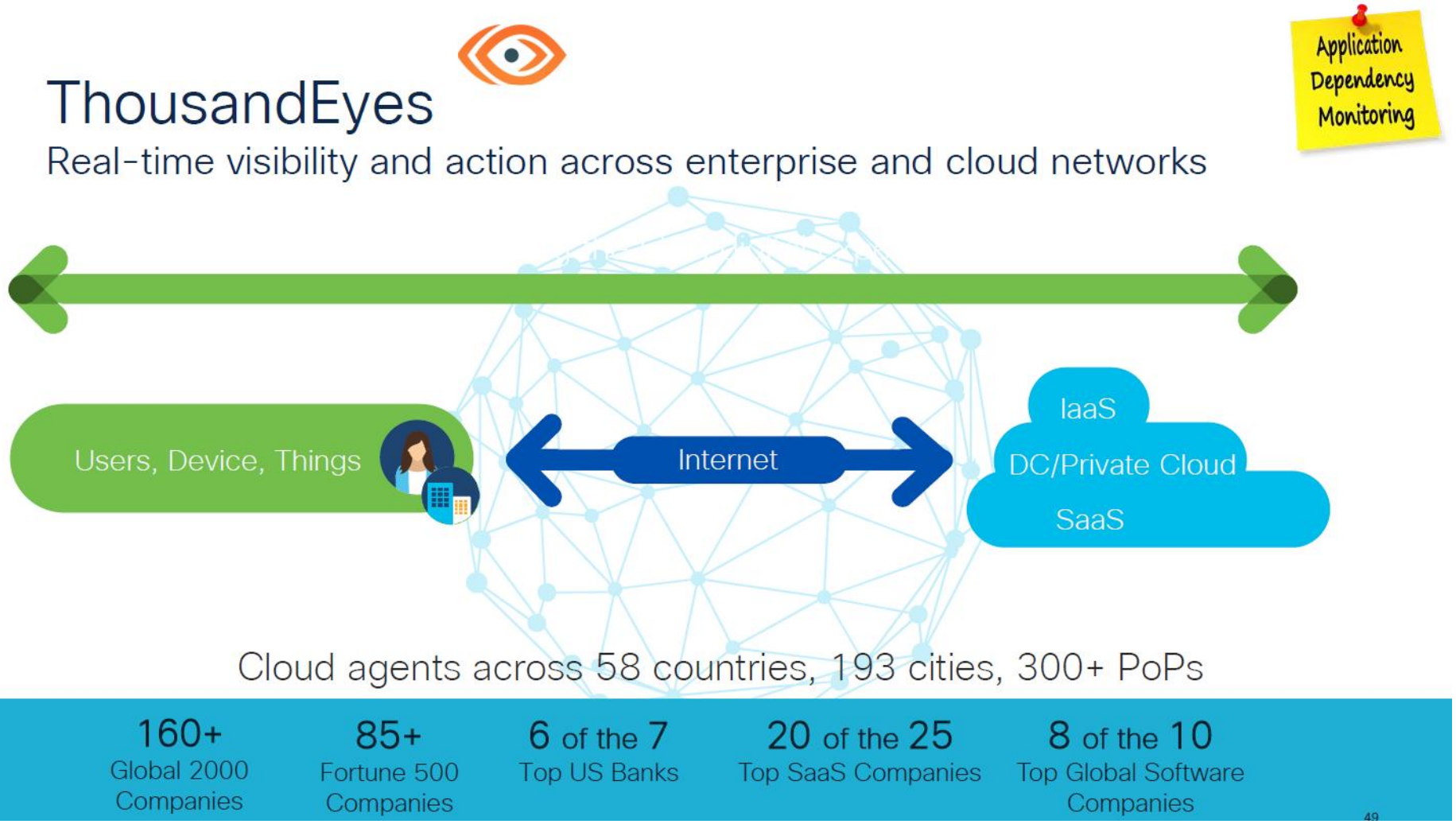


Full Stack Observability

Application and Business Insights Across Stack

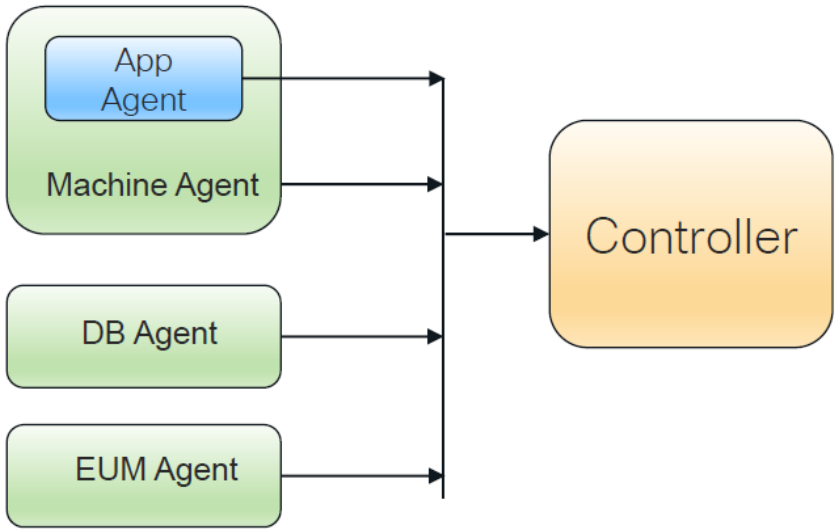


Cisco Thousand Eyes



Cisco App Dynamics

AppDynamics Components



Hybrid Application Monitoring

- App Agents
  - Instrumenting an application adds the AppDynamics application agent (app agent) into the runtime process of the application.
- Machine Agents
  - Visibility into the HW where the App is hosted.
