

Stream ThousandEyes Data to Splunk Using OpenTelemetry

DEVWKS-2656

Antonio Jimenez
Tech Lead Software Engineer
@ajimenez1503

cisco Live !

Session ID: DEVWKS-2656

Cisco Webex App

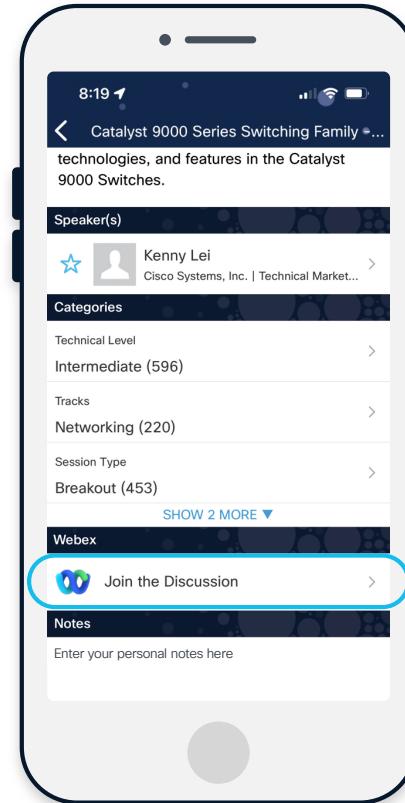
Questions?

Use Cisco Webex App to chat with the speaker after the session

How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

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Detect Outages Instantly with ThousandEyes



Agenda



Introduction

OpenTelemetry

ThousandEyes

Splunk

Workshop

ThousandEyes

Splunk Observability Cloud

Splunk Enterprise

ThousandEyes App for Splunk

Introduction

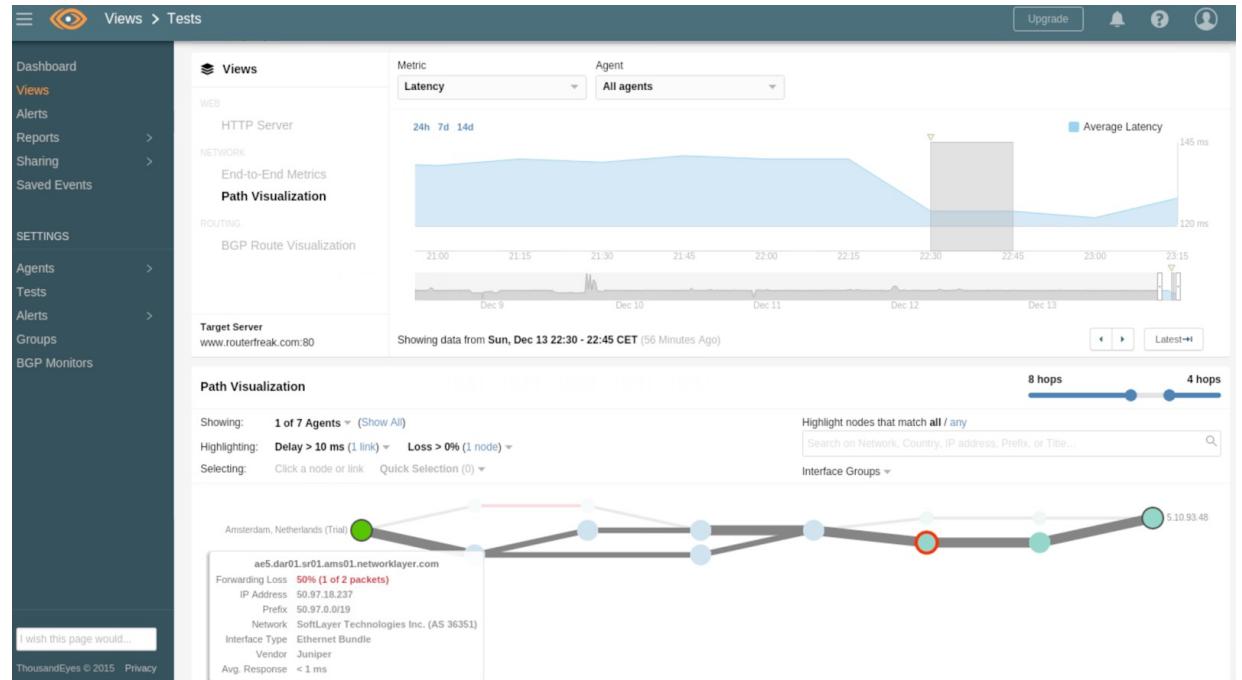
OpenTelemetry (OTel)

- Open-source observability framework
- Collection of tools, APIs, and SDKs
- Management of telemetry data
 - Instrument, generate, collect, and export



ThousandEyes Network Test

- Periodically
- Metrics collected:
latency, page load
time, throughput...
- ~30k data points/sec



Have you used
Splunk before?
If so, which
product(s)?



Join at

[slido.com](#)

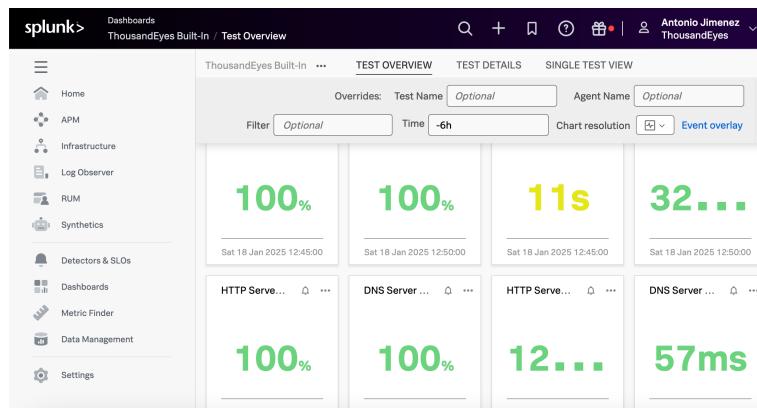
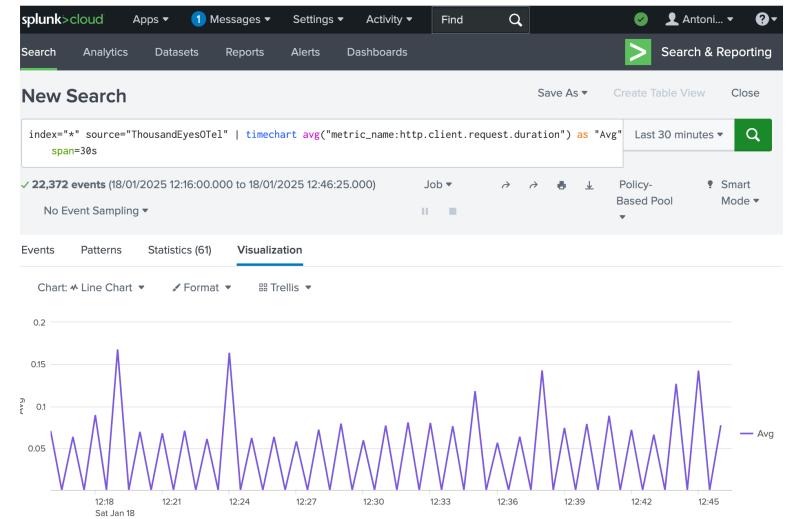
3469654

