

# CISCO

## Roadshow-WebexAmplify

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**Enabling Hybrid Work with ThousandEyes**

*Omer Ilyas*

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# 1. Lab

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## 1.1 Overview - Enabling Hybrid Work with ThousandEyes

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Work from the Office. Work from Home. Hybrid work has opened up the possibility of work from wherever the internet is available. At the same time, it brings new challenges to the IT team managing the end host's security, application performance, local network connection, VPN, proxy, and user's total digital experience. ThousandEyes provides this visibility with Endpoint Agents monitoring. In the lab, you will go through guided steps to start monitoring Endpoint hosts.

### 1.1.1 Upon completion of this lab you will be able to

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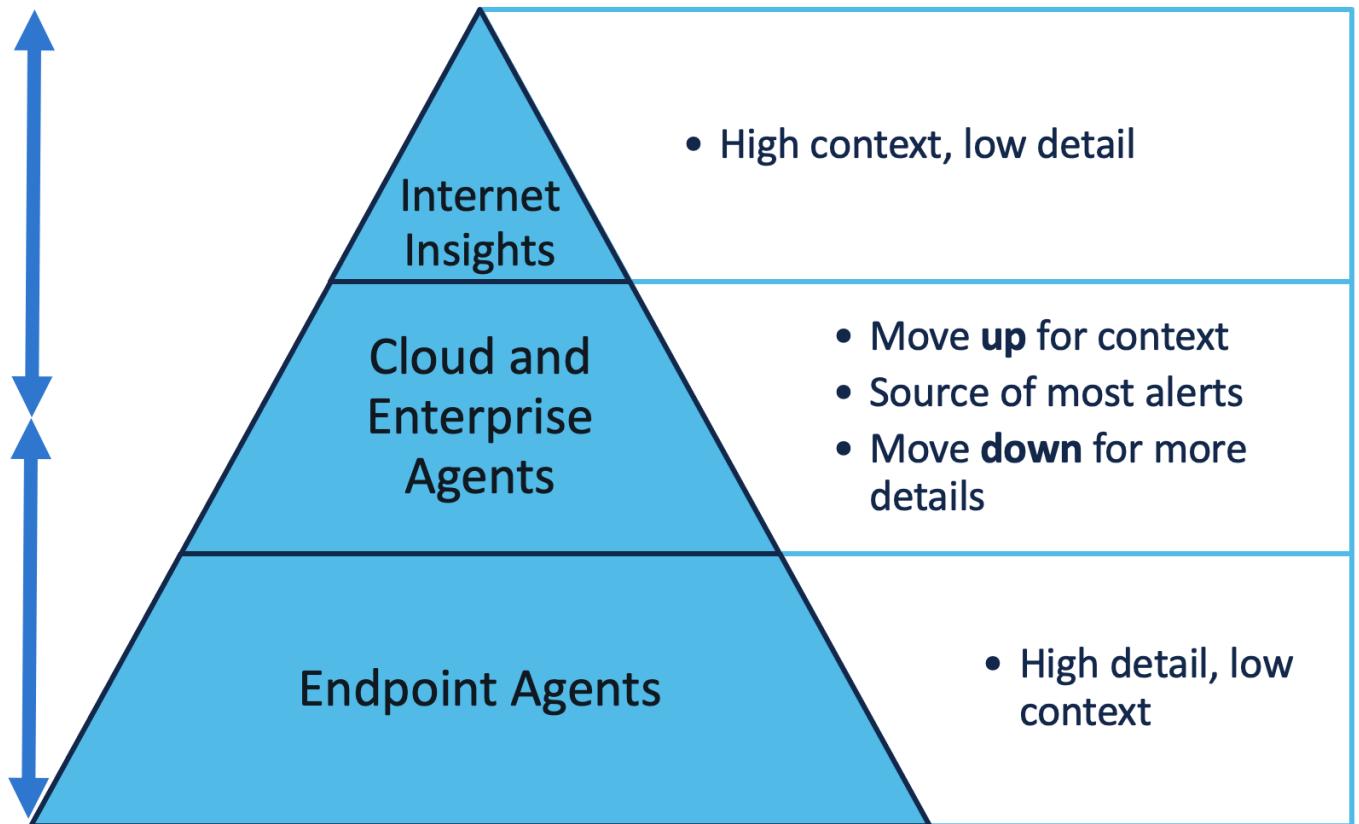
- Deploy ThousandEyes Endpoint Agents
- Start monitoring SaaS services
- Learn how to enable Automated Session Testing (AST)
- Configure browser session monitoring
- Use the collected data for live troubleshooting
- Create a snapshot to share with others for collaboration
- Create/Duplicate a Hybrid/Remote Worker Dashboard

### 1.1.2 Prerequisites

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- Understanding of ThousandEyes is helpful, but not required.

# Endpoint in the ThousandEyes Ecosystem



## 1.1.3 Disclaimer

Although the lab design and configuration examples could be used as a reference, this is a sample deployment, thus not all recommended features are used, or enabled optimally. For the design related questions please contact your representative at Cisco, or a Cisco partner or TME's.

## 1.1.4 Lab Overview - Enabling Hybrid Work with ThousandEyes

- Lab Login and Setup
- Quick ThousandEyes Overview
- Configure and Access the Lab Systems
- Deploy a ThousandEyes EPA
- Setup and Configure AST and EPA Monitoring
- Review Agent Views and Analyze Test Data
- Review Home Worker Dashboard and Alerting
- Wrap up and End the Lab

Let's get started! Click on Task 1 - Lab Login and Setup.

## 1.2 Task 1: Lab Login and Setup

Click to access the lab

This lab requires a set of characters which will be aligned with roles to access ThousandEyes and Webex. **Optional** you can also register your Webex device on the platform that can be used with your demo.

Click **My Characters** then click **Add New Character** as shown in the below image. You only need to create one character for the lab.

The screenshot shows the 'My Characters' section of a web interface. On the left, a sidebar lists various menu items under 'DASHBOARD' and 'DEMONS & TOOLS'. The 'My Characters' item is highlighted with a blue box and has a black arrow pointing to it from the left. The main area displays four character profiles in cards:

- Funky Berry**: Status: Scheduled. Demo: Troubleshooting Webex Meetings & Devices with ThousandEyes. Email: funky.berry@cumulusorg.com. Password: [.....]. PMR: 200181. Extension: 200181.
- Omer Ilyas**: Status: Ready. Demo: Troubleshooting Webex Meetings & Devices with ThousandEyes. Email: omer.ilias@cumulusorg.com. Password: [.....]. PMR: 200180. Extension: 200180.
- Webex Dna**: Status: Ready. Demo: Troubleshooting Webex Meetings & Devices with ThousandEyes. Email: webexdna@cumulusorg.com. Password: [.....]. PMR: 200186. Extension: 200186.
- Alexa Hirthe**: Status: Ready. Demo: Troubleshooting Webex Meetings & Devices with ThousandEyes. Email: alexa.hirthe@cumulusorg.com. Password: [.....]. PMR: 200182. Extension: 200182.

In the bottom right corner of the main area, there is a card titled 'Add New Character' with a green button labeled 'Add New Character' and a large black arrow pointing upwards towards it.

Click **Create Character**. Note (They will be randomly created so yours may not match the below screenshot. Also you have an option to modify the names as per your preferences.)

Create a New Character



Existing Avatar Priya

Upload Avatar

First Name Grace ✓

Last Name Ferry ✓

Username Grace.Ferry ✓ @cumulusorg.com

Locale English (United States)

Password

A red arrow points from the bottom right towards the "Create Character" button.

**Optional Step** Click on the My Devices tab, select Add New Room Device, if you want your device to be available in the demo and thousandEyes agent installed on your device. Please remember its an optional step.

Webex Demo Toolbox  
A Global Demo Engineering Service

Help and Info  Send Us Feedback

Search...