  - Server OS, %CPU, mem util, disk, network I/O util etc
- Database Agents
  - Collects performance metrics about the DB instances.
- EUM Agent
  - Extends the visibility on the performance from end user point of view.
- Controller
  - Main brain to consume and process the metrics collected by various agents.

Cisco App Dynamics

Detection of Issues Before Customers Notice

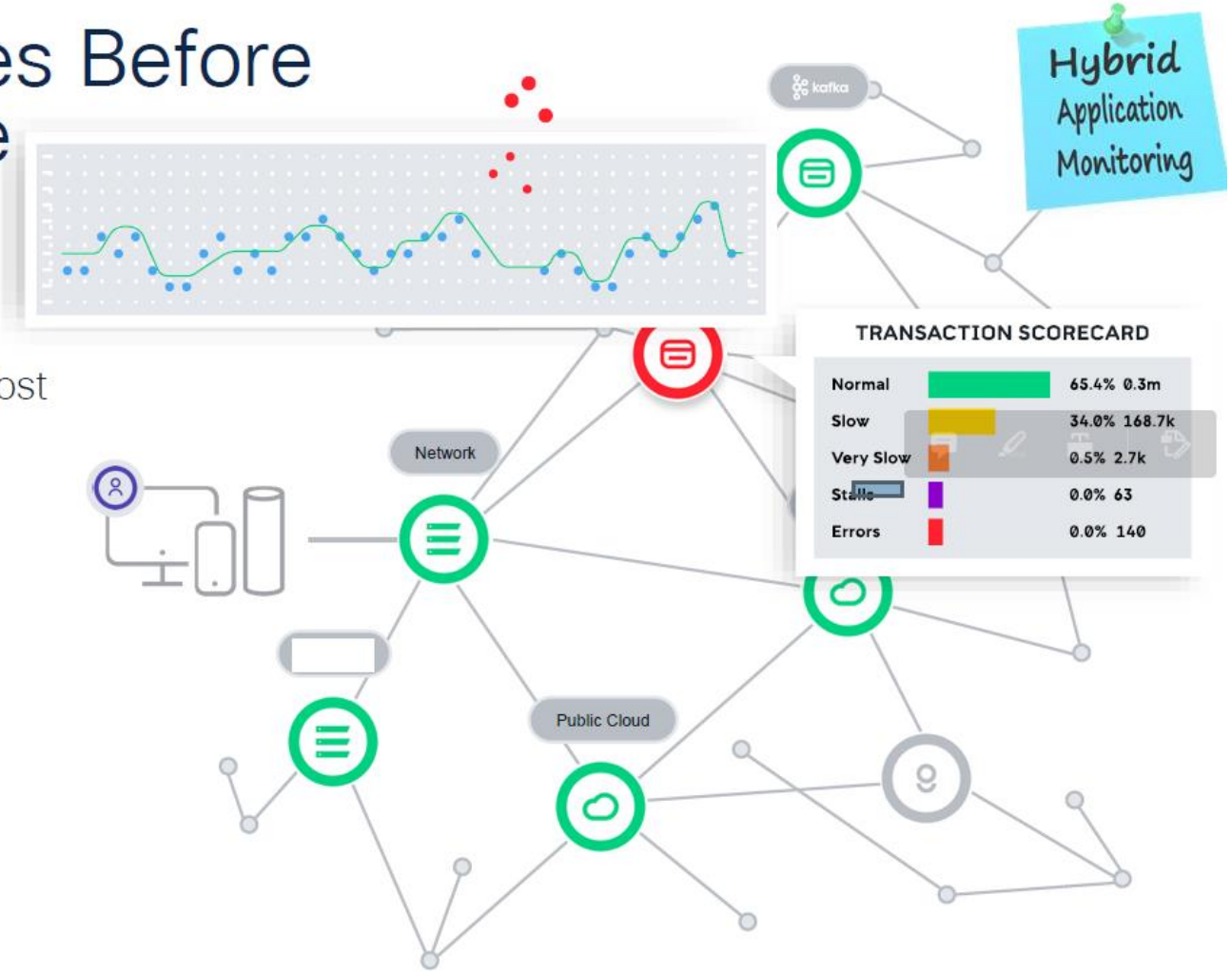
Map
Baseline
Diagnose
Enterprise
Business iQ