Splunk products



Splunk Enterprise & Splunk Cloud Platform

- IT operations, security and business analytics
- Highly customizable



Splunk Observability Cloud

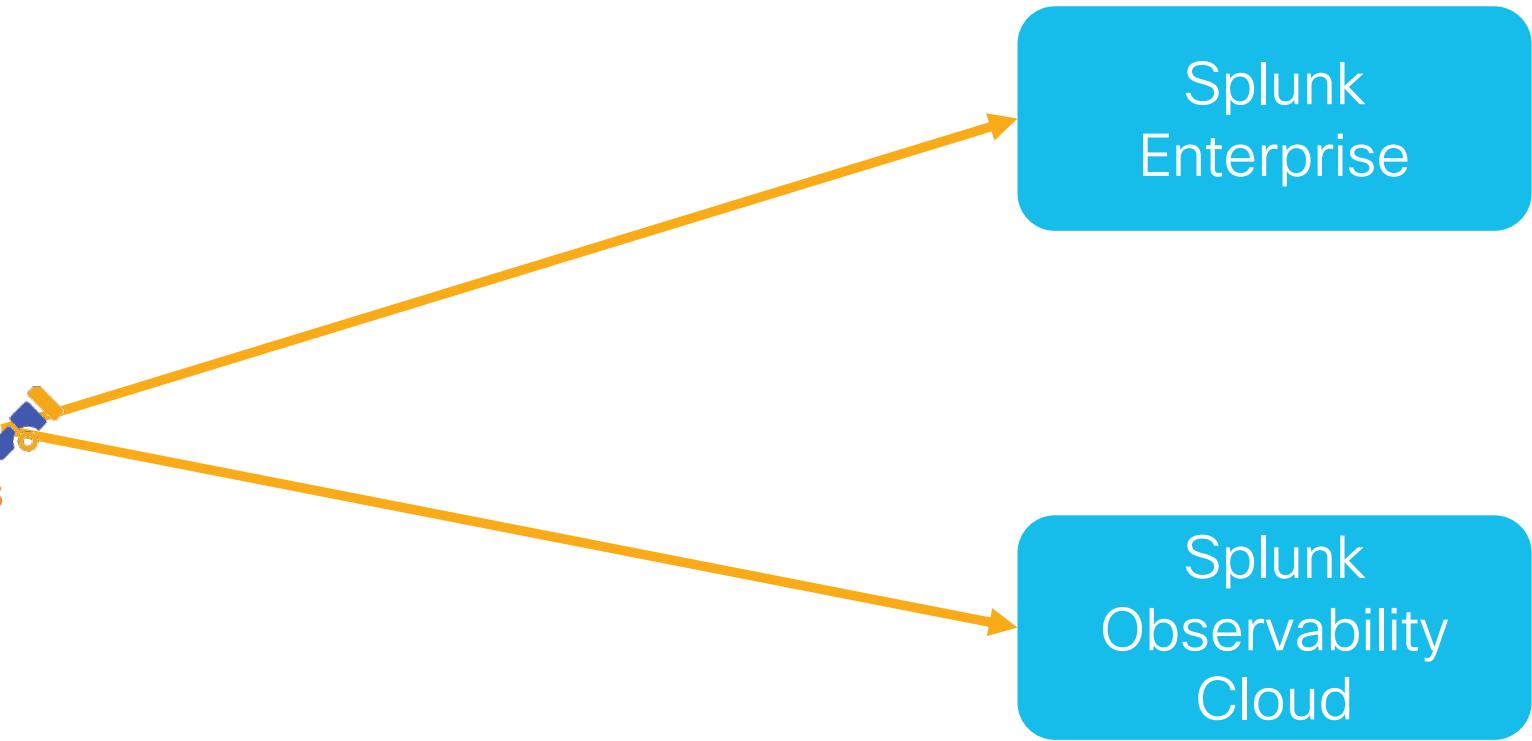
- Real-time application observability
- APM (Application Performance Monitoring)
- RUM (Real User Monitoring)

Workshop

CISCO Live !



ThousandEyes



Login – User & Password

- Email
 - `antonjim+devnet<seat>@cisco.com`
 - e.g. `antonjim+devnet1@cisco.com`
- Password:
 - `Cisco.25`

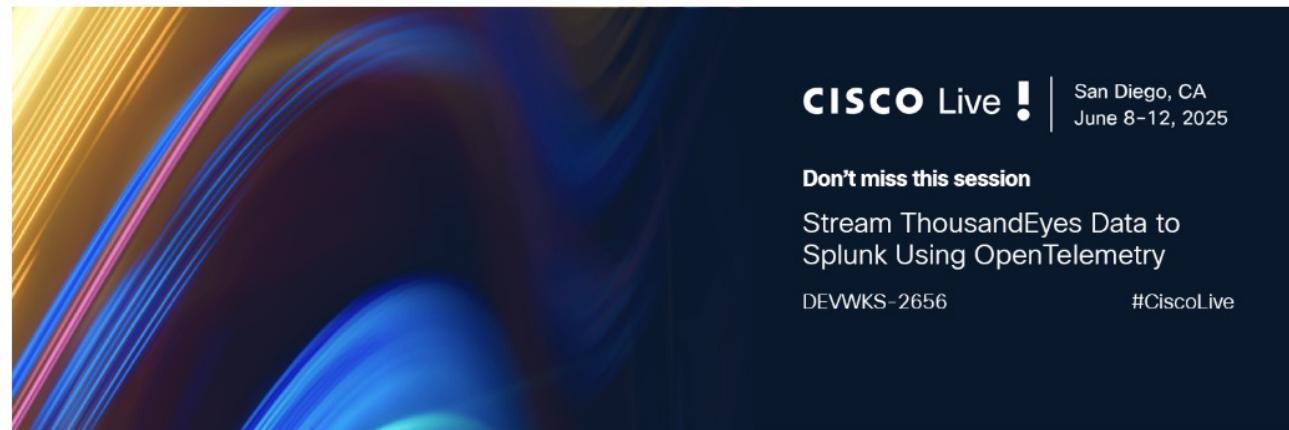
 DEVWKS-2656 Stream ThousandEyes Data to Splunk Using OpenTelemetry

Home **Workshop Guide** Bonus Section

Search

Home
Introduction
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Prerequisites

DEVWKS-2656 Stream ThousandEyes Data to Splunk Using OpenTelemetry

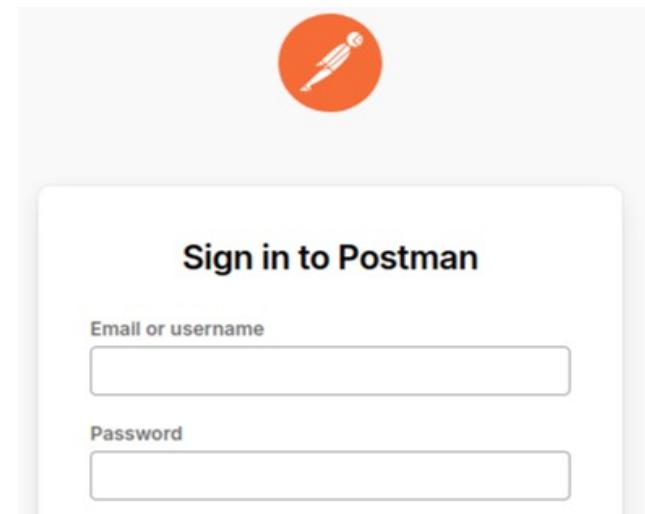


Introduction

Welcome to the workshop for streaming ThousandEyes data to Splunk using OpenTelemetry. This workshop will guide you through setting up integrations between ThousandEyes and Splunk, enabling you to visualize and analyze network monitoring data effectively.