Webex Devices

DASHBOARD

- Home
- My Demo Sessions
- My Tools
- My Characters
- My Devices**
- My Favorites
- My User Profile

DEMONS & TOOLS

- All
- Calling
- Devices
- Feature VODs
- Integrations
- IT Admin
- Meeting
- Messaging
- Security
- Tools

OmerOffice

Cisco Desk Pro

Status: Online - Ready  
Local Admin: Not Configured  
Macros: Configure  
Software Channel: Latest  
Digital Signage: Disabled  
Cisco Spaces: Disabled  
Kiosk: Disabled  
Proximity: Not Supported  
Room Scheduler: Disabled  
Web Apps: Configure  
Hot Desking: Disabled  
API Access: Configure  
Room Mailbox: omeroffice@cumulusorg.com

Add a New Room Device  
Click here to add a new room device

Average time to complete: 1 min 20 sec

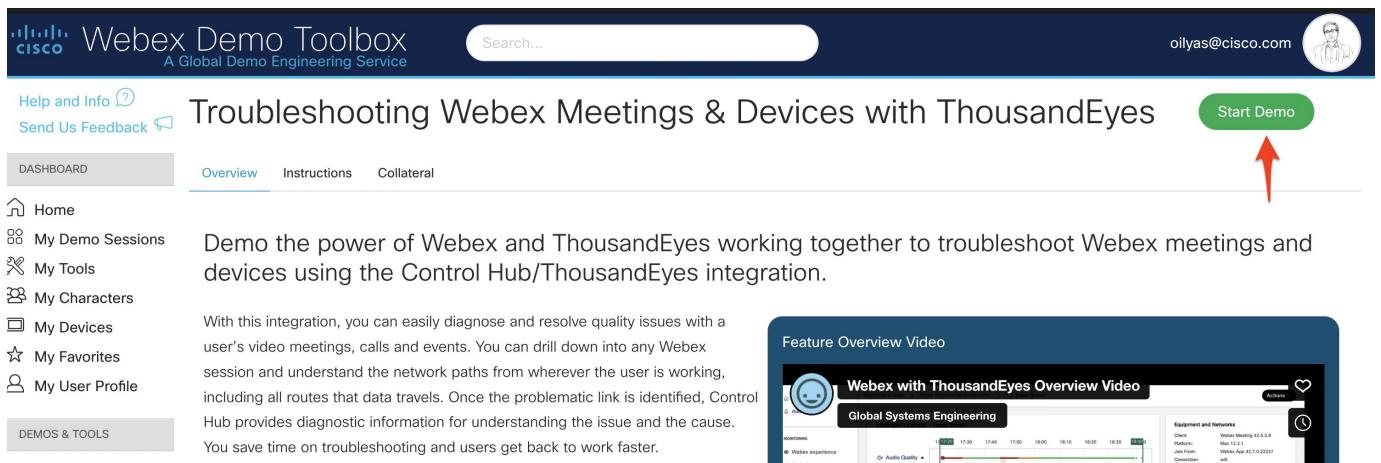
Create a New Device

Display Name Mirthful Bison ✓  
This display name is available

NOTE: This is for adding room devices only.  
For phone devices (MPP), please use the Webex Calling demo to add the device.

Three black arrows point from the "Create Device" button, the "Add New Room Device" button, and the "Create a New Device" modal window towards the "Create a New Character" form above.

Make sure you are on your demo page Click **Start Demo** (you may have to use the back arrow to navigate back to the main overview page)



The screenshot shows the Cisco Webex Demo Toolbox homepage. At the top, there's a navigation bar with links for 'Help and Info' and 'Send Us Feedback'. On the right, there's an email address 'oilyas@cisco.com' and a user profile icon. Below the navigation bar, the main title 'Troubleshooting Webex Meetings & Devices with ThousandEyes' is displayed, along with a 'Start Demo' button. A red arrow points upwards towards the 'Start Demo' button. The left sidebar has sections for 'DASHBOARD' (selected), 'DEMOS & TOOLS' (selected), 'Home', 'My Demo Sessions', 'My Tools', 'My Characters', 'My Devices', 'My Favorites', and 'My User Profile'. The central content area contains a summary of the integration and a video player titled 'Webex with ThousandEyes Overview Video'.

Next we need to provide a few details in order for the lab to be spun up.

- **Audience:** External
- **External Type:** Trade Show
- **Tradeshow Name:** Roadshow
- **Demo Session Name:** Enter your name – or leave it default

## Troubleshooting Webex Meetings & Devices with ThousandEyes



Please provide details about how you are going to use this demo

### Audience

 Internal External

### External Type

 Customer Demo Trade Show Executive Presentation CXC \* Other

### Tradeshow Name

### Demo Session Name

[Previous](#)[Next](#)[Cancel](#)[Start Demo](#)

Click **Next** and then choose the character you created previously. (Note: this will be needed for automated session testing - AST)

## Troubleshooting Webex Meetings & Devices with ThousandEyes

1      2      3      4      5

Demo Details      Character      Demo Workstation      Demo Device (Optional)      Duration

Choose a character to use in your demo for scheduling a Webex meeting.



FB  
Funky Berry  
funky.berry@cumulusorg.com



Webex Dna  
webexdna@cumulusorg.com



Alexa Hirthe  
alexa.hirthe@cumulusorg.com

[Previous](#) [Next](#)

[Cancel](#) [Start Demo](#)

Click **Next** and add a virtual workstation using the "+" sign. This will be used to install the ThousandEyes Endpoint Agent (EPA) which can be configured to monitor web browser sessions, automatically monitor dynamic Webex meeting network connections and run scheduled tests in the background. **Note** you also have an option to install the ThousandEyes agent on your personal machine

## Troubleshooting Webex Meetings & Devices with ThousandEyes

1      2      3      4      5

Demo Details      Character      Demo Workstation      Demo Device (Optional)      Duration

If you would like to use a virtual workstation then increase the number below to 1.

- 1 +

[Previous](#) [Next](#)

[Cancel](#) [Start Demo](#)

**Optional Step** If you have a Webex device select your device and click **Next**

## Troubleshooting Webex Meetings & Devices with ThousandEyes



Optionally select a device to add to the demo. This is needed if you want to configure the device to the correct software channel to install the ThousandEyes device agent. Then you will be able to use the device in a Webex meeting and see the network data line.



Choosing a device is optional for this demo.

Previous

Next

Cancel

Start Demo

Click **Next** select your duration and Click **Start Demo** as shown in the below screenshot.

## Troubleshooting Webex Meetings & Devices with ThousandEyes ×



Choose the duration for your demo.

2 Hours    4 Hours    8 Hours    24 Hours    2 Days    **3 Days**

Previous

Cancel

Start Demo

This is roughly a 45 min lab but the access duration can be upto 3 days. It will take a few minutes for the lab to spin up. While this is occurring proceed on to the ThousandEyes Overview content and extra background information in Task 2.

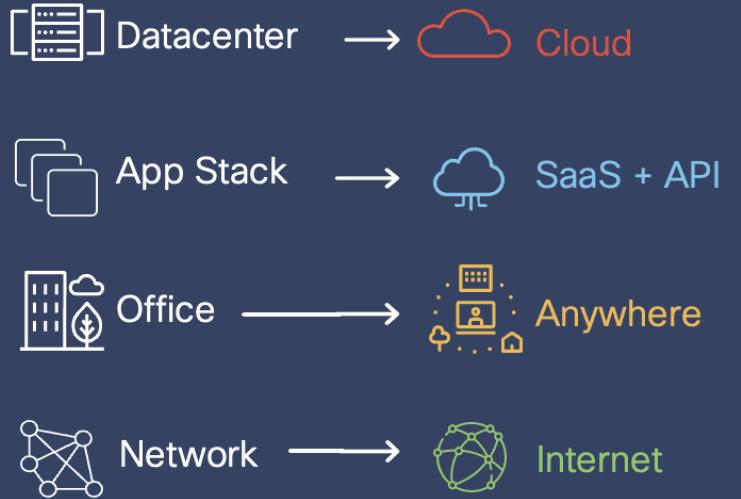
## 1.3 Task 2: ThousandEyes Overview

Feel free to take a few minutes while the lab spins up and review the Getting Started with Endpoint Agents guide.