Move Fast,
Follow Everything &
Focus on What Matters Most

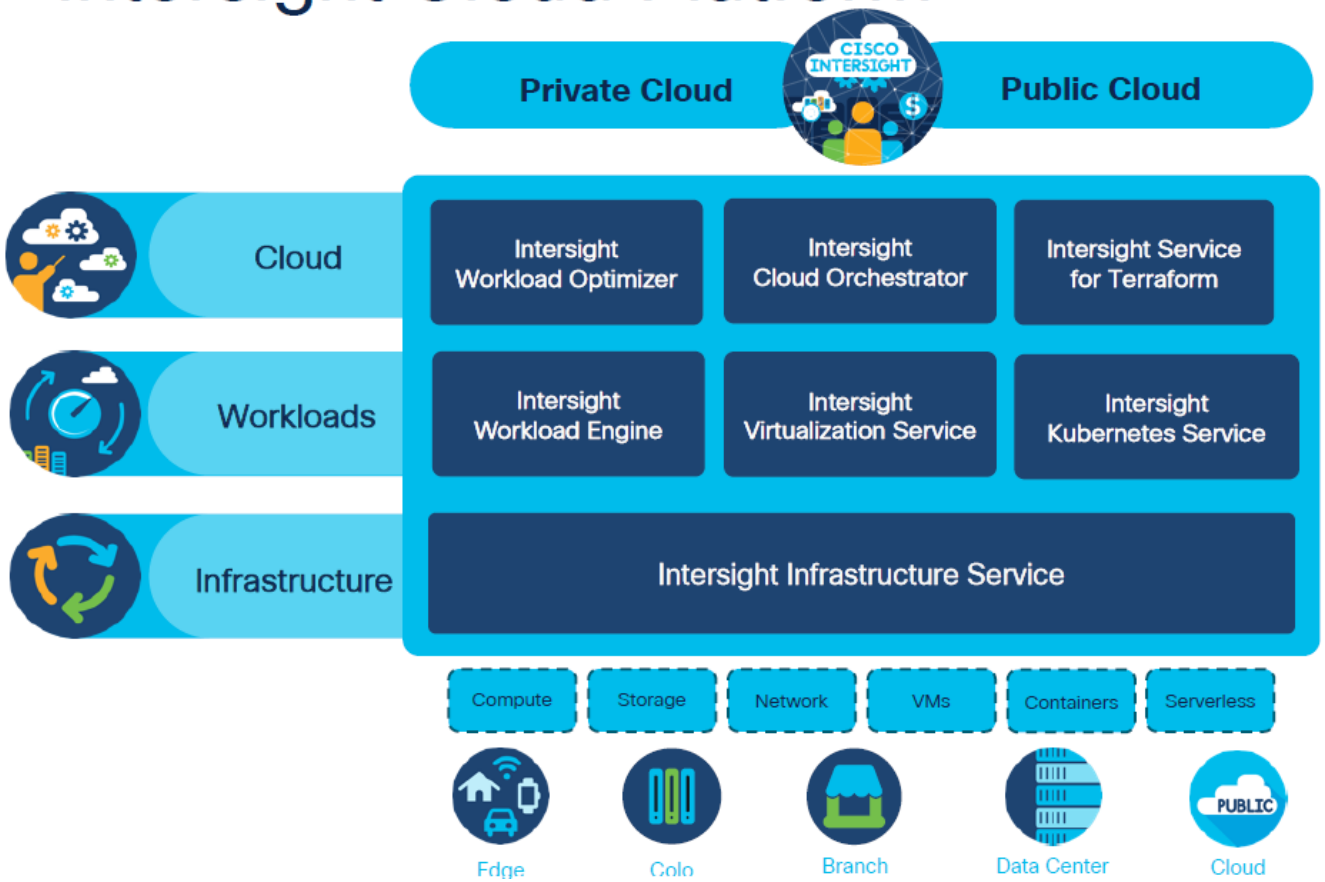
— Automatic Baselines for Every Metric

— Machine Learning Anomaly Detection

— Prevent IT Alert Storms



Intersight



Application Resource Optimization

- Full Stack Multi-tenanted Cloud Platform
- Baremetal-aaS, VM-aaS*, K8s-aaS, Function-aaS*
- Hybrid-cloud Automation & Orchestration