Step 1. Access Postman

- Sign in Postman
 - Email
 - **antonjim+devnet<seat>@cisco.com**
 - e.g. antonjim+devnet1@cisco.com
 - Password:
 - **Cisco.25**



Step 1. Verify Postman collection DEVWKS-2656

The screenshot shows the Postman interface with the following details:

- Header:** Home, Workspaces, API Network, Search Postman.
- Left Sidebar:** Collections (selected), Environments, Flows, History.
- Workspace:** devnet1's Workspace, New, Import.
- Collection:** Overview, POST Create Integration - Sp, DEVWKS-2656 (selected).
- Collection Details:** DEVWKS-2656, Overview, Authorization, Scripts, **Variables** (selected), Runs.
- Variables Table:** A table showing collection variables with their initial and current values. The table is highlighted with an orange border.

	Variable	Initial value	Current value
<input checked="" type="checkbox"/>	ThousandEyes_token	e35dcc23-2616-4386-97e1-946904bd6011	e35dcc23-2616-4386-97e1-946904bd6011
<input checked="" type="checkbox"/>	ThousandEyes_test_id		
<input checked="" type="checkbox"/>	Splunk_Enterprise_HEC_token	0a7bf20f-27c7-4e6a-b1ca-4b6fd868517a	0a7bf20f-27c7-4e6a-b1ca-4b6fd868517a
<input checked="" type="checkbox"/>	Splunk_Observability_access_token	v3Uz4rTnfpPCMTdaLWAYww	v3Uz4rTnfpPCMTdaLWAYww
<input checked="" type="checkbox"/>	ThousandEyes_agent_id	32	32

Step 2. Create ThousandEyes HTTP Server test

The screenshot shows the Postman application interface for creating an HTTP test. The URL is set to `https://api.thousandeyes.com/v7/tests/http-server`. The Body tab is selected, showing a JSON payload:

```
1 {
2     "interval": 60,
3     "agents": [
4         {
5             "agentId": "{{ThousandEyes_agent_id}}"
6         }
7     ],
8     "testName": "DEVWKS-2656",
9     "url": "www.google.com"
10 }
```

The response status is `201 Created`, and the response body contains the test ID:

```
1 {
2     "testId": "281474976823745",
3 }
```

Step 2. Create ThousandEyes HTTP Server test

- Save the *testId* into the variable *ThousandEyes_test_id* in Postman

DEVWKS-2656

Overview Authorization • Scripts **Variables** • Runs

These variables are specific to this collection and its requests. Learn more about [collection variables](#)

Filter variables

	Variable	Initial value	Current value
<input checked="" type="checkbox"/>	ThousandEyes_token		01ab-e2aec94e-94ab-449e-9e9d-5ce0be937d11
<input checked="" type="checkbox"/>	ThousandEyes_test_id		281474976823745

Step 3.a. Create integration for Splunk Observability

The screenshot shows the Postman application interface. At the top, the URL is https://api.thousandeyes.com/v7/stream. The method is set to POST. The 'Body' tab is selected, showing a JSON payload:

```
1 {
2   "type": "openTelemetry",
3   "testMatch": [
4     {
5       "id": "{{ThousandEyes_test_id}}",
6       "domain": "cea"
7     }
8   ],
9   "endpointType": "http",
10  "streamEndpointUrl": "https://ingest.us1.signalfx.com:443/v2/datapoint/otlp",
11  "customHeaders": {
12    "X-SF-Token": "{{Splunk_Observability_access_token}}",
13    "Content-Type": "application/x-protobuf"
}
```

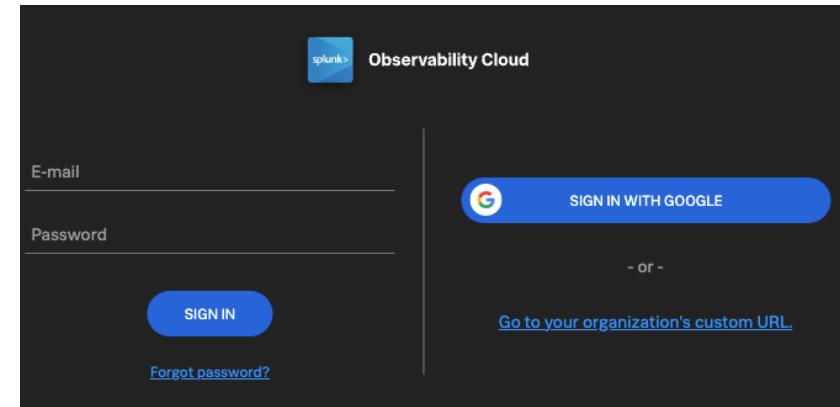
The 'Send' button in the top right corner is highlighted with an orange box.

Below the body, the response is shown as a 201 Created status with 854 ms, 1.28 KB, and a copy link. The response body is identical to the one sent:

```
1 {
2   "id": "6299bdc4-9d5b-42b4-a68b-556e062bb4fb",
3   "type": "opentelemetry",
4   "signal": "metric",
```

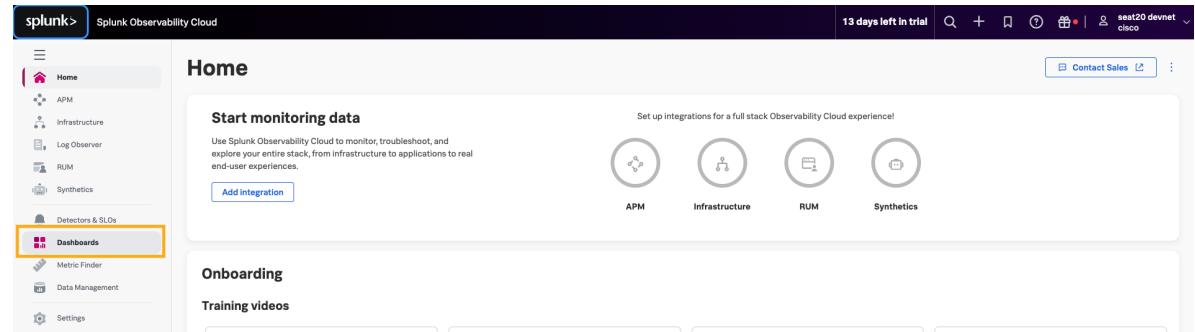
Step 3.b. Access Splunk Observability Cloud

- Navigate to Splunk Observability Cloud
 - Email
 - `antonjim+devnet<seat>@cisco.com`
 - e.g. `antonjim+devnet1@cisco.com`
 - Password:
 - `Cisco.25`