### The Challenge

Visibility and control is shrinking

External dependencies are exponentially growing



### The Challenge

Massive blind spots erode ability to manage

So many layers, domains, and providers

Traditional tools don't work for what you don't own

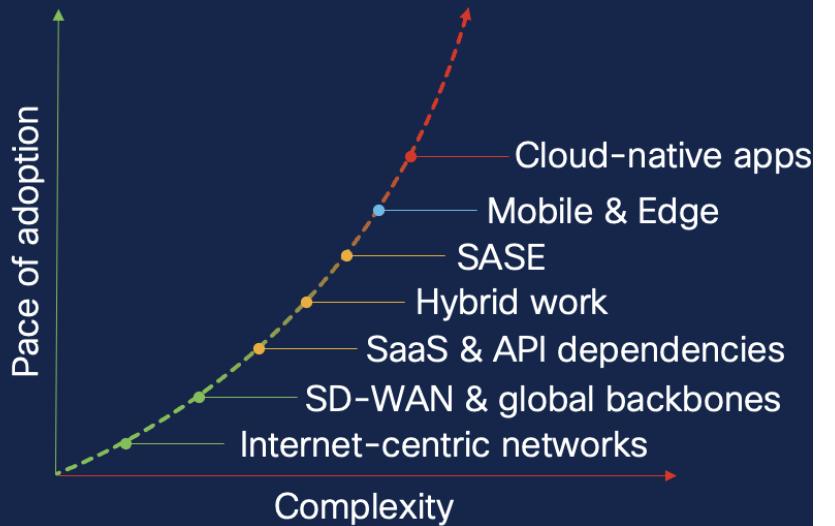


## The Challenge

**Soaring complexity curve is widening visibility gap**

Competitive pressures driving technology adoption

Adoption outpacing capabilities to manage new environments



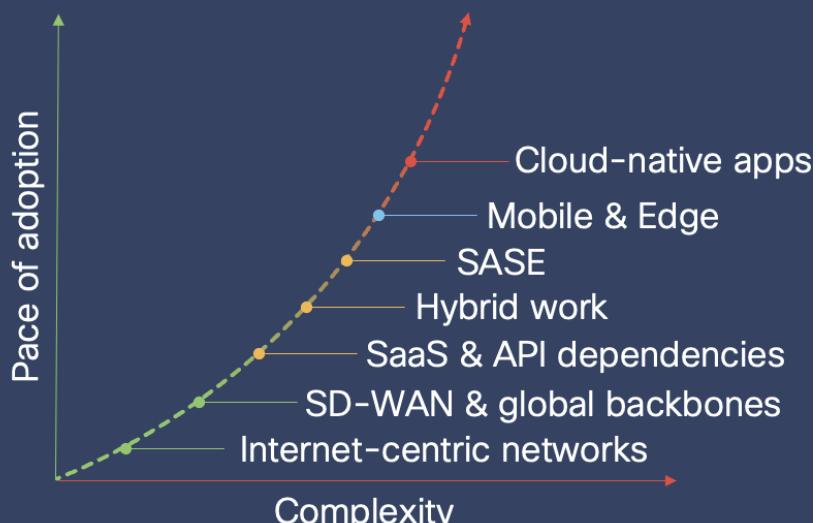
Connectivity is your business, but it's changing rapidly. Your brand is only as good as your network. Digital experience is how you are measured, but most of the path is outside your control (outside the core) What do you need to do about it? How can you understand digital experience to the things your customers are accessing and understand health of the Internet cloud and peering providers. Continue your journey to learn how ThousandEyes can help answer these questions and help solve your network and application access issues.

## The Challenge

**Soaring complexity curve is widening visibility gap**

Competitive pressures driving technology adoption

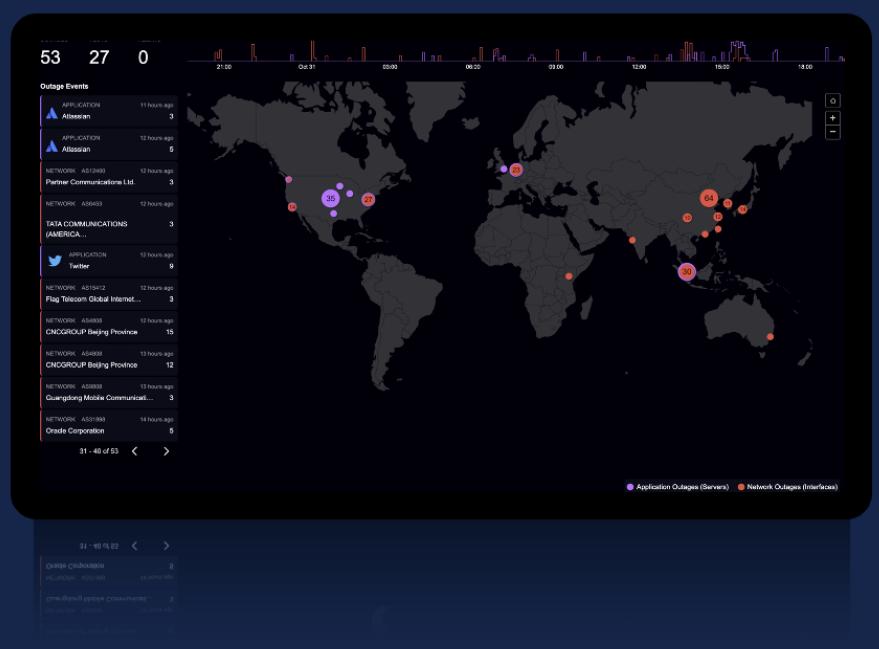
Adoption outpacing capabilities to manage new environments



See,  
understand, and  
improve digital  
experiences  
everywhere

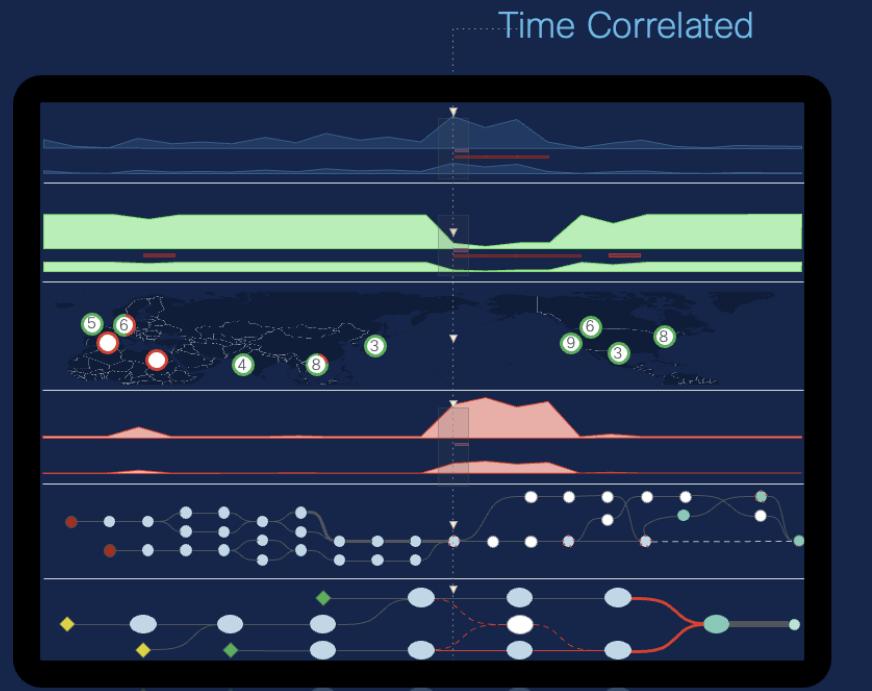
## Our Solution

Collectively  
powered  
Internet  
weather map



## Our Solution

Correlate performance across every layer



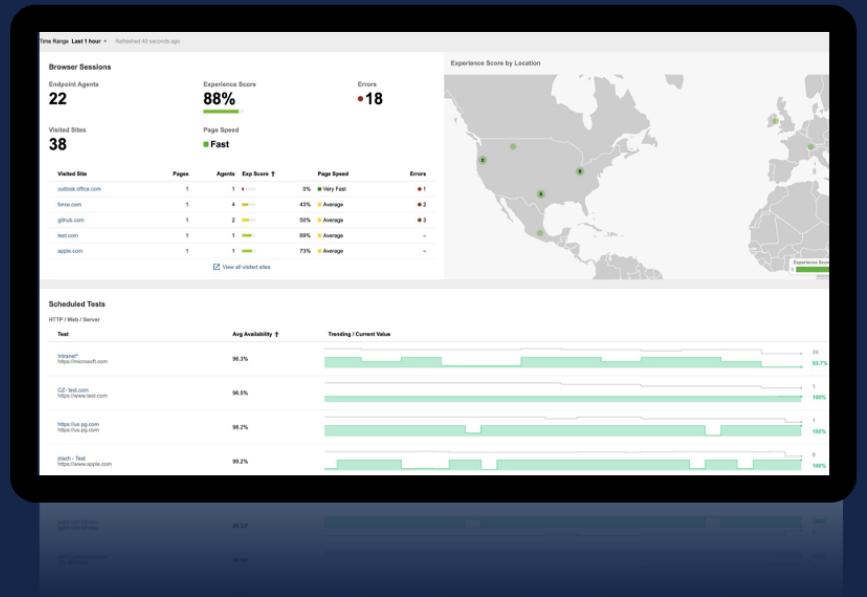
## Our Solution

Visualize services end-to-end across every domain



## Our Solution

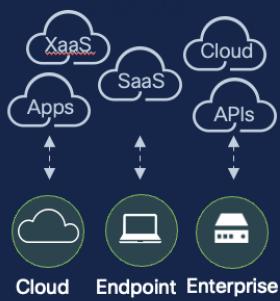
Understand  
global  
workforce  
experience



