

## Data Centers Are Undergoing Rapid Transformation

Digitization, Cloud, Mobile Creating New Demands of IT

Scale

10Ks VMs, 100s of Apps, distributed apps, 1M+ policies

Complexity

Multi-DC, multi-tenant, hybrid, virtualized, heterogeneous

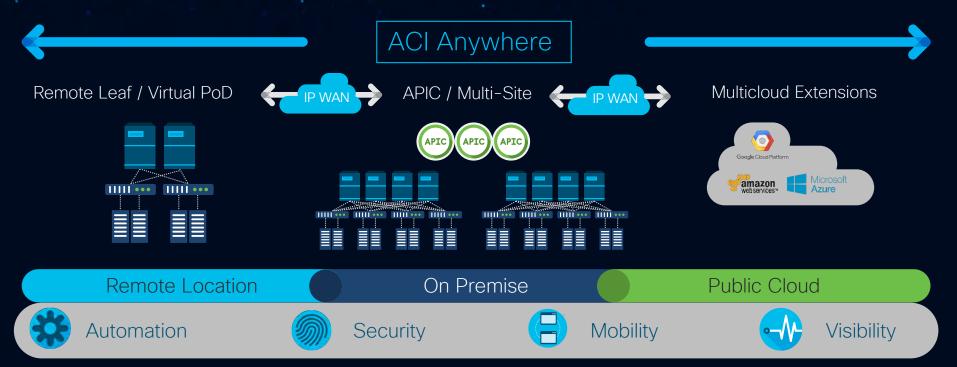
Rate of Change

VM mobility, app migration, dynamic scaling, self service portals



## Application Centric Infrastructure (ACI)

Any Cloud, Any Application, Any Platform, Anywhere





## But, Operational Paradigms are still Rudimentary

Intent Frequently Breaks...

We Always React...

Leaving Us With...

Operational

Troubleshoot

Security

>

Scramble to fix it

Compliance

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Fail audits

Change

Undo changes

>

An Inability to Assure Intent Proactively



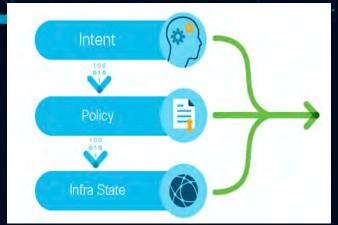
# The confidence that the infrastructure is doing what you intended it to do

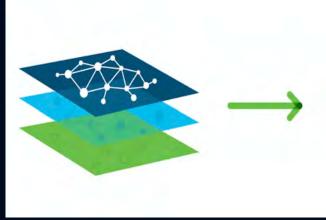
Intent Encompasses Data Center Operations

Configs, Changes, Routing, VMs, Security, ... Compliance, Audits



# Network Assurance Engine: How it Works







#### **Data Collection**

Capture DC Wide Intent, Policy, Control/State across Forwarding & Security

#### Formal Modeling of Network

Precise Mathematical Models that codify Cisco's 30+ Years of Networking and Cross Customer Domain Knowledge

#### **Continuous Analysis**

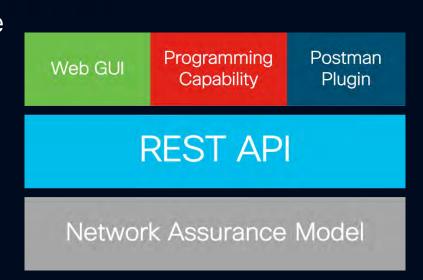
Models verify that **Network operates per Intent** and accurately tell what is wrong, where, why, impact and how to fix