- Hybrid-cloud Observability & Optimization
- Delivered as SaaS (with on prem options)

*roadmap

06

Wireless Value Generation

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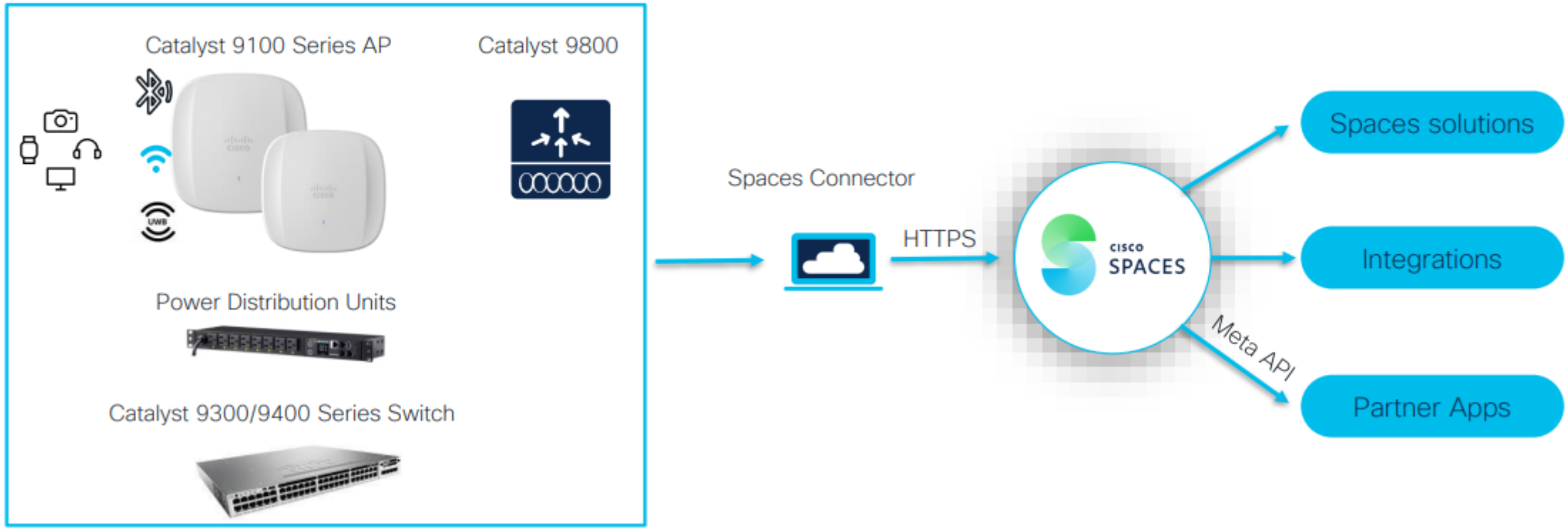
Cisco Spaces

Use your network as foundation

Cisco Spaces

Cisco Spaces Architecture with Connector



Vielen Dank für Ihre Aufmerksamkeit

Fragen?

IT for innovators.