



The bridge to possible

Living on the Edge

From Developers to Ops

Ray Stephenson, Developer Relations Senior Director

Ryan Rose, Director, Technical Training

INTDEV-1590



#CiscoLive



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A long-exposure photograph of a night sky. The Milky Way galaxy is visible as a bright, hazy band of light stretching diagonally across the frame from the bottom left towards the top right. The sky is filled with numerous stars of varying brightness. In the foreground, a dark, silhouetted hill or cliff line runs along the bottom right, and a dark, flat area, possibly a beach or field, is visible at the very bottom. The overall scene is dark and atmospheric, emphasizing the vastness of the universe.

The frontier for innovation is expansive

Increasing Challenges for Developers



Need for streamlining



Organizational Challenges

Observability

Core Initiatives

Transform
Infrastructure

World Class
APIs

Why APIs Matter

Nearly 90% of developers
use APIs

Slash Data – 19th Developer Economics survey

API Quality



- **Highly Reliable**
(Lifecycle with deprecation notices, complete & accurate definition, complete changelog)
- **Versioned**
(API-specific lifecycle, definition published with large coverage, complete changelog)
- **Evolving**
(Product-tied versions, changelogs and contract may not be complete, ie typically UI-led design)
- **Unreliable**
(Breaking changes, no or partial changelog, typically unstructured or UI-led design)

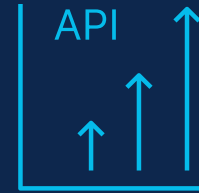
Some API challenges



Skills Gap



Internal API
Integration



API Explosive
Growth

Cisco's API Quality Journey

Working with Product Engineering Teams

Inception

DevNet creates Cisco API Advisory Group with 10 engineering members

Education

The Cisco API Style Guide is released between 2018-2019 based on feedback from 20 engineering teams

Advising

DevNet's API Architect begins outreach to engineering teams providing guidance based on the Style Guide

Executive Prioritization

Exec Alignment

API Quality prioritized in DevRel Strategy. DevRel drove awareness of broadspanning API quality issues, alignment with ELT Engr to prioritize

Implementing

Work begins with Cisco API Champions designated across BEs. Cisco API Guidelines (based on the Style Guide) used to drive quality standards.

DevNet API Experience Workshops

2016

2018

2020

2021

2022

Cisco API Style Guide

Cisco API Guidelines

Cisco's API-First Strategy & Backward Compatibility Goals

- API-First Strategy
 - Treat it as part of product
 - Versioned releases
 - Changelogs
 - Backwards Compatibility
 - Documentation
 - Support