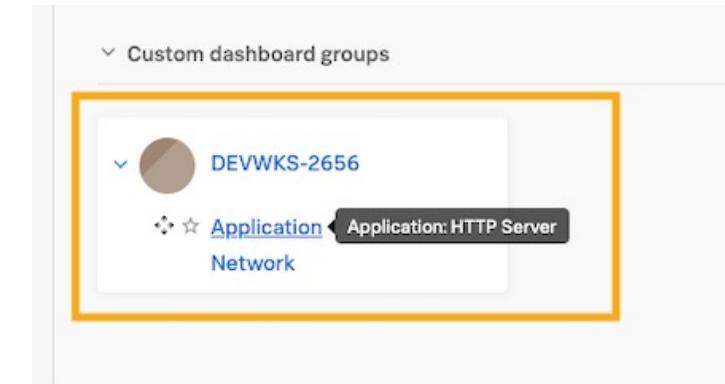


Step 3.c. Visualize data in Splunk Observability cloud

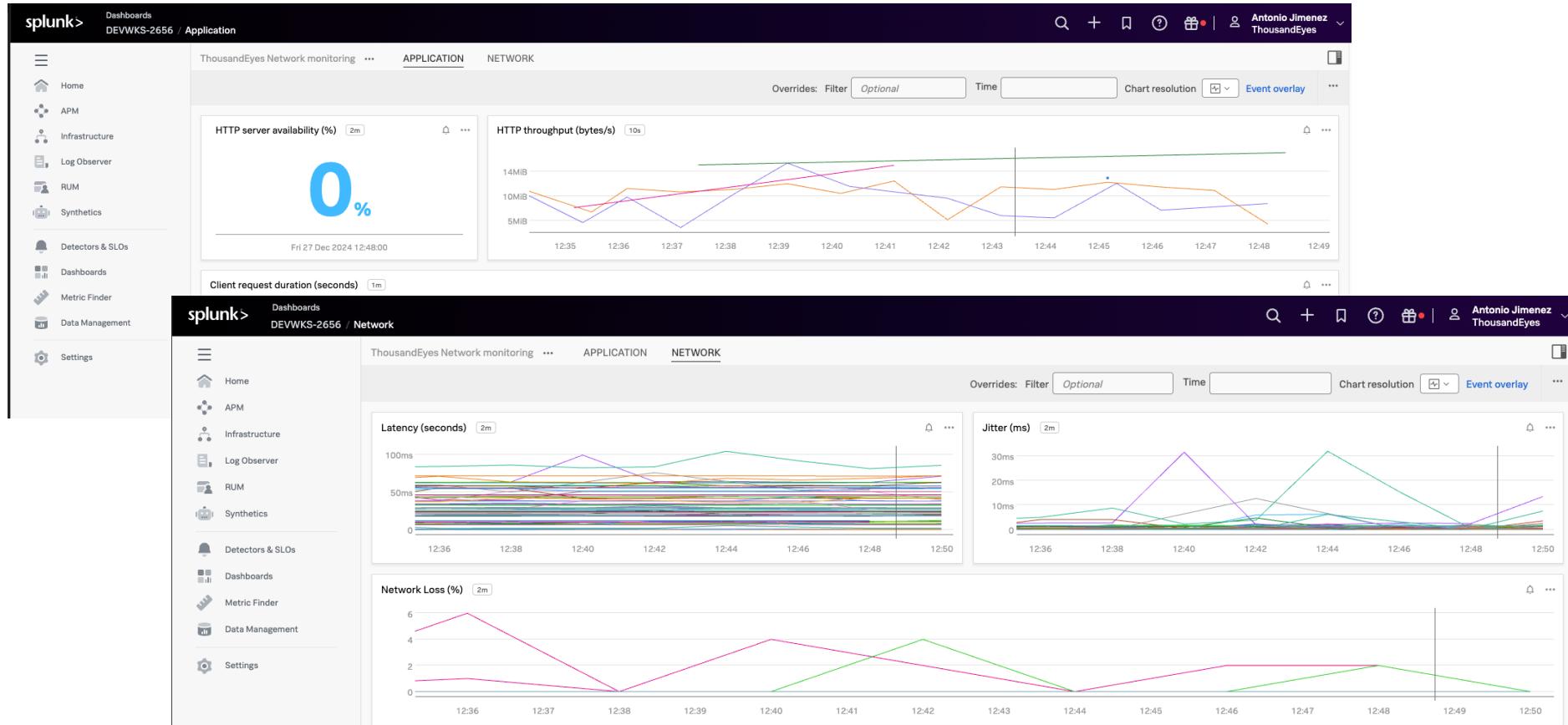
- In the initial page
- Navigate to Dashboards



- Expand DEVWKS-2656
- Select Application



Step 3.c. Visualize data in Splunk Observability cloud



Step 4.a. Create integration for Splunk Enterprise

HTTP DEVWKS-2656 / Create Streaming Integration - Splunk Enterprise

POST <https://api.thousandeyes.com/v7/stream>

Save Share

Send

Params Authorization Headers (11) Body Scripts Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

```
1 {
2   "type": "splunk-hec",
3   "testMatch": [
4     {
5       "id": "{{ThousandEyes_test_id}}",
6       "domain": "cea"
7     }
8   ],
9   "exporterConfig": {
10     "splunkHec": {
11       "token": "{{Splunk_Enterprise_HEC_token}}"
12     }
13   },
14   "endpointType": "http",
15   "streamEndpointUrl": "https://splunk.pseudoco.net:8088/services/collector/event"
16 }
```

Body Cookies Headers (20) Test Results ↻

201 Created 999 ms 1.13 KB 🔗 Save Response ...

{ } JSON ▼ Preview ✖ Visualize ▼

1 {
2 "id": "8dfbf85d-605d-455e-8157-259872d508ec",
3 "enabled": true,

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Session ID: DEVWKS-2656

cisco

Step 4.b. Access Splunk Enterprise

- Navigate to Splunk Enterprise
 - Email
 - antonjim+devnet<seat>@cisco.com
 - e.g. *antonjim+devnet1@cisco.com*
 - Password:
 - Cisco.25



Step 4.c Visualize data in Splunk Enterprise

- In the initial page
- Navigate to

Search & Reporting

The screenshot shows the Splunk Enterprise interface. At the top, there's a navigation bar with links for Administ..., 1 Messages, Settings, Activity, Help, Find, and a search bar. Below the navigation bar is a sidebar titled "splunk>enterprise" with a "Manage" button. The sidebar lists several apps: "Search & Reporting" (highlighted with an orange box), "Cisco Firepower App for Splunk", "Splunk Essentials for Cloud and Enterprise 8.2", "Splunk Secure Gateway", and "Upgrade Readiness App". There's also a link to "Find more apps". To the right of the sidebar, the main content area greets the user with "Hello, Administrator" and displays sections for "Bookmarks", "Dashboard", "Search history", and "Recently viewed". Under "Bookmarks", there are sections for "My bookmarks (0)", "Shared with my organization (0)", and "Splunk recommended (14)". Each section has an "Add bookmark" button. At the bottom, there are two cards: "Add data" (with a description "Add data from a variety of common sources.") and "Search your data" (with a description "Turn data into doing with Splunk search").