## Our Solution ThousandEyes Internet and Cloud Intelligence

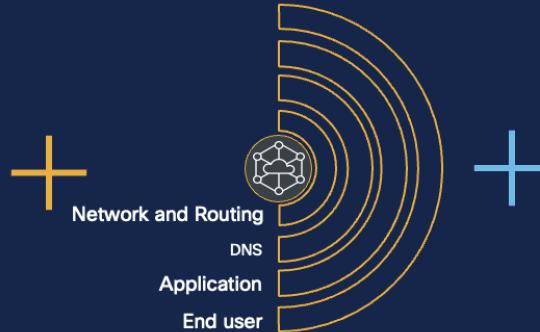
### VISIBILITY

1000s Global Vantage



### INTELLIGENCE

Unique X-layer Telemetry



### WORKFLOWS

Global Collective Insight



# Our Solution

## ThousandEyes Internet and Cloud Intelligence

### VISIBILITY



Surface fault domain, root cause, and attribution to responsible party



See digital experience in context with deep correlations across layers

### INTELLIGENCE



### WORKFLOWS



Gain global insight into Internet and SaaS App Outages



Drill down to quality of experience of individual users and groups in your workforce

# Our Solution

## ThousandEyes Internet and Cloud Intelligence

### VISIBILITY



- REST API
- OTEL and Native Integrations
- Custom webhooks
- Cloud templates
- Infra as Code tools
- Sharelinks for easy sharing across teams



SREs / App owners  
Troubleshoot and optimize App, APIs and delivery services

### INTELLIGENCE



NetOps (Service delivery)  
Tune BGP and peering and monitor for anomalies, hijacks and sub-optimal routing



Customer Support  
Build trust with timely, data-driven communication



IT Helpdesk  
Rapidly prioritize, resolve and direct issues to the right team to ensure workforce productivity



Enterprise WAN Ops  
Proactively manage and improve SD-WAN and cloud connectivity to assure app performance for users across sites

### WORKFLOWS



External Teams  
Receive detailed, actionable information to quickly resolve issues

Now that you have a great background on ThousandEyes it's time to go back and verify the lab has started and login. Task 3.

Also feel free to check our awesome TE Blog and Webex site.

## 1.4 Task 3: Log into the Lab Environment

Click **My Demo Sessions** select your **ThousandEyes** demo and click the **green View button**

The screenshot shows the 'Webex Demo Toolbox' interface. On the left, there's a sidebar with 'DASHBOARD' and 'DEMOS & TOOLS' sections. Under 'DASHBOARD', 'My Demo Sessions' is highlighted with a red arrow pointing to it. Under 'DEMOS & TOOLS', various categories like All, Calling, Devices, etc., are listed. The main content area is titled 'My Demo Sessions'. It features a circular icon with an eye, a title 'Troubleshooting Webex Meetings & Devices with ThousandEyes', and a description: 'Demo the power of Webex and ThousandEyes working together to troubleshoot Webex meetings and devices using the Control Hub/ThousandEyes integration.' Below this, it shows 'Status: Active', 'Ends: in 2 days', and 'Using: Omer Ilyas' with a small profile picture. A red arrow points from the 'View' button at the bottom to the 'Omer Ilyas' name. At the bottom, there are 'View', 'Refresh', and 'Actions' buttons.

### Lab Administration Information (New Read Only Admin User)

- Webex Control Hub/ThousandEyes Admin Access - A new **read only** admin user will be created. This is the new user you'll use to access the Webex ControlHub and ThousandEyes Platform (**Note:** Your user will most likely be different than this one as they are randomly assigned.)
- Email Address will be used for the SSO login access as well as the Password

## Control Hub/ThousandEyes Read Only Admin

Character for logging into Control Hub/ThousandEyes with to view troubleshooting.

The screenshot shows a user profile for Abbigail Macejkovic. It includes a circular profile picture, the name "Abbigail Macejkovic", and contact information: Email (abigail.macejkovic@cumulusorg.com), Password (redacted), and PMR (PMR). Below this is an extension number (Extension: 700555) and a blue "Refresh" button.

Abbigail Macejkovic

Email: abigail.macejkovic@cumulusorg.com

Password: [.....]

PMR

Extension: 700555

Refresh

- Access information to the Webex ControlHub Portal - right click and use an **Incognito Browser**

## Control Hub URL

TIP: Right click link and choose open in incognito/private browser.

Control Hub Administration

- Access information to the ThousandEyes Portal be sure to right click and use an **Incognito Browser**

## ThousandEyes Portal

TIP: Right click link and choose open in incognito/private browser.

ThousandEyes Administration  

First thing will be to get your VM set up

- Click the Workstation 1 link. You should see a Windows Desktop show up in new browser tab.

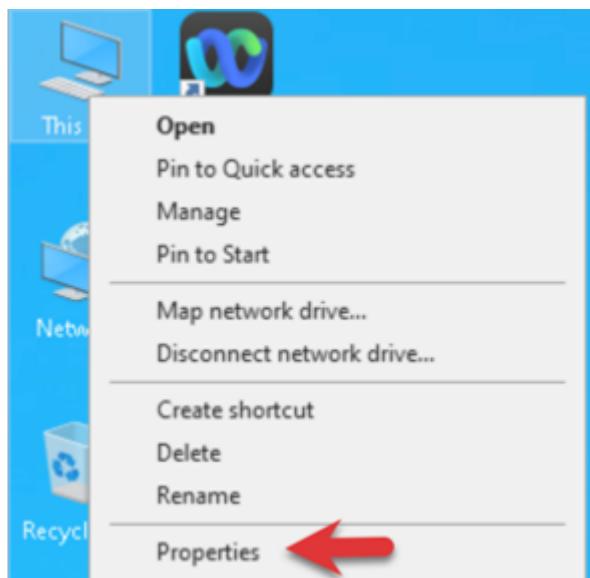
## Workstation

Your virtual workstation. Workstation should already be powered on and accessible by clicking the Workstation 1 link. Use the green and yellow buttons for troubleshooting purposes only. If you don't see a link, then you didn't schedule the demo with one.

Workstation 1



Right Click on the **This PC** desktop icon and click **Properties** so you can rename the VM.



Click Rename this PC

Settings

Home

Find a setting

System

- Display
- Sound
- Notifications & actions
- Focus assist
- Power & sleep
- Storage
- Tablet
- Multitasking

About

Your PC is monitored and protected.

See details in Windows Security

Device specifications

Device name	Workstation1
Processor	Intel(R) Xeon(R) CPU E7- 2830 @ 2.13GHz 2.70 GHz (2 processors)
Installed RAM	8.00 GB
Device ID	33B895B8-DA7E-4199-9608-A7835E1687C4
Product ID	00331-20300-00000-AA122
System type	64-bit operating system, x64-based processor
Pen and touch	No pen or touch input is available for this display

**Rename this PC**

Name the PC your-name-Roadshow (no spaces), click Next and click Restart Now

Rename your PC

You can use a combination of letters, hyphens, and numbers.

Current PC name: Workstation1

Omer-Roadshow

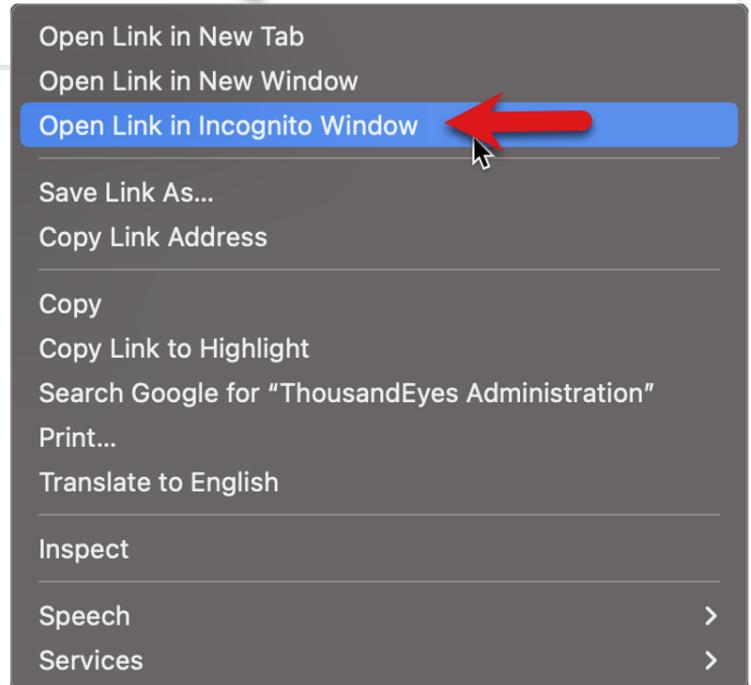
**Next** **Cancel**

While the VM reboots go back to your previous tab for demo . Right click the **Control Hub URL** and **ThousandEyes Administration** Portal link and open both in incognito browsers as we will be using them in the coming steps. The same creds can be used to login into Webex Control Hub and ThousandEyes

# ThousandEyes Portal

TIP: Right click link and choose open in incognito/private browser.