Reactive Troubleshooting to Proactive Operations - continuously, network wide

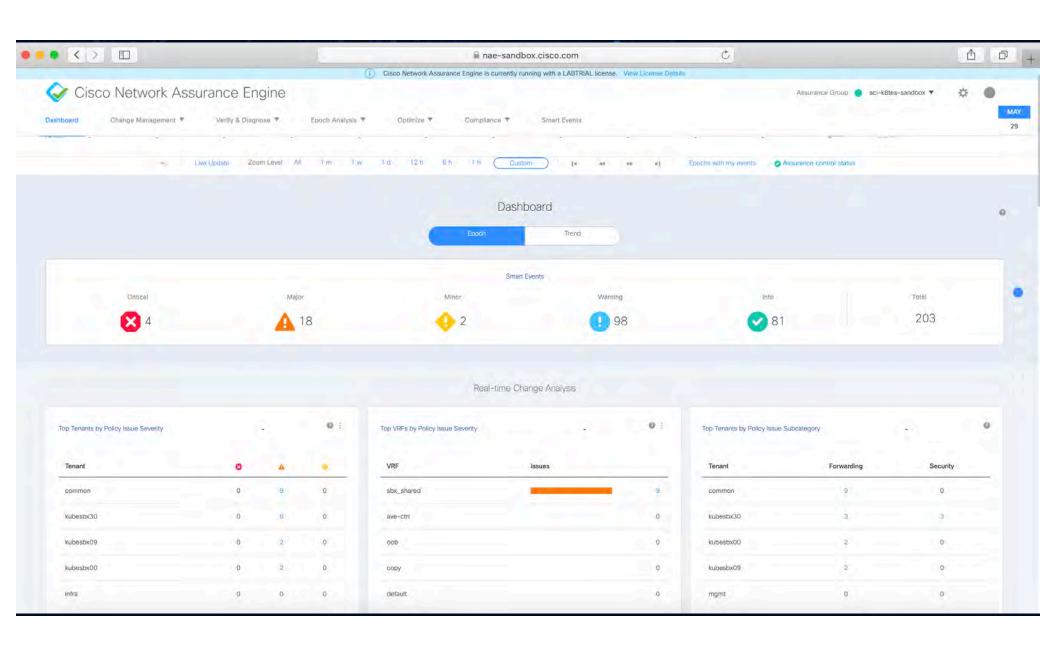


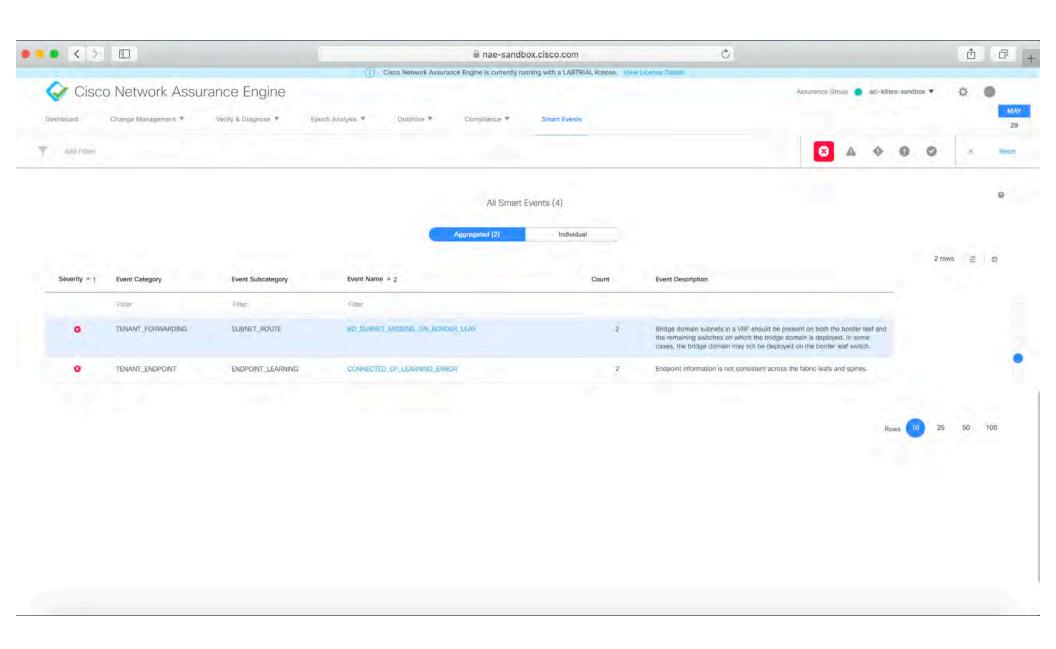
### . Network Assurance Engine - Data Model & REST APIs