Step 4.c. Visualize data in Splunk Enterprise

- Navigate to *Dashboards*

The screenshot shows the Splunk Enterprise search interface. The top navigation bar includes 'splunk>enterprise', 'Apps', 'Search', 'Analytics', 'Datasets', 'Reports', 'Alerts', and 'Dashboards'. The 'Dashboards' tab is highlighted with a yellow box. The main search bar contains the query 'index="*" source="ThousandEyesOtel"'. Below the search bar, it says '1,039 events (30/01/2025 08:00:00.000 to 31/01/2025 08:39:14.000) No Event Sampling'. There are tabs for 'Events (1,039)', 'Patterns', 'Statistics', and 'Visualization'. Under 'Visualization', there is a chart showing event counts over time. The chart has a legend entry '1 hour per column'. Below the chart, there are buttons for 'List', 'Format', and '20 Per Page'. A table below the chart lists the first few events with columns for 'Time' and 'Event'. The first two events are identical:

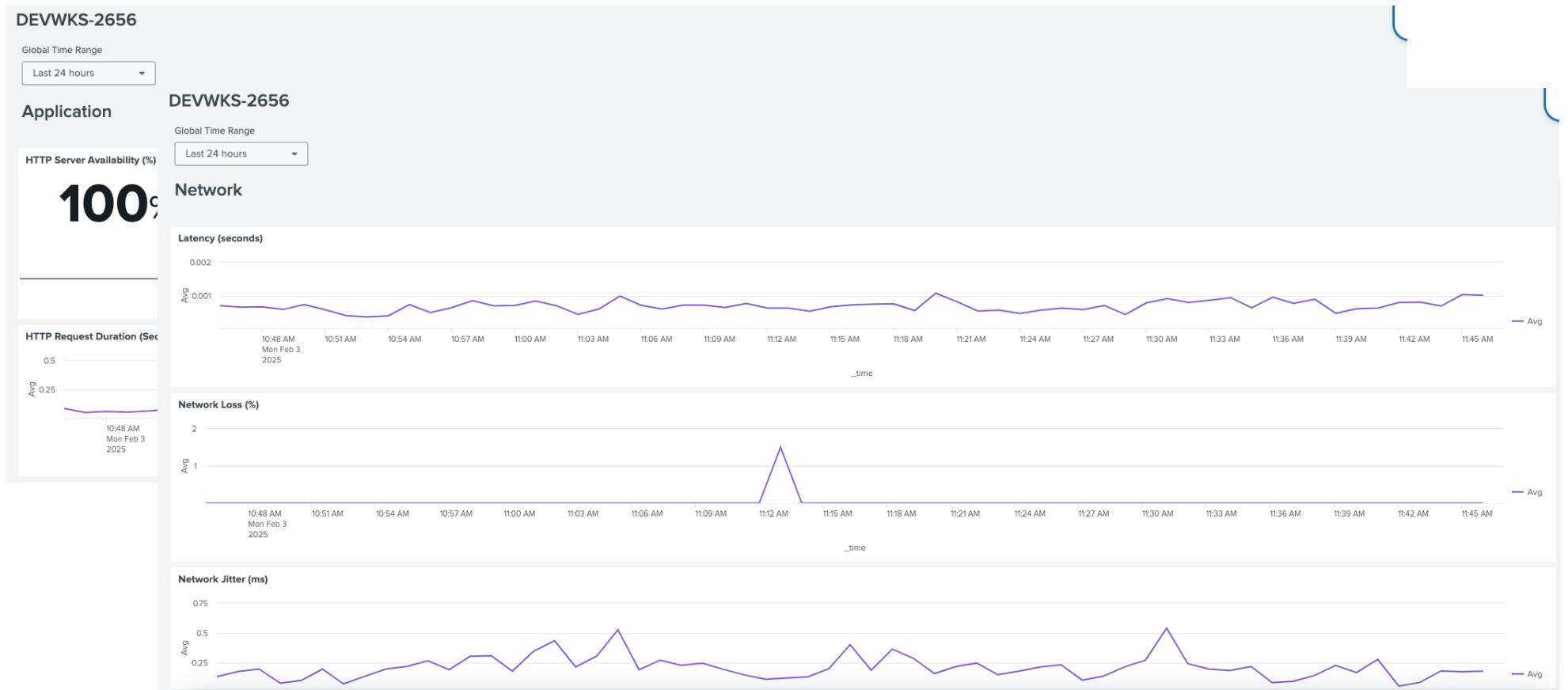
Time	Event
31/01/2025 08:39:00.001	metric host = unknown source = ThousandEyesOtel sourcetype = ThousandEyesOtel
31/01/2025 08:39:00.001	metric host = unknown source = ThousandEyesOtel sourcetype = ThousandEyesOtel