Backward Compatibility Commitments Announced at Partner Summit

APIs are backwards compatible,
as of October 2022

Meraki Dashboard API v1

ISE API v1

Nexus Cloud API v1

SecureX Threat Response API v1

Cloud Security Open APIs v2

Webex API v1

PX Cloud API v1

API Quality Developer Solution

API Insights – a Cisco open source project now available

Early Adopter Group

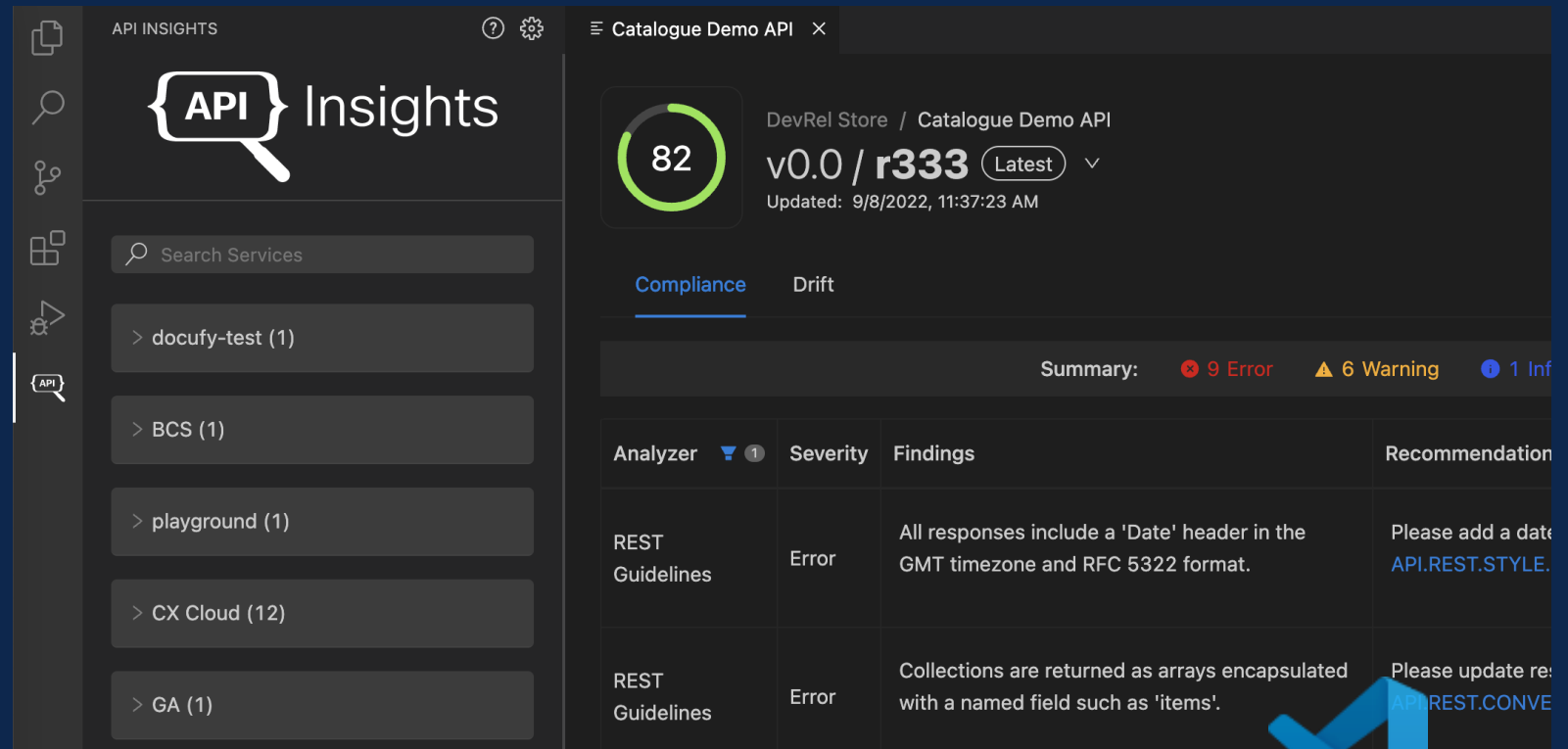
 APPDYNAMICS

Cisco Nexus

Meraki

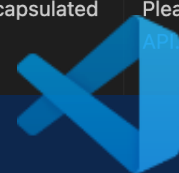
 **Cisco**
Customer Experience

Webex Connect | CPaaS



The screenshot displays the API Insights dashboard for 'Catalogue Demo API'. The dashboard shows a compliance score of 82 (indicated by a green circle) and a version of v0.0 / r333 (Latest). The dashboard is divided into two main sections: Compliance and Drift. The Compliance section shows a summary of 9 Errors, 6 Warnings, and 1 Info. Below the summary is a table of findings.

Analyzer	Severity	Findings	Recommendation
REST Guidelines	Error	All responses include a 'Date' header in the GMT timezone and RFC 5322 format.	Please add a date API.REST.STYLE.
REST Guidelines	Error	Collections are returned as arrays encapsulated with a named field such as 'items'.	Please update re: API.REST.CONVE





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CX Cisco
Customer Experience

Open Source



Application Developer



Key Features

- Static Analysis
- API Governance
- Language Inclusivity
- IDE Extension : VS Code
- Browser view for DevSecOps