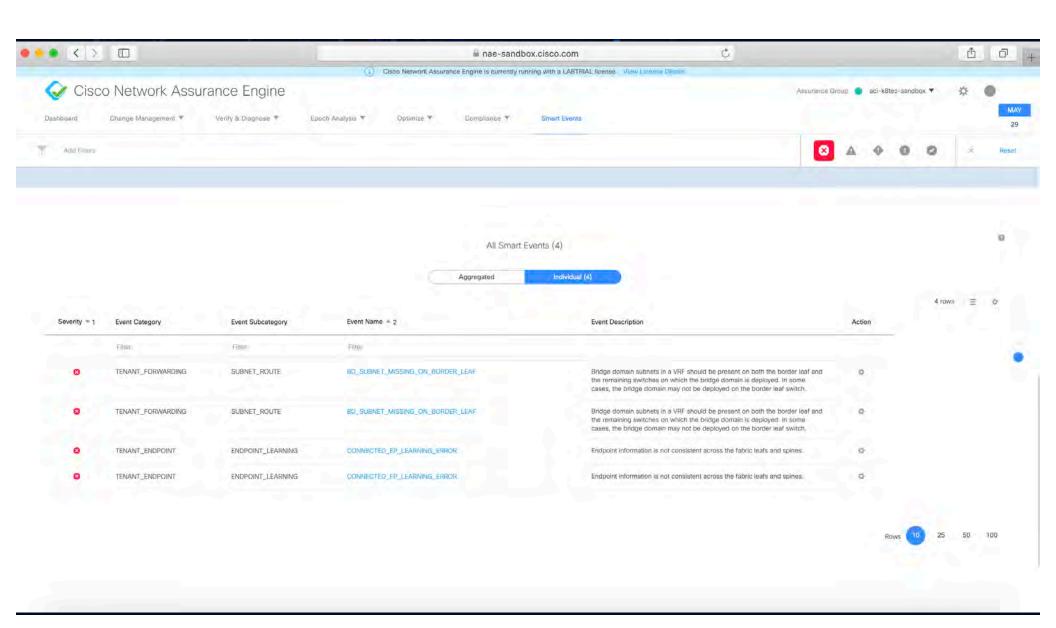
- Same objects irrespective of interface
- Smart Event Data Model
  - Severity, Category, SubCategory, Mnemonic
  - Description
  - **Impact**
  - Affected Objects
  - Checks
  - Remediation Suggestion