ThousandEyes Administration 



Use the credentials from the ControlHub/ThousandEyes Read Only Admin in the next steps.

## Control Hub/ThousandEyes Read Only Admin

Character for logging into Control Hub/ThousandEyes with to view troubleshooting.

The screenshot shows a user profile for Abbigail Macejkovic. It includes a circular profile picture, the name "Abbigail Macejkovic", and email and password fields. Below the fields are "PMR" and "Extension: 700555". A blue "Refresh" button is at the bottom.

Abbigail Macejkovic

Email: abbigail.macejkovic@cumulusorg.com

Password: [.....]

PMR

Extension: 700555

Refresh

Your incognito browser will open to the ThousandEyes SSO login page as shown in the below image. Use the Username and Password from the ThousandEyes Read Only Admin to complete the login process. Click Don't show this again and Yes in the pop up window after you have completed the SSO login process.

The screenshot shows a "Single sign-on" page for ThousandEyes. It has a text input field containing the email address "abigail.macejkovic@cumulusorg.com" and a large orange "Log In" button. Below the button is a link "Log in with a password".

ThousandsEyes

Single sign-on

abigail.macejkovic@cumulusorg.com

Log In

Log in with a password



## Sign in

abigail.macejkovic@cumulusorg.com

[Can't access your account?](#)



Back

Next



← abigail.macejkovic@cumulusorg.com

## Enter password

.....|

[Forgot my password](#)

Sign in

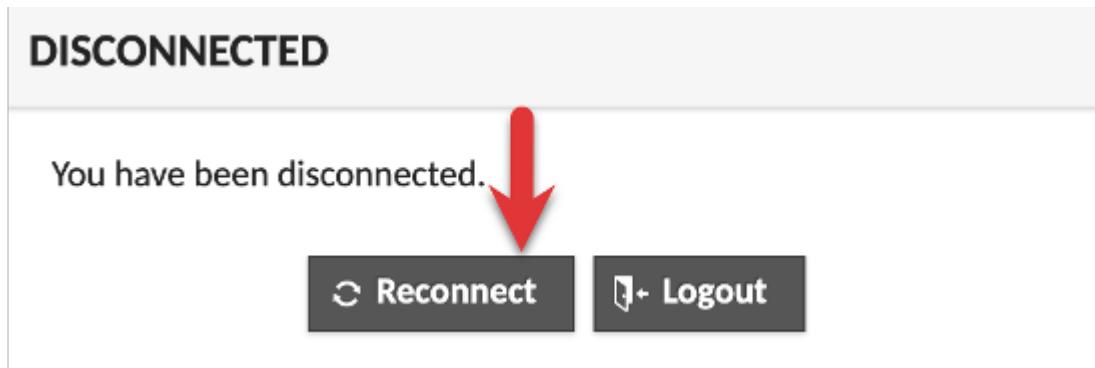


You should now see the ThousandEyes Default Dashboard (see the below image). You can leave this browser open and we will come back to it later.

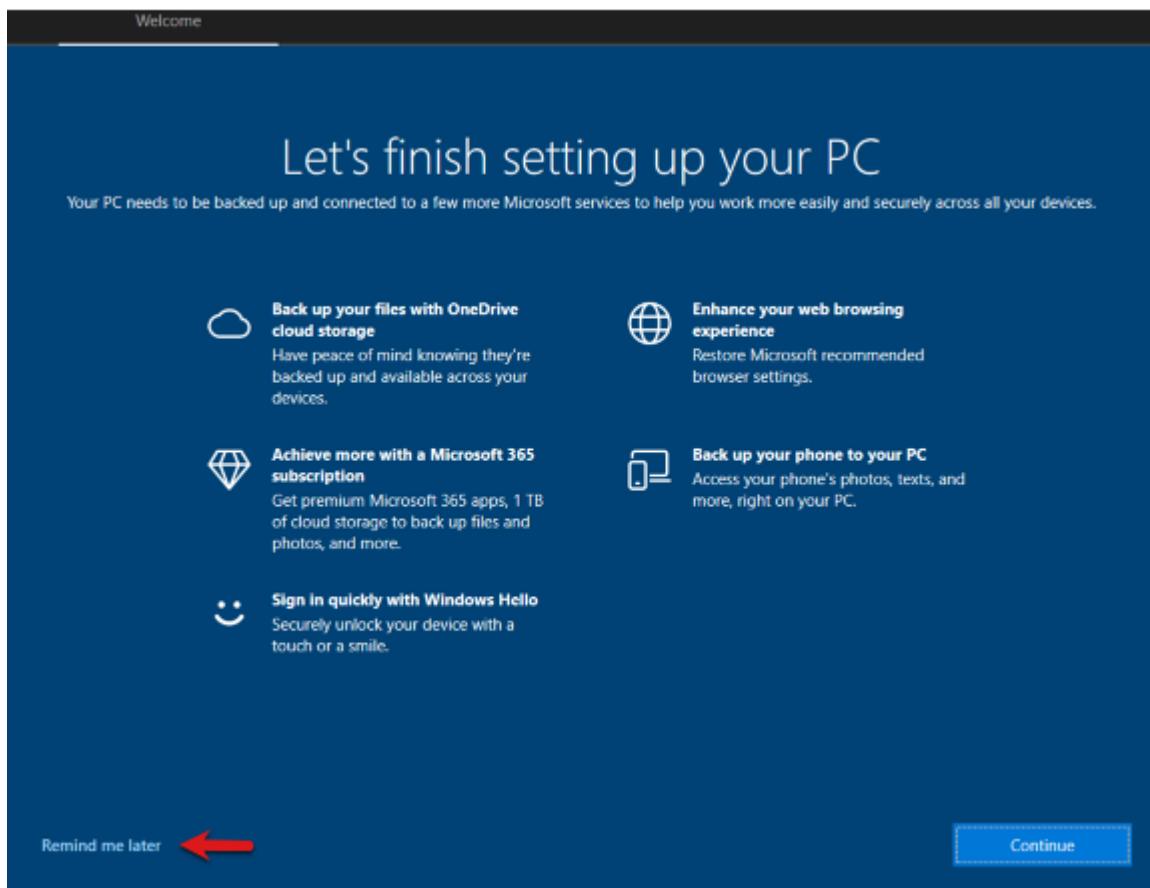
The screenshot shows the ThousandEyes Default Dashboard. On the left, there's a sidebar with navigation links: Cloud & Enterprise Agents, Endpoint Agents, Devices, Internet Insights, Dashboards (which is selected), Alerts, Integrations, Sharing, and Account Settings. The main content area has three main sections: 'Alert List' (1 hour (local override), 'No Alert Activity'), 'Agent Status' (Live status, No Enterprise Agents, note: There are currently no Enterprise Agents available in your account group), and 'Tests' (12 hours, Test Name, Test Type, Alert Status, Trending (12h) / Current Values). The top right corner shows user information: Abigail Macejkovic, Cisco Demo Colab, and a 'Logout' button.

**Note:** Follow the above creds/steps to login into Webex Control Hub as we will be using them in coming steps.

Log back into the Windows VM. Navigate back to the tab that had the Windows VM running in it and click “Reconnect” or if that tab closed you click on the Workstation 1 link to open a new session to it.



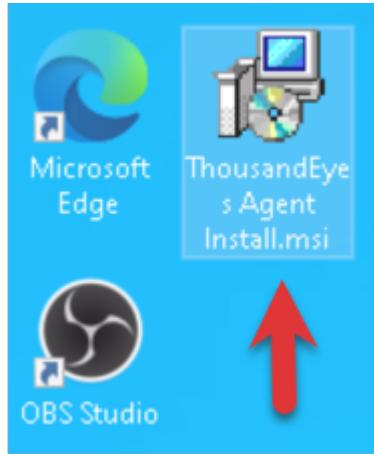
Note if a Let's finish setting up your PC window appears just click "Remind me Later". Also close the CC Cleaner browser and Accept the Webex EULA (if they appear).