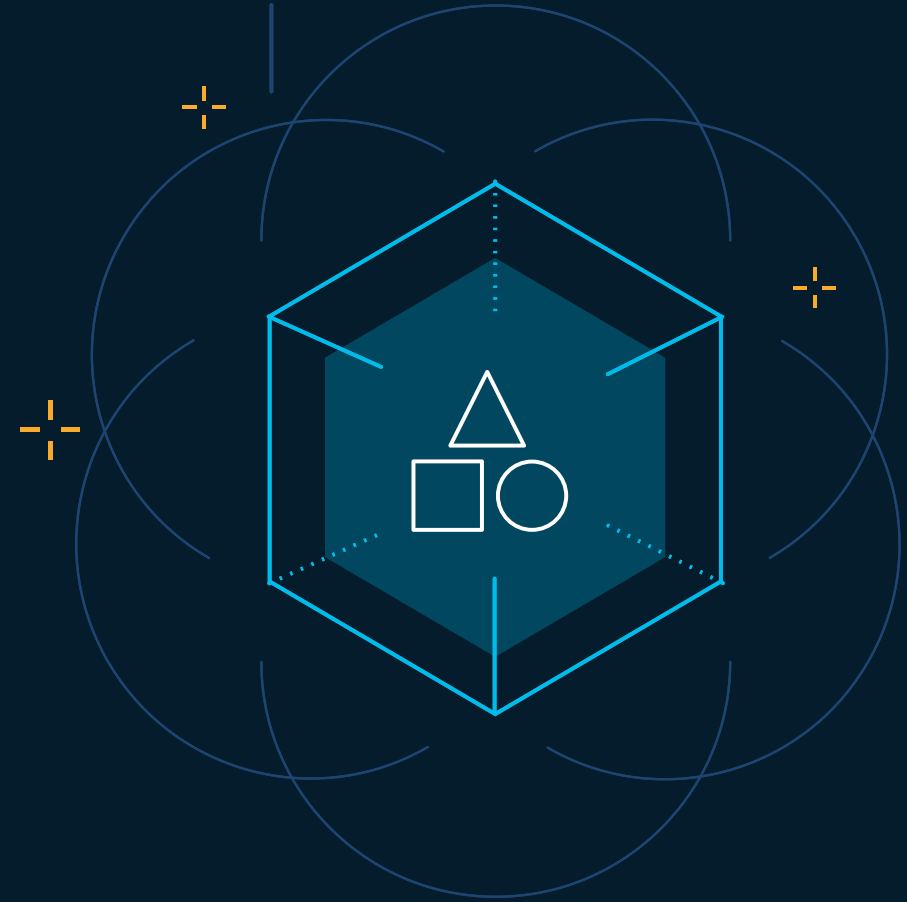
The API Insights platform enables Cisco business units to align on a consistent set of guidelines and predictability.

We have identified a number of addressable issues through the use of API Insights.