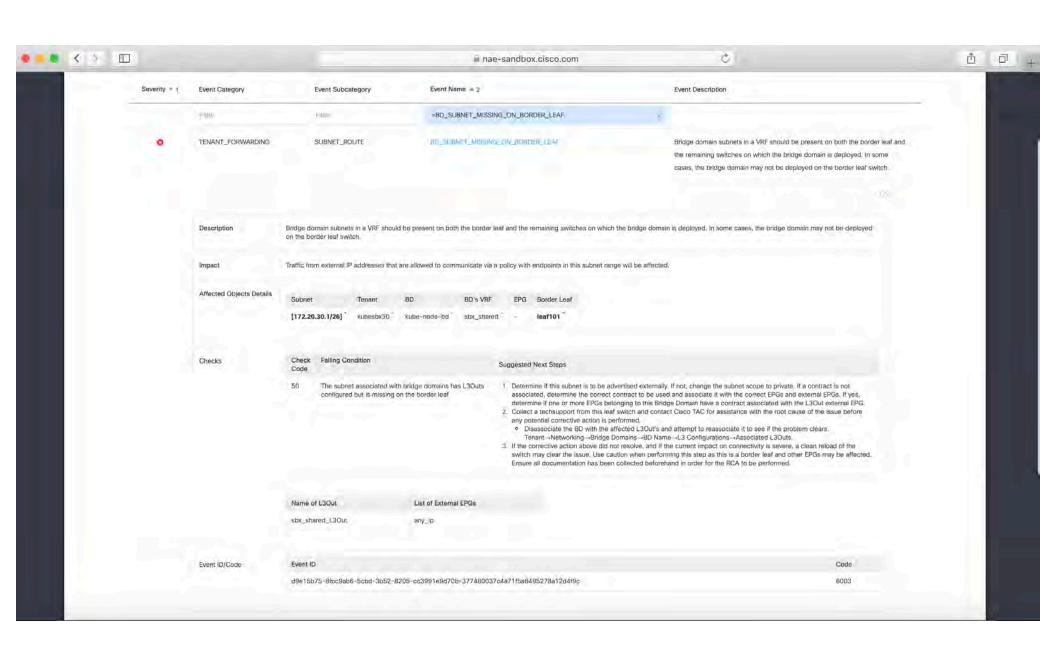


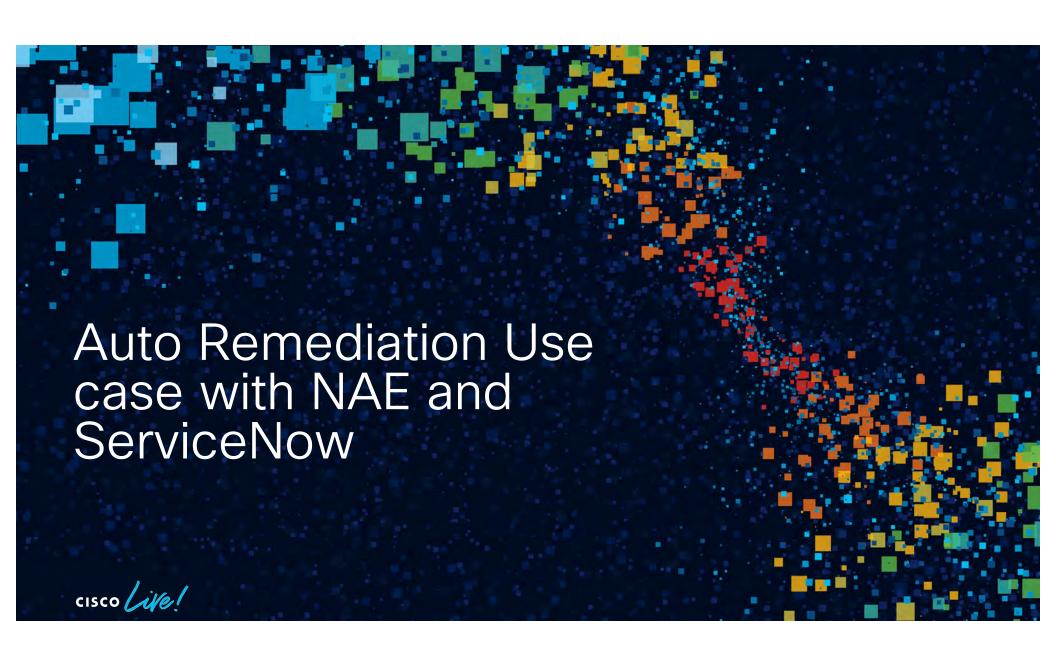




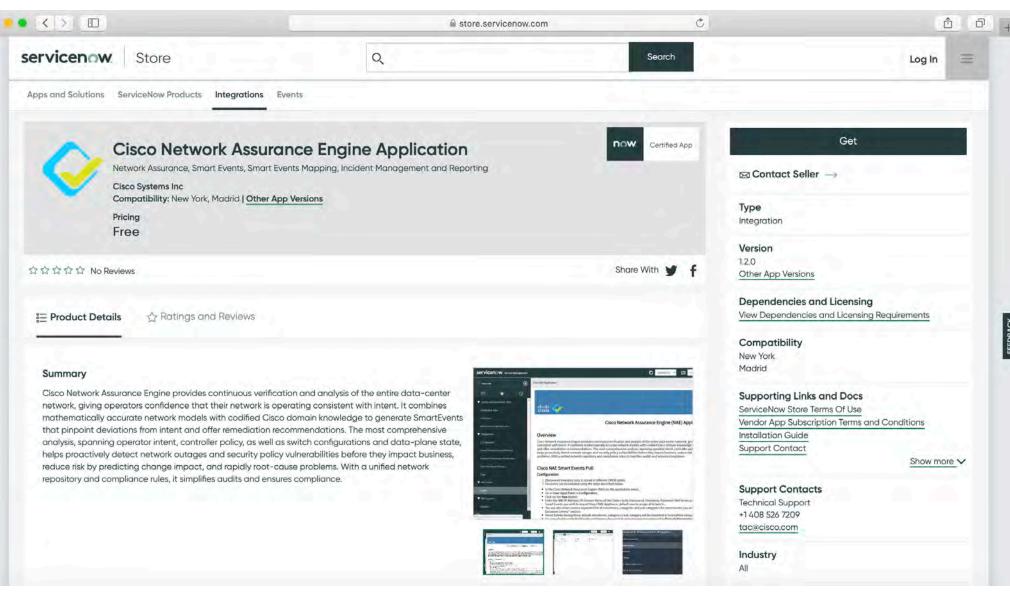


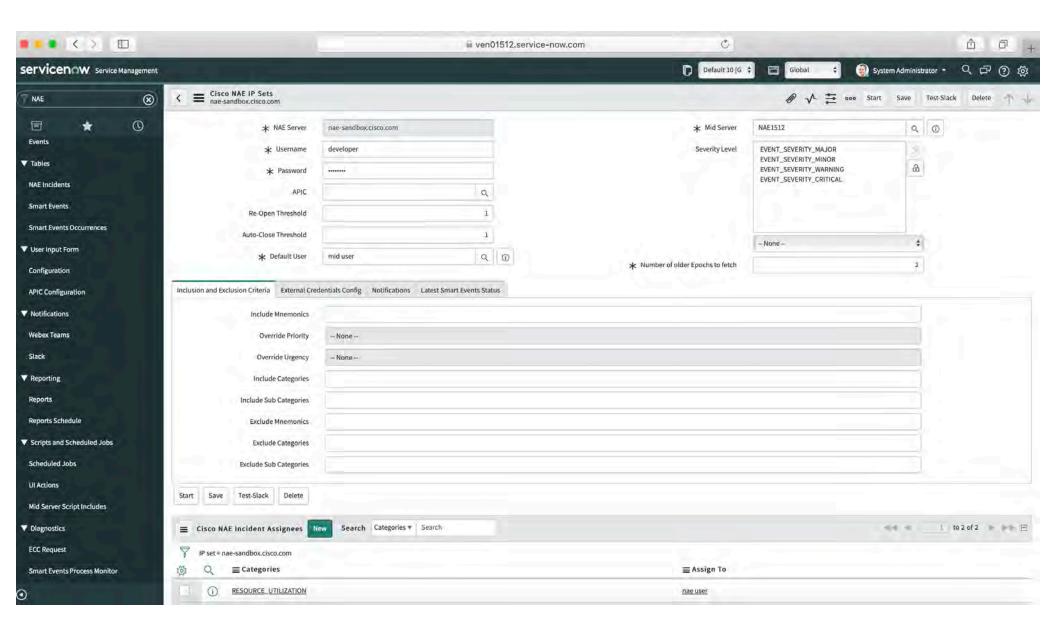