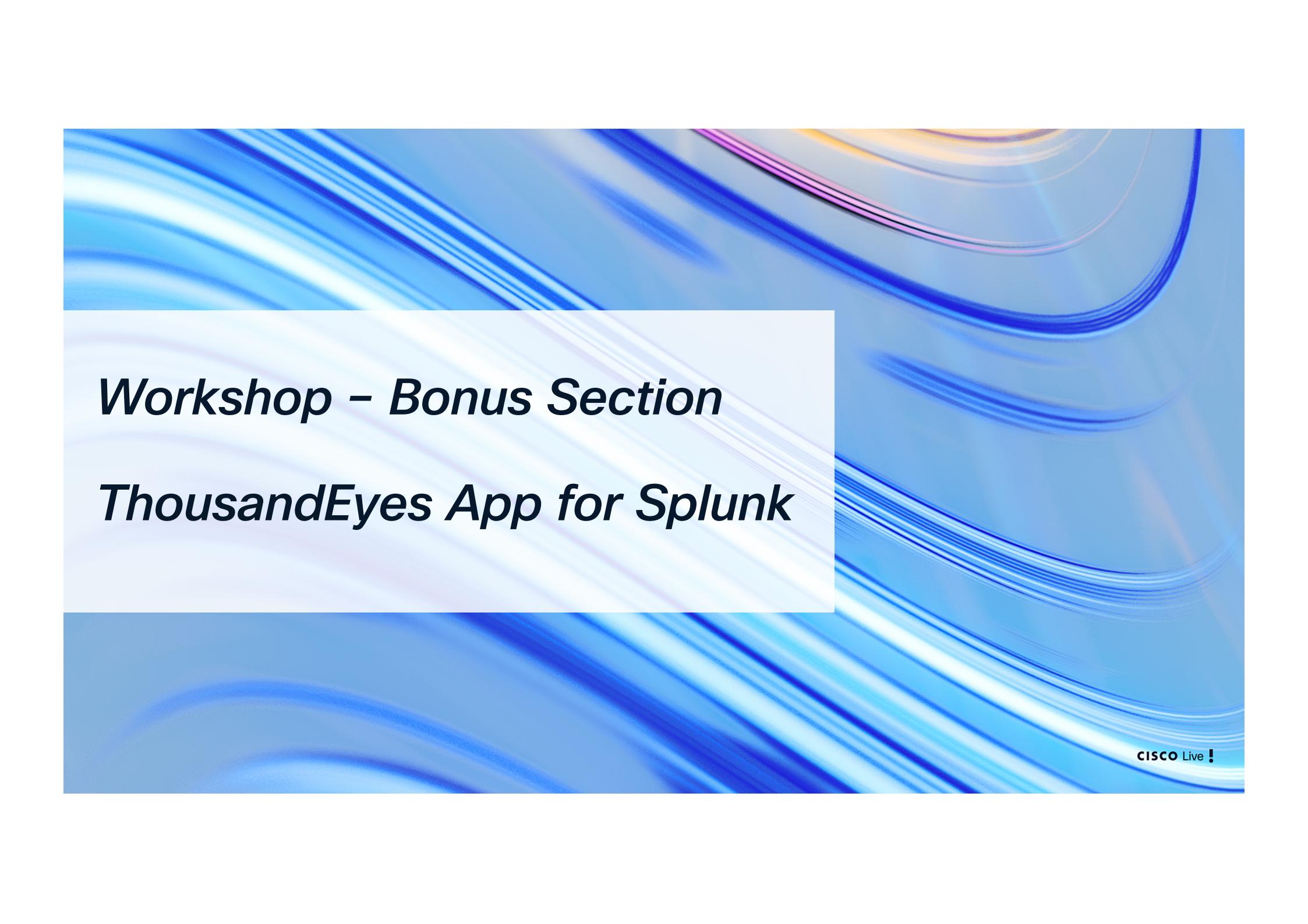
- Select **DEWKS-2656**

The screenshot shows the Splunk Enterprise Dashboards page. The top navigation bar includes 'splunk>enterprise', 'Apps', 'Search', 'Analytics', 'Datasets', 'Reports', 'Alerts', and 'Dashboards'. The 'Dashboards' tab is selected. The page title is 'Dashboards' and it says 'Dashboards include searches, visualizations, and input controls that capture and present available data.' There is a 'Create New Dashboard' button. Below this, there is a section for 'Latest Resources' with three cards: 'Examples for Dashboard Studio', 'Intro to Dashboard Studio', and 'Intro to Classic Dashboards'. The main area shows a list of '14 Dashboards'. The dashboard titled 'DEWKS-2656' is highlighted with a blue box. The table below lists the dashboards with columns for 'Title', 'Actions', 'Owner', 'App', 'Sharing', and 'Type'. The 'DEWKS-2656' dashboard is listed under the 'Events' app.

Title	Actions	Owner	App	Sharing	Type
Activity Logs	Edit	nobody	ta_cisco_thousandey...	Global	Classic
Application	Edit	nobody	ta_cisco_thousandey...	Global	Classic
Data collection Status	Edit	nobody	ta_cisco_thousandey...	Global	Classic
DEWKS-2656	Edit	antonijim	search	App	Dashboard Studio
Events	Edit	nobody	ta_cisco_thousandey...	Global	Classic
Integrity Check of Installed Files	Edit	nobody	search	App	Classic

Step 4.c Visualize data in Splunk Enterprise





Workshop – Bonus Section

ThousandEyes App for Splunk

Cisco ThousandEyes App for Splunk

splunkbase™ Collections Apps Submit an App Log In ▾

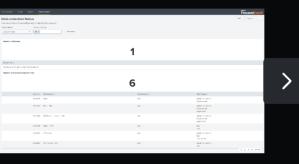
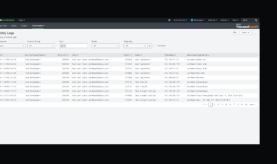
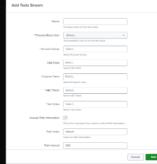
>Main Page / Apps / Cisco ThousandEyes App for Splunk

 **Cisco ThousandEyes App for Splunk**

The ThousandEyes App For Splunk enables organizations to collect and analyze CEA (Cloud and Enterprise Agent) and Endpoint test results data, Event and Activity logs. Integrated with Splunk, it provides visibility into the health and performance of IT systems, applications, and network...

Built by [Cisco Systems, Inc.](#)

 [Login to Download](#)  



Latest Version 0.0.22
March 31, 2025 [Release notes](#)

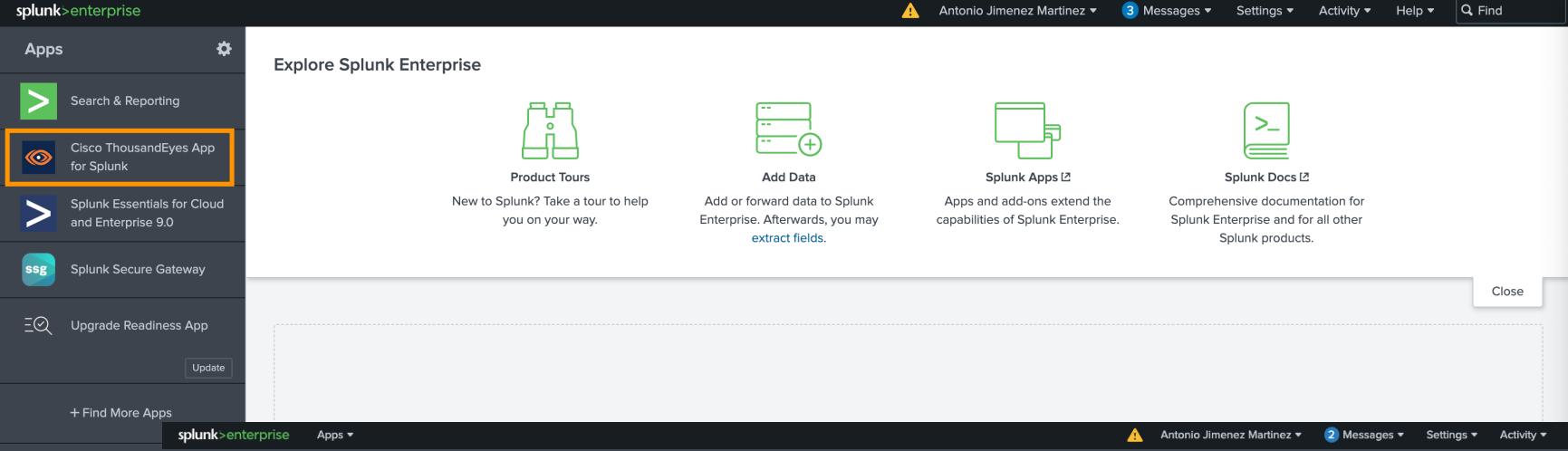
Compatibility ⓘ
Splunk Enterprise, Splunk Cloud
Platform Version: 9.4, 9.3, 9.2, 9.1
CIM Version: 6.X

Rating ⚡ 5 ★★★★★ (3)
Log in to rate this app

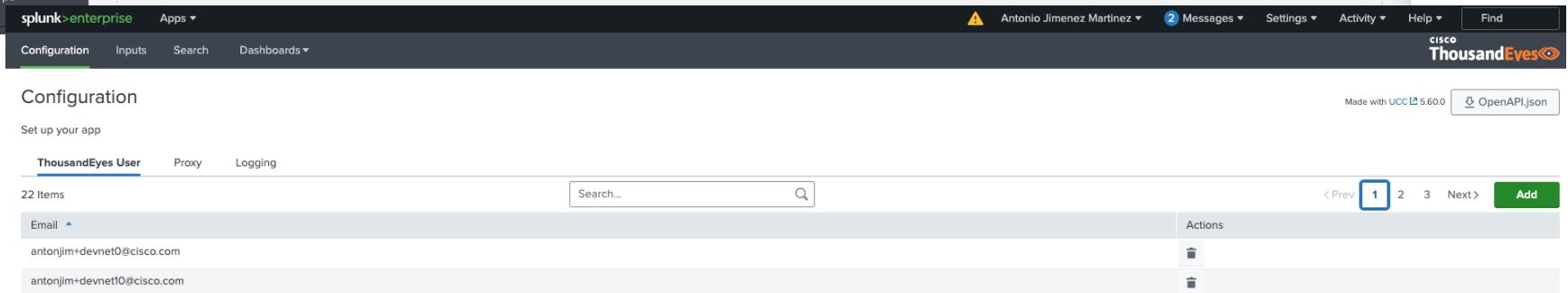
Support ⚡ Cisco Supported App [Learn more](#)