Time to install the ThousandEyes Endpoint Agent (EPA) continue to Task 4.

## 1.5 Task 4: Install the ThousandEyes EPA

Once on your VM station, make sure no browser sessions are running on Window VM then click the ThousandEyes Agent Installer



You should **NOT** have to do this but if you don't see the ThousandEyes Agent Installer go back to the tab for the lab and click the **Instructions link** then copy the link for the **Windows x64 Agent Install (MSI) – Full** from the Demo Downloads and Links section. Navigate back to the Windows VM tab, open a browser and paste the link into it to download the installer. Locate the installer and click it to install it.

**Troubleshooting Webex Meetings with ThousandEyes - Act**

Help and Info [Send Us Feedback](#)

Dashboard

Home My Demo Sessions My Tools My Characters My Devices My Favorites My User Profile

DEMOS & TOOLS

All Calling Devices Feature VODs Integrations IT Admin Meeting Messaging Security Tools

PREPARE AND DELIVER

Demo setup and tips

- 00:00 Intro
- 00:25 Endpoint agent overview
- 01:19 Picking a datacenter
- 01:48 Scheduling the demo
- 02:35 Demo details tab overview
- 04:00 Connecting to the virtual workstation
- 04:48 Installing the endpoint agent
- 06:14 Logging into the Webex app and starting a meeting
- 07:20 Logging into Control Hub
- 08:19 Troubleshooting tab
- 09:30 Looking at the network path
- 11:20 Jumping over to ThousandEyes
- 13:33 Cloud and enterprise agent tests

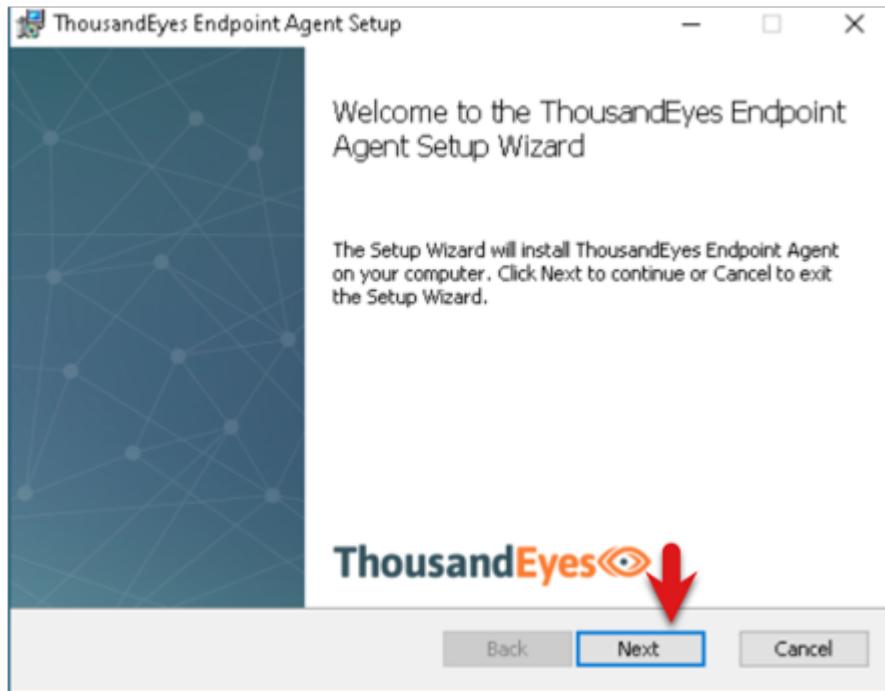
Troubleshooting packet loss in a Webex meeting

Deep dive into the integration and demo

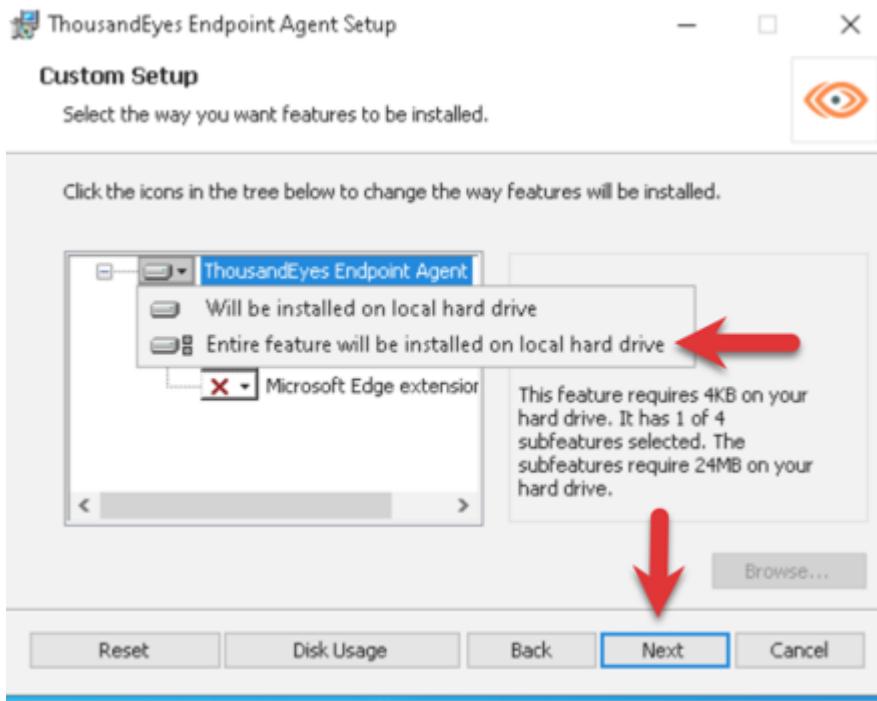
DEMO DOWNLOADS AND LINKS

- Windows X64 Agent Install (MSI) - Full
- Windows X86 Agent Install (MSI) - Full
- Mac Agent Install (ZIP) - Full

Click Next and Accept the License Agreement



Click the disk icon for **ThousandsEyes Endpoint Agent** and **Google Chrome** and select **Entire feature will be installed on local hard drive** then click **Next** and **Finish**.



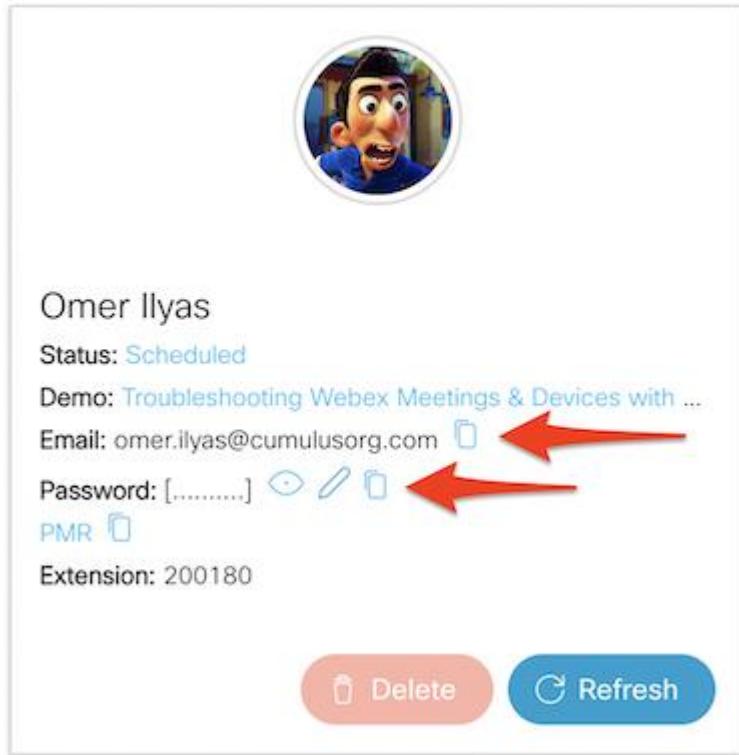
**Note** the above step will install ThousandEyes Endpoint agent on the VM provided. As mentioned earlier you can also get the install file from the **Instruction** tab and install the same on your personal machine (windows/mac)

### 1.5.1 Start up a Webex Meeting on your VM

This will generate Webex traffic which we will view later in the lab. Navigate back to your lab information tab. Copy the email address for the character you **created** to schedule a Webex meeting with. You will use this to login into Webex App and start a Webex meeting session.