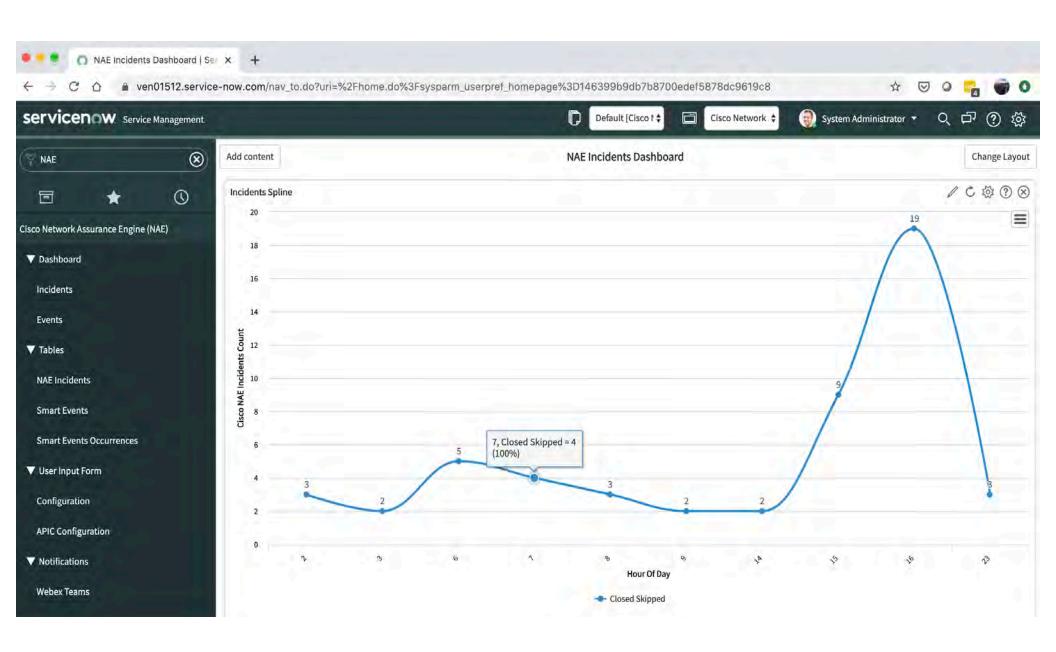


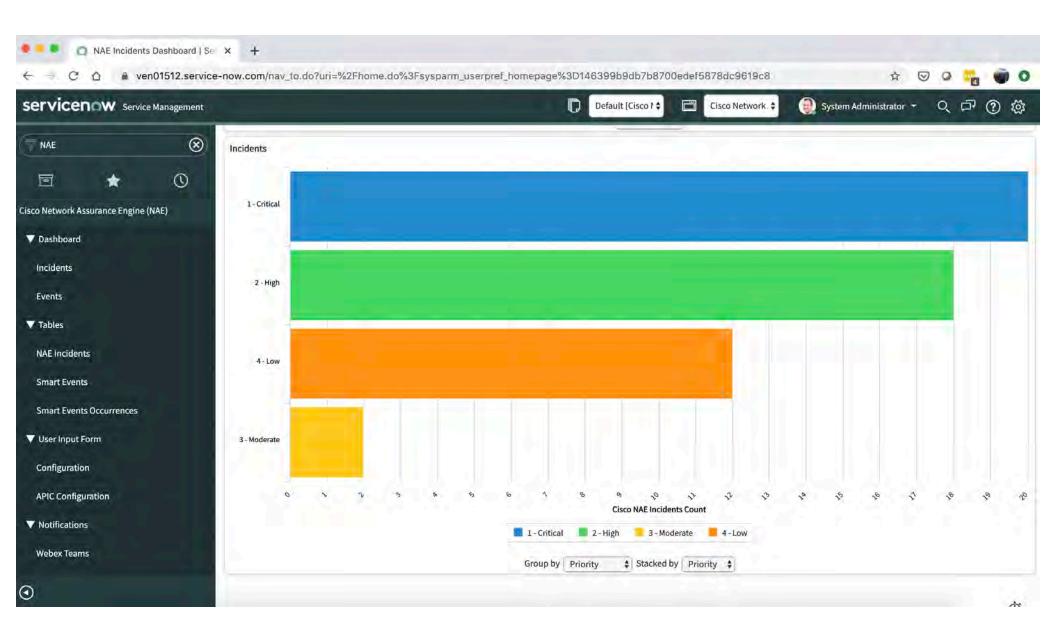


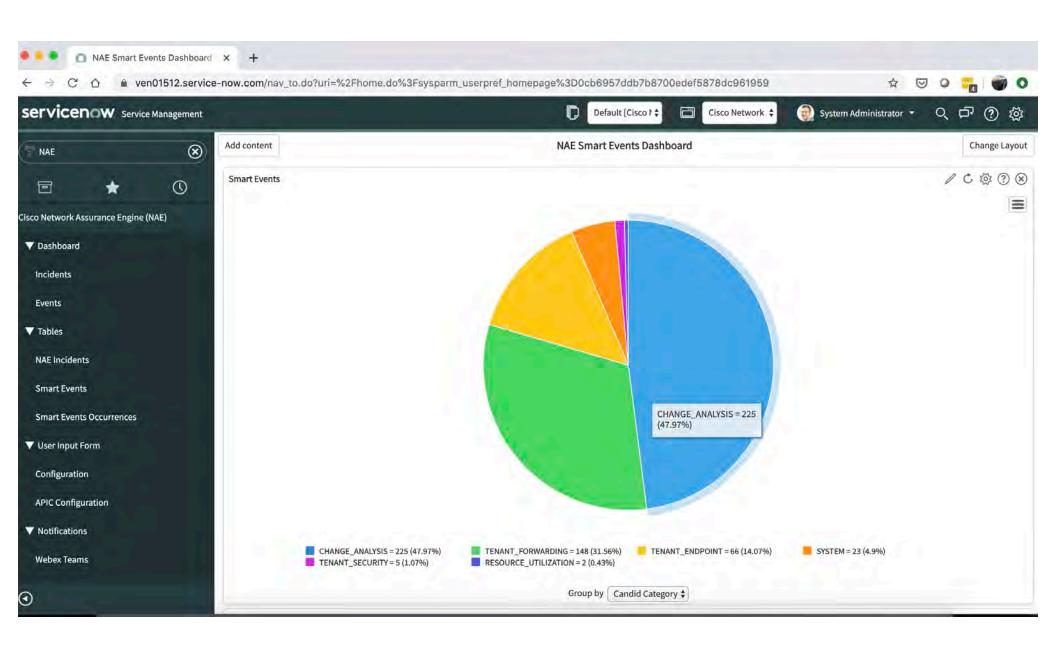


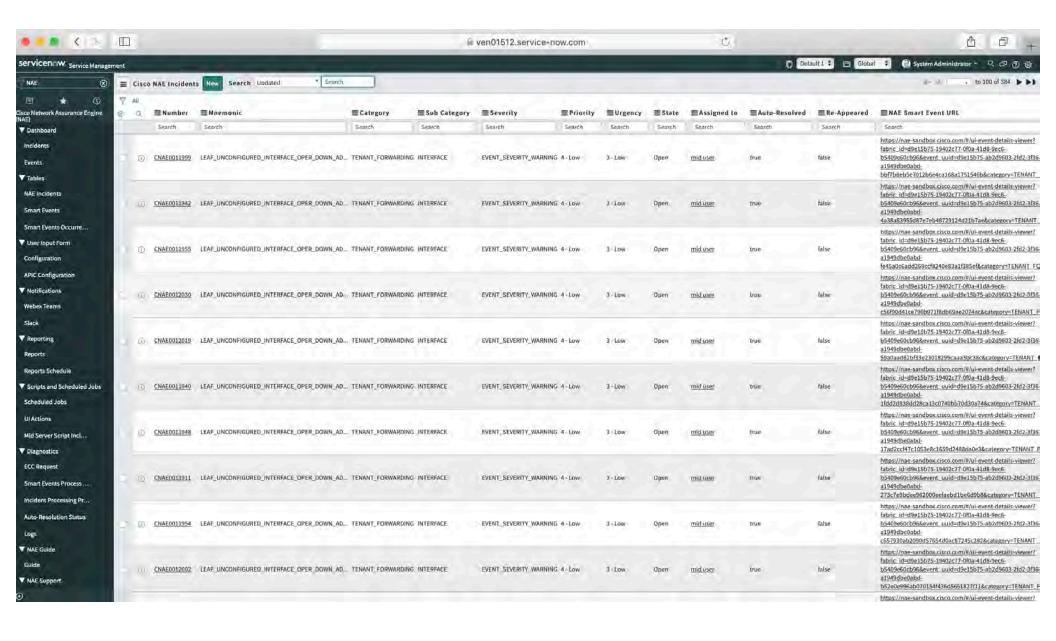