Ranking #20 In Network Device

Step 1. Navigate to Cisco ThousandEyes App for Splunk



The screenshot shows the Splunk Enterprise interface. In the top-left corner, the text "splunk>enterprise" is displayed. On the left side, there is a sidebar titled "Apps" with a gear icon. Inside the sidebar, several app icons are listed: "Search & Reporting" (green square with a white arrow), "Cisco ThousandEyes App for Splunk" (orange square with a white eye icon, highlighted with a red box), "Splunk Essentials for Cloud and Enterprise 9.0" (blue square with a white arrow), "Splunk Secure Gateway" (teal square with a white "ssg" icon), "Upgrade Readiness App" (grey square with a white "U" icon), and a "Find More Apps" button. At the bottom of the sidebar, there is an "Update" button. In the main content area, the title "Explore Splunk Enterprise" is visible. Below it, there are four cards: "Product Tours" (binoculars icon), "Add Data" (server icon with a plus sign), "Splunk Apps" (server icon with a gear), and "Splunk Docs" (book icon). A tooltip for "Product Tours" says: "New to Splunk? Take a tour to help you on your way." A tooltip for "Add Data" says: "Add or forward data to Splunk Enterprise. Afterwards, you may extract fields." A tooltip for "Splunk Apps" says: "Apps and add-ons extend the capabilities of Splunk Enterprise." A tooltip for "Splunk Docs" says: "Comprehensive documentation for Splunk Enterprise and for all other Splunk products." In the bottom right corner of the main window, there is a "Close" button. At the very bottom of the interface, there is a navigation bar with tabs: "Configuration" (which is selected and highlighted in green), "Inputs", "Search", and "Dashboards".



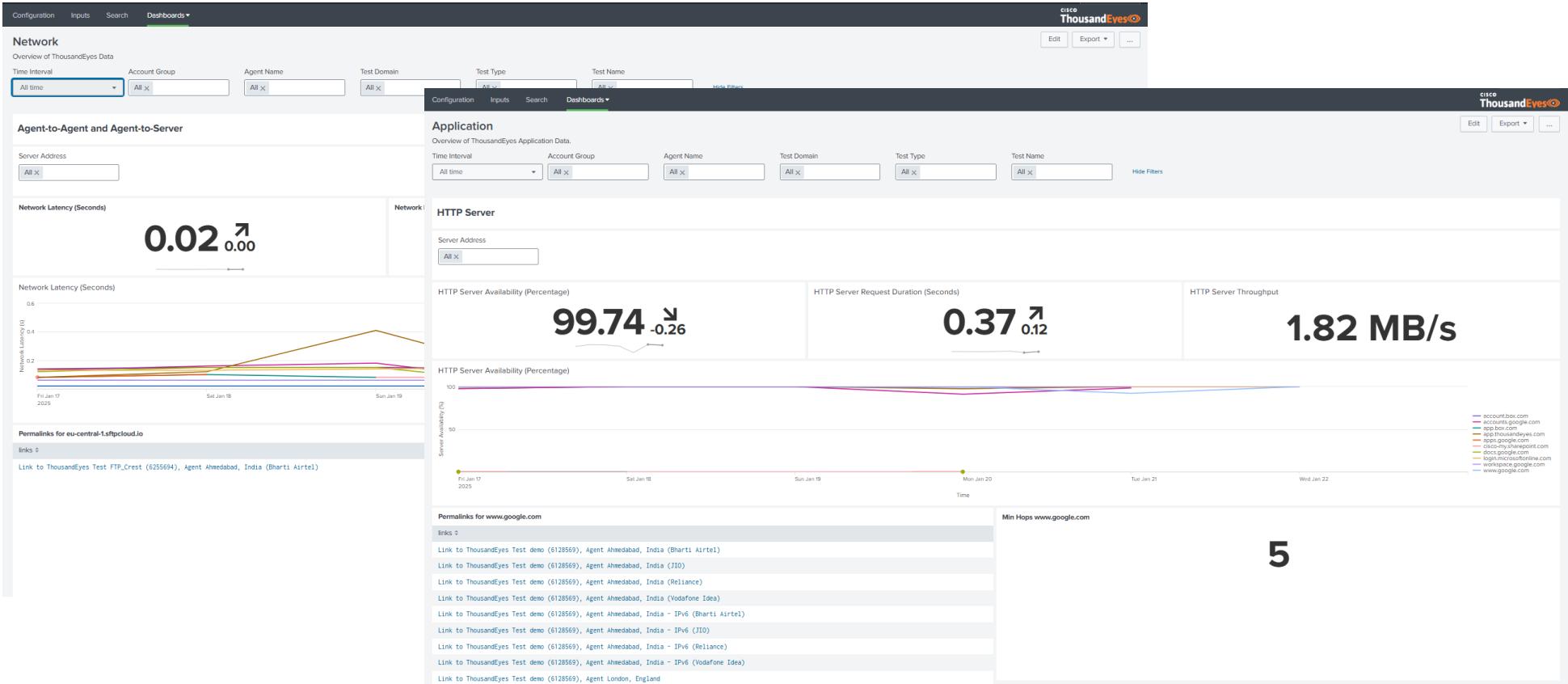
The screenshot shows the "Configuration" page for the "Cisco ThousandEyes User" app. The title "Configuration" is at the top. Below it, the sub-section "Set up your app" is shown. There are three tabs: "ThousandEyes User" (selected and underlined in blue), "Proxy", and "Logging". Under "ThousandEyes User", there is a table with one row. The row has two columns: "Email" and "Actions". The "Email" column contains two entries: "antonjim+devnet0@cisco.com" and "antonjim+devnet10@cisco.com". The "Actions" column contains two icons: a trash can and a pencil. At the bottom of the table, there are navigation links: "< Prev" (disabled), "1" (selected), "2", "3", "Next" (disabled), and a "Add" button. On the right side of the page, there is a note: "Made with UCC 5.6.0" and a link "OpenAPI.json".

Step 2. Create stream test input

Add Tests Stream

<p>* Name</p> <p>test0</p> <p>A unique name for the data input.</p>	<p>* ThousandEyes User</p> <p>antonjim+devnet0@cisco.com</p> <p>ThousandEyes User to use for this input.</p>
<p>* Account Group</p> <p>antonjim+devnet0 (2099590)</p> <p>Select Account Group.</p>	<p>Cloud & Enterprise Agent Tests</p> <p>DEVWKS-2656 (7165608 http-server Enab... X)</p> <p>Select Cloud & Enterprise Agent Tests.</p>
<p>Endpoint Agent Tests</p> <p>Select...</p> <p>Select Endpoint Agent Tests.</p>	<p>* HEC Token</p> <p>DEVWKS-2656</p> <p>Select HEC token configured on the Splunk instance. If no token configured, please configure one.</p>
<p>Configuring HEC ↗</p>	
<p>* Test Index</p> <p>default</p> <p>Select Test Index.</p>	

Step 3. Network and Application dashboards



Step 4. Create activity log input

Add Activity

X

* Name

activity1

A unique name for the data input.