Cory Guynn

Meraki Product Management Architect

API Insights Demo



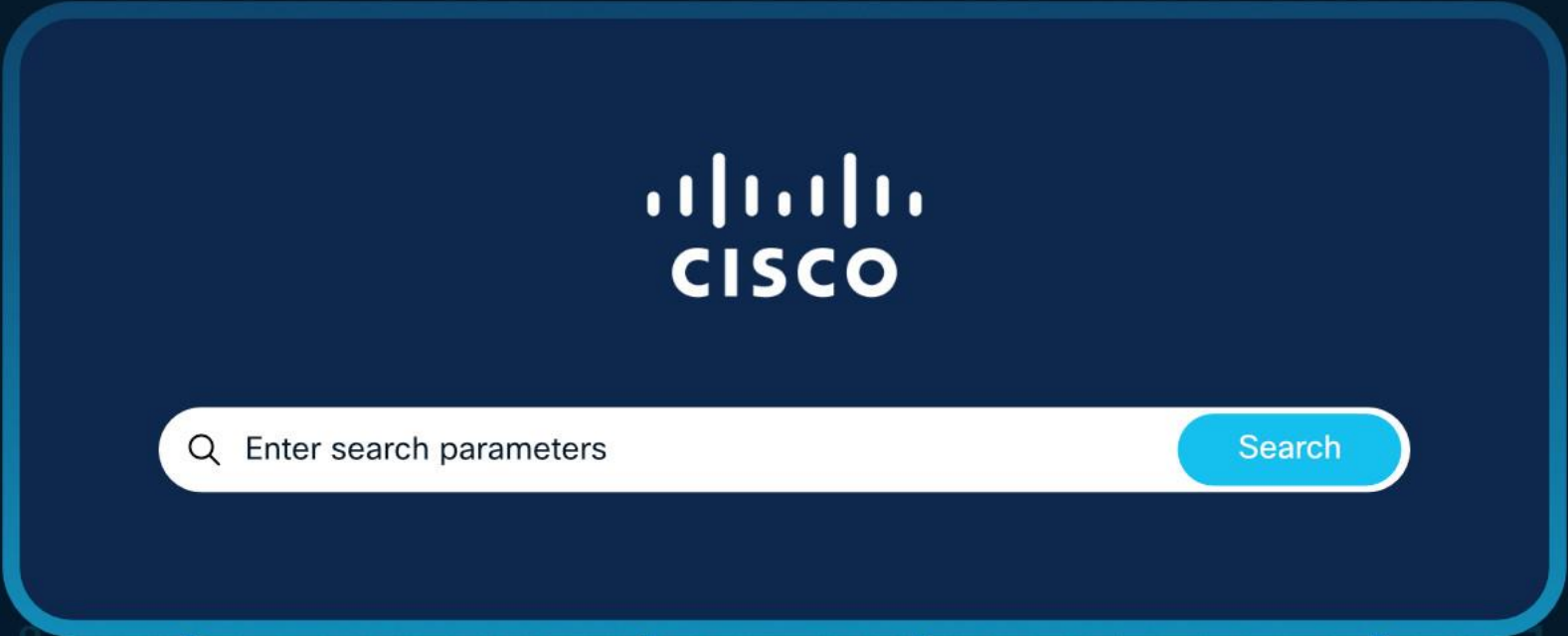
Try API Insights Yourself

Visit:



FIRST LOOK

Cisco Metrics Search Engine



API documentation



YANG models



SNMP MIBs



CLI Command
References

About 4,360,000,000 results (0.51 seconds)

<https://github.com/YangModels/yang/blob/main/vendor/cisco>[Cisco IOS XE 17.3.1 YANG Model - Cisco-IOS-XE-](#)<ftp://ftp.cisco.com/pub/mibs/v2/CISCO-SYSTEM-EXT-MIB.my>[SNMP MIB - CISCO-SYSTEM-EXT-MIB](#)<https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0/com>[CLI Command Reference - show cpu](#)<https://www.cisco.com/c/en/us/td/docs/wireless//RESTAPI/referen>[REST API Reference - getCpu](#)

Code snippet

Python - Requests

C# - RestSharp

cURL

Dart - http

Go - Native

HTTP

Java - OkHttp

Java - Unirest

JavaScript - Fetch

JavaScript - jQuery

JavaScript - XHR

C - libcurl

NodeJs - Axios

NodeJs - Native

NodeJs - Request

NodeJs - Unirest

Objective-C - NSURLSessi...

OCaml - Cohttp

PHP - cURL

PHP - Guzzle

PHP - HTTP_Request2

PHP - pecl_http

```
1 import requests
2
3 url = "https://10.100.253.23/webacs/api/
  v4/data/WLCCPUUtilizations?.full=true&
  .maxResults=999"
4
5 payload={}
6 headers = {
7     'Authorization': 'Basic {{PINBIUserAuth}}',
8     'Cookie':
9         'JSESSIONID=E8408990EB24EAC598758298F3
10         0F2089'
11 }
12 response = requests.request("GET", url,
13                             headers=headers, data=payload)
14 print(response.text)
```





Searching for APIs, YANG Models, SNMP MIBs or CLI commands for the functionality you need to enrich your solution development.

Sign-up for an early look of the [Cisco Metrics Search Engine](#)



Continue the conversation



VISIT:



Want more?

1

developer.cisco.com

2

DevNet Zone here at Cisco Live!



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Thank you