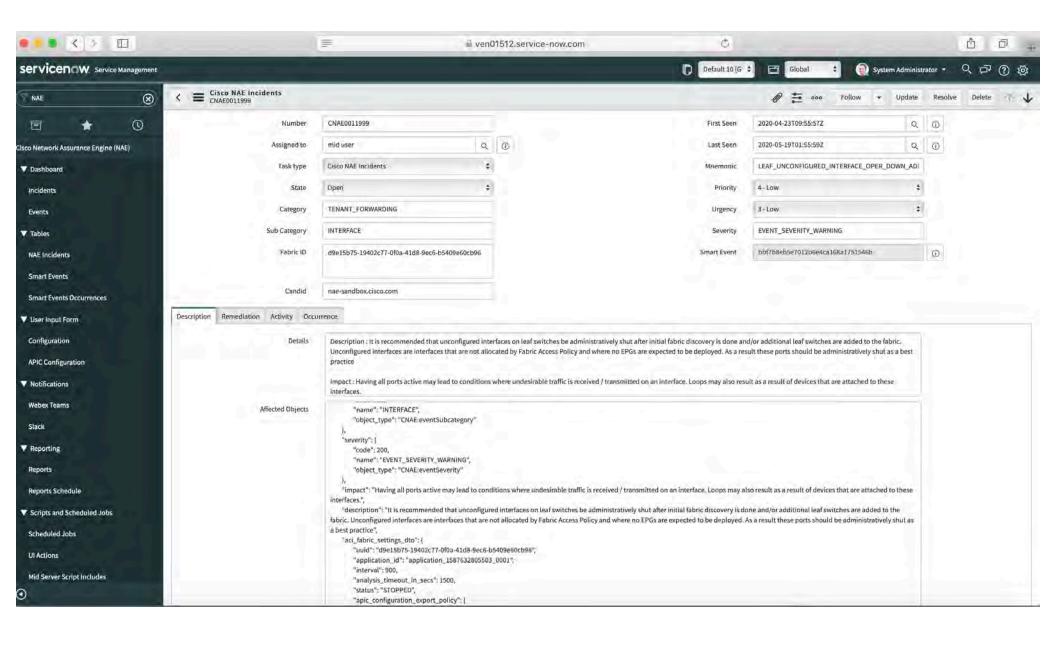


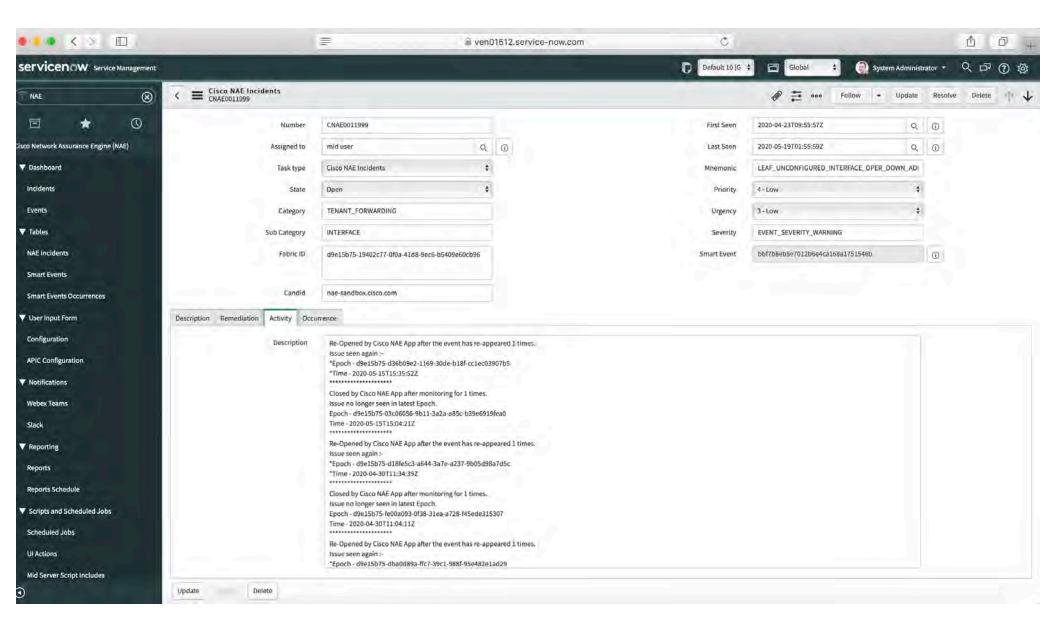


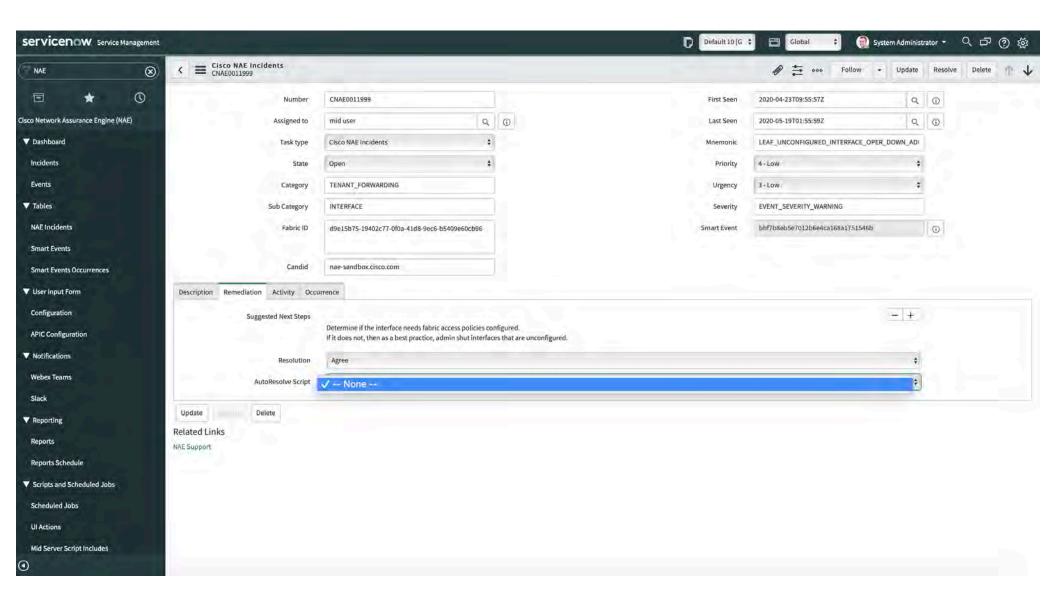