# Character

Character to schedule Webex meeting with.



A screenshot of a character profile card. At the top is a circular portrait of a cartoon character with brown hair and a blue shirt. Below the portrait, the character's name "Omer Ilyas" is displayed. Underneath the name, the status "Status: Scheduled" is shown. A "Demo" link labeled "Troubleshooting Webex Meetings & Devices with ..." is present. The "Email" field contains "omer.ilias@cumulusorg.com" with a copy icon to its right, and two red arrows point to this field. The "Password" field contains "[.....]" with a copy icon to its right, and another red arrow points to this field. Below these fields are the labels "PMR" and "Extension: 200180". At the bottom of the card are two buttons: a red "Delete" button and a blue "Refresh" button.

Navigate back to your VM web browser tab and click on the Webex icon then sign in using the email address and password from your character.





## Sign in

omer.ilyas@cumulusorg.com

[Can't access your account?](#)

Back

Next



← omer.ilyas@cumulusorg.com

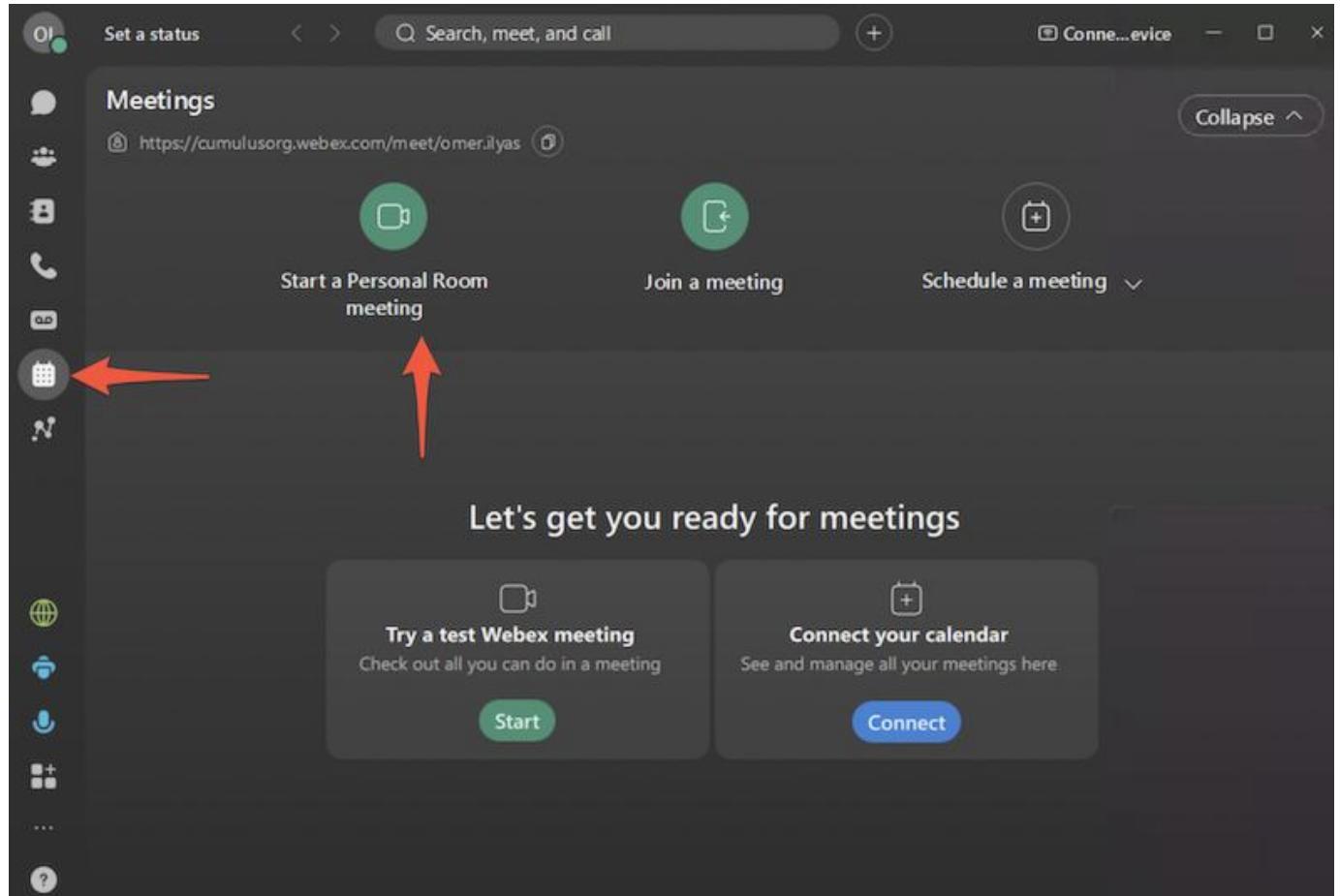
## Enter password

.....|

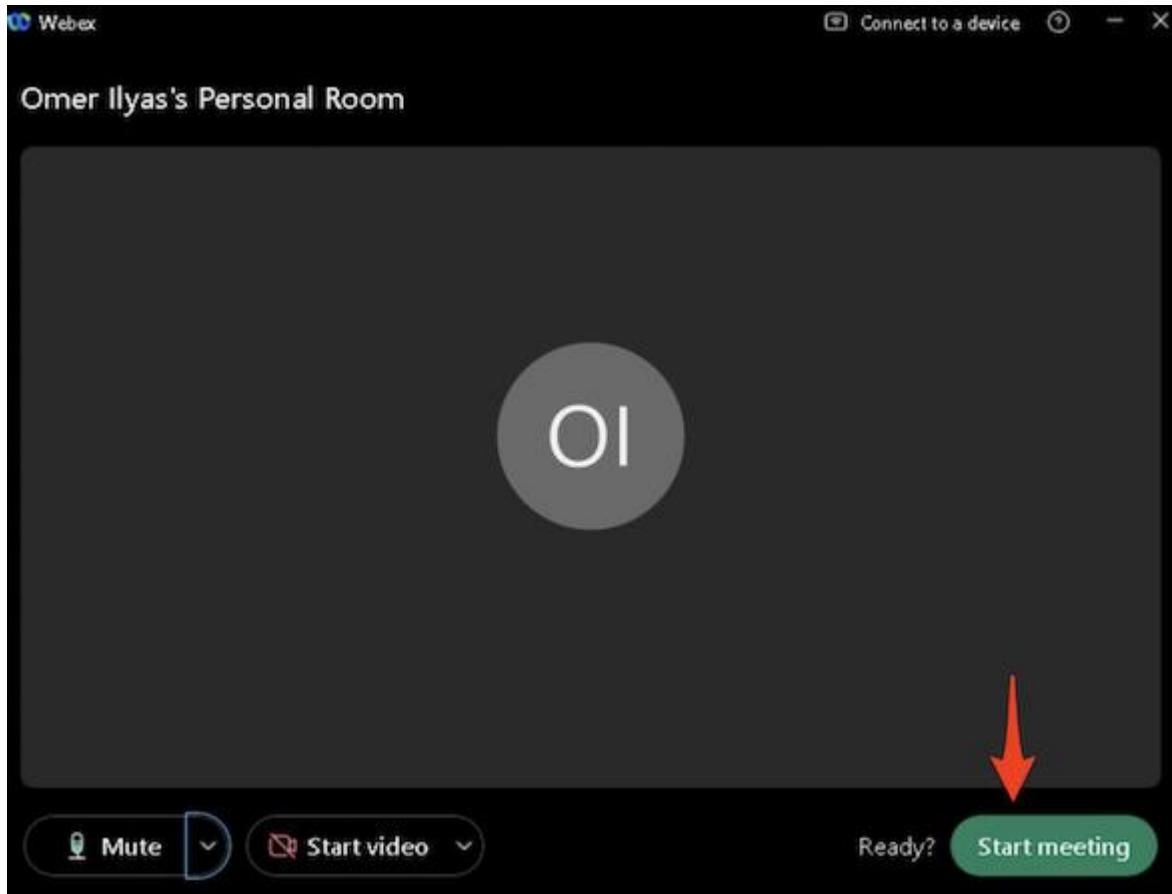


[Forgot my password](#)

Click the **Webex icon** on the task bar. Click **Meetings**. Click **Start a Personal Room meeting**. Note Your WebexApp might do a quick update.