* ThousandEyes User

antonjim+devnet0@cisco.com

ThousandEyes User to use for this input.

* Account Group

antonjim+devnet0 (2099590)

Select Account Group

* Index

default

Index for Activity Data Input.

* Interval

300

Time interval of the data input between 180 and 31622400
seconds

Cancel

Add

Step 5. Activity logs dashboards

Splunk > enterprise Apps ▾

Administrator ▾ 3 Messages ▾ Settings ▾ Activity ▾ Help ▾ Find Q

cisco ThousandEyes

Configuration Inputs Search Dashboards ▾

Activity Logs

Overview of Activity Logs

Time Interval Account Group User Event Page Size

All time All All x All 10 Hide Filters

Date	Account Group Name	Account Id	User	User Id	Event	IP Address	Resources (Type:Name)
2024-11-12T08:33:14Z	Test Development	2087554	test user (test.user@emaildomain.com)	3576970	User registered	163.116.213.74	userName:Sanket Kad
2024-11-15T08:56:16Z	Test Development	2087554	test user (test.user@emaildomain.com)	3577959	User registered	163.116.205.119	userName:Prachi Shah
2024-11-01T05:44:43Z	Test Development	2087554	test user (test.user@emaildomain.com)	3575143	User registered	163.116.213.41	userName:Nisarg Shah
2024-11-11T06:21:28Z	Test Development	2087554	test user (test.user@emaildomain.com)	3576968	User registered	163.116.213.89	userName:Meet Shah
2024-11-11T06:22:24Z	Test Development	2087554	test user (test.user@emaildomain.com)	3576969	User registered	103.108.207.58	userName:Abhishek
2024-11-06T09:12:59Z	Test Development	2087554	test user (test.user@emaildomain.com)	3575143	Test deleted	163.116.205.119	testName:thousandeyes
2024-11-06T09:11:11Z	Test Development	2087554	test user (test.user@emaildomain.com)	3575143	Test created	163.116.205.119	testName:thousandeyes
2024-11-06T09:11:11Z	Test Development	2087554	test user (test.user@emaildomain.com)	3575143	Test account bindings	163.116.205.119	testName:thousandeyes
2024-12-11T12:54:03Z	Test Development	2087554	test user (test.user@emaildomain.com)	3576968	Test account bindings	163.116.205.122	testName:https://www.google.com/ (Dec 11, 2024 12:54 UTC)
2024-12-11T03:30:56Z	Test Development	2087554	test user (test.user@emaildomain.com)	3576970	Test account bindings	163.116.213.78	testName:demo - SIP (Dec 11, 2024 03:30 UTC)

< Prev 1 2 3 4 5 6 7 8 9 10 Next >

Recap



OpenTelemetry

Learn to stream
ThousandEyes network
telemetry data using
OpenTelemetry



Splunk

Verify the ability to stream
data to Splunk Observability
Cloud and Splunk Enterprise



Goal

Detect outages instantly with
ThousandEyes

Complete Your Session Evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to be entered in a drawing to win 1 of 5 full conference passes to Cisco Live 2026.



Earn 100 points per survey completed and compete on the Cisco Live Challenge leaderboard.



Level up and earn exclusive prizes!



Complete your surveys in the Cisco Live mobile app.

Continue your education



Visit the Cisco Showcase for related demos



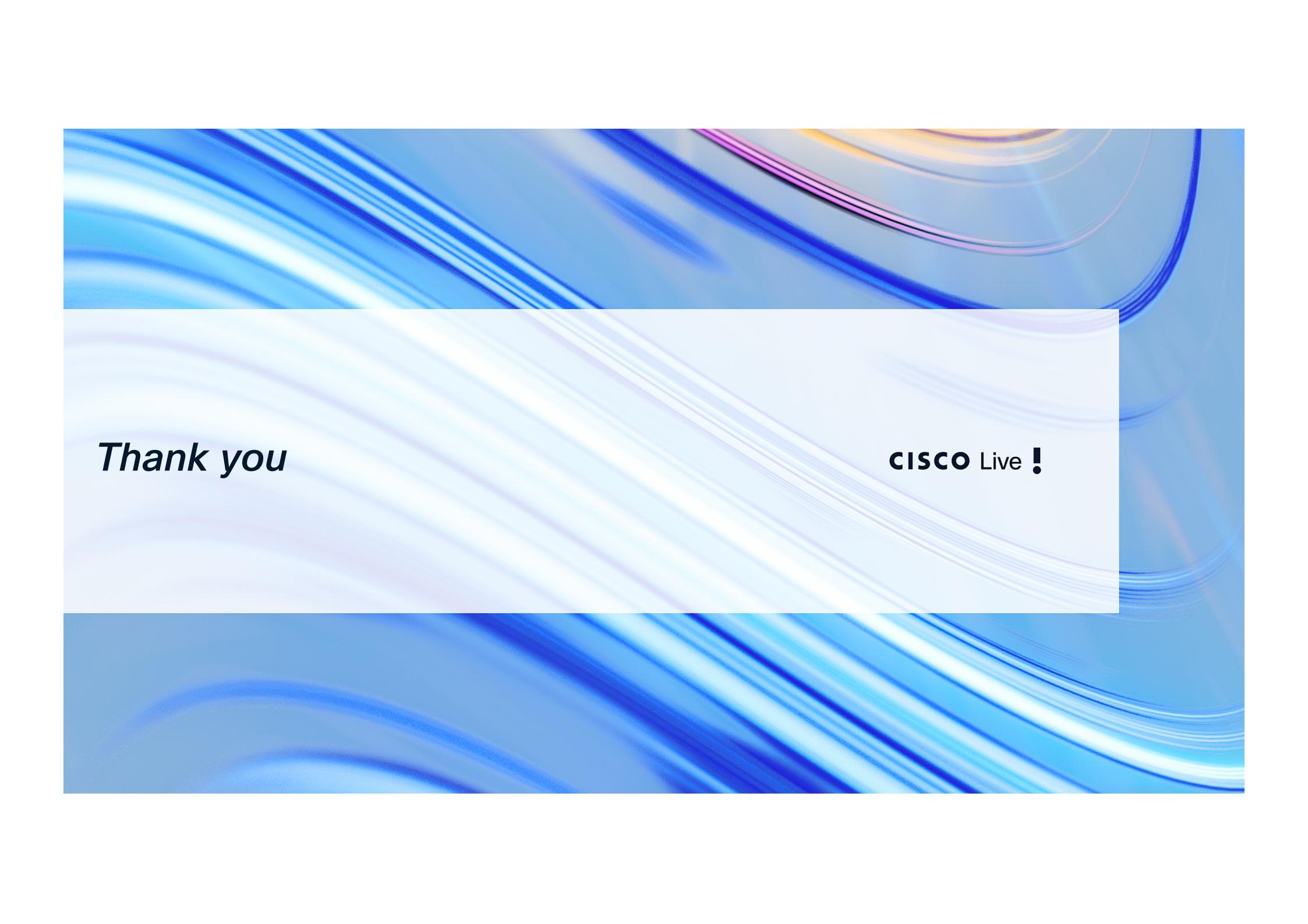
Book your one-on-one Meet the Engineer meeting



Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs



Visit the On-Demand Library for more sessions at www.CiscoLive.com/on-demand



Thank you

CISCO Live !