## .Resources & Next Steps

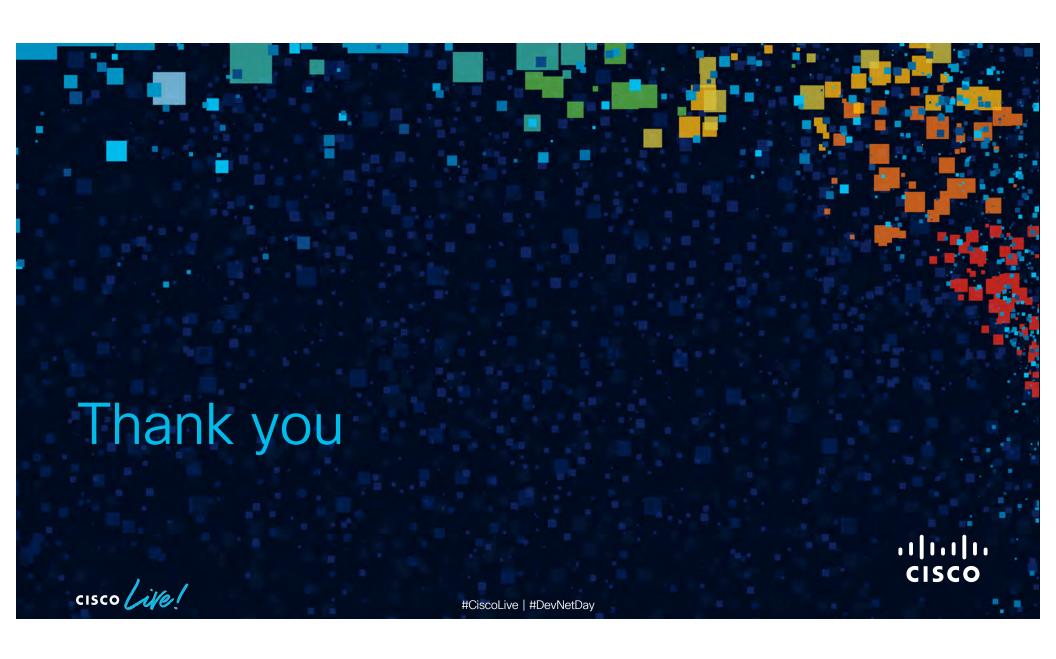
Learn More

- Cisco Network Assurance Engine
- NAE ServiceNow Solution Overview
- NAE Service-Now Demo

Build your own
Self-Driving Data
Center

- Try NAE on DevNet Sandbox
- Download NAE Plugin on ServiceNow Store
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