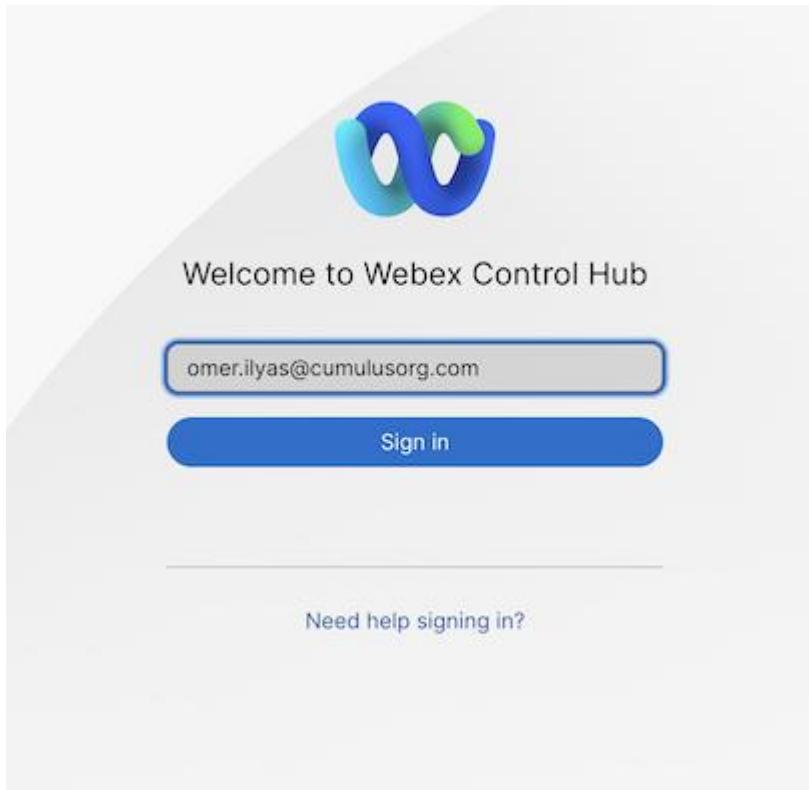
Click **Join meeting** and then click **Start meeting**.



This will generate Webex traffic which you will view later in the lab. **Note:** Since no one is joining the meeting it may have a pop up after a while warning the meeting will end unless you click to keep it active. Feel free to click to keep it active or you can add another participant in that meeting or you can always go back and **Start a Personal Room Meeting** again.

### 1.5.2 Login to Webex ControlHub

Once the user joins a meeting you can login into Webex Control Hub using the (read only admin) credentials provided.



Click on **Troubleshooting** search for your **userid** that you have used to join the Webex meeting.

### 1.5.3 Locate your ThousandEyes EPA

By now you have your ThousandEyes Endpoint Agent running. Let's verify it has connected to the ThousandEyes Platform.

Navigate back to your incognito browser that is logged into ThousandEyes.

Click **Endpoint Agents > Agent Settings** (if you were already in the tab you may have to click **refresh**)

## Search for your EPA

- In the search bar type the name you gave your VM (if it doesn't show up contact a lab proctor). Also verify that the Google Chrome Browser Extension shows up as shown in the below screen shot.

The screenshot shows the Cisco ThousandEyes Endpoint Agents interface. On the left, there's a sidebar with options like Overview, Views, Agent Views, Monitoring Settings, and Agent Settings. The main area has tabs for Endpoint Agents, Proxy Settings, and Agent Labels. A search bar at the top has 'road' typed into it. Below the search bar, a table lists '1 Endpoint Agent found'. The table columns include Name, Agent Version, Browser Extension, Current Location, Last Contact, Public IP Address, Private IP Address, Last Modified, and License Type. The first row in the table shows 'ROADSHOW1' with 'ROADSHOW1\Administrator' under 'Name', '1.169.3' under 'Agent Version', and a green circular icon under 'Browser Extension'. The 'Browser Extension' column header has a red arrow pointing to it. The 'Name' column header also has a red arrow pointing to the 'road' entry in the table.

If your Google Chrome Browser Plug-in didn't install. (Note sometimes it take a minute to show up. Please refresh the browser.) Navigate back to your VM and click on the **Google Chrome** icon on the task bar.

- Install the Google ThousandEyes Google Chrom Plug-in by pasting this link in your Google Chrome Browser
- <https://chrome.google.com/webstore/detail/thousandeyes-endpoint-age/ddnennmeinlkhkmajmmfaojcnppdnpbg>

If asked Turn on Sync. Navigate back to the incognito browser logged into ThousandEyes and your ThousandEyes EPA should look like the one below.

This screenshot is identical to the one above, showing the Cisco ThousandEyes Endpoint Agents interface with a search result for 'road'. The search bar contains 'road', and the table shows one endpoint agent named 'ROADSHOW1' with its details. Red arrows point to the 'road' entry in the table and to the 'Browser Extension' column header.

You are now ready to continue your journey see how AST (Automated Session tests) can automatically monitor Webex meetings. Customize and see how your EPA monitors browser sessions and set up scheduled tests to monitor the health of critical applications in the background. Scheduled tests are a great way to provide a baseline for application and network health. The browser sessions provide the view of what the end users session is like when sites are accessed in the domains you are interested in monitoring. And Automated sessions tests will integrate with Webex and monitor traffic automatically whenever a user joins a Webex meeting from Webex App or the RoomOS devices. Let's carry on with Task 5.

## 1.6 Task 5: Configure ThousandEyes Automated Session tests and EPA Monitoring

### 1.6.1 Set up Automated Session tests for Webex Meetings - Optional Step

**Automated Session Tests** enable the Endpoint Agents installed on your workstations to monitor and identify network connections between a user's application and the destination node (Webex); thereby, removing the ambiguity of knowing whether the IP addresses created in synthetic tests are going to the right datacentre or service. Automated Session Tests capture the performance of a desktop application e.g. Webex App, without you having to manually configure an IP address or hostname for the application.

**Note:** The below configuration steps are for information purpose only

- Navigate to the Endpoint Agents > Monitoring Settings > Automated Session Tests tab.
- Click the Add New Test button.

The screenshot shows the ThousandEyes interface. On the left, there is a sidebar with 'Cloud & Enterprise Agents' at the top, followed by 'Endpoint Agents' with 'Monitoring Settings' highlighted. The main area has tabs for 'Scheduled Tests', 'Automated Session Tests' (which is selected and highlighted in blue), 'Browser Sessions', and 'Test Labels'. Below the tabs is a search bar and a table with one row. The table columns include 'Test Name', 'Application', 'Last Modified', 'Assigned Agents (24h)', 'Prioritized', and 'Enabled'. The first row shows 'Webex' under 'Test Name', 'Webex' under 'Application', '2 days ago' under 'Last Modified', '109' under 'Assigned Agents (24h)', and both 'Prioritized' and 'Enabled' checkboxes are checked. There are also 'Deleted Tests' and 'Add New Test' buttons. Red arrows point to the 'Monitoring Settings' link in the sidebar and the 'Add New Test' button.

- Create an AST to monitor Webex Meetings in your organization

The screenshot shows the 'Webex' test configuration dialog. It includes fields for 'Test Name' (set to 'Webex'), 'Basic Configuration' (with 'Target' set to 'Webex', 'Protocol' to 'Auto-detect', and 'Interval' set to '1 minute'), 'Agents' (set to 'All agents'), and a checkbox for 'Prioritize this test for the selected agents'. At the bottom, there is a timeline for 'Max No. of Agents' from 00 to 12, with a blue marker at 12. Red arrows point to the 'Test Name' field, the 'Target' dropdown, the 'Protocol' dropdown, the 'Agents' dropdown, and the timeline. A large red arrow points to the 'Save Test' button at the bottom right.

**Note:** The above steps have already been configured. Showing for **information purpose** only.

**Note:** More info can be found on Webex help that explains how to create a configuration between ControlHub and ThousandEyes platform.

When the user (that was created by you) initiate and join a Webex meeting from the WebexApp, you be able to view the ThousandEyes path in ControlHub troubleshooting section.

- If you have logged out, log back in ControlHub using Readonly admin creds provided . Click on Troubleshooting, search for your userid that you have used to join the Webex meeting and click the meeting that is in progress.

**Note** Make sure the Webex meeting is still going on in the virtual machine. As you are the only participant, it will disconnect in some time. If disconnected, please start the meeting again.

The screenshot shows the 'Troubleshooting' section of the webex Control Hub. On the left sidebar, 'Troubleshooting' is highlighted with a red arrow. In the main area, a search bar contains the email address 'omer.ilyas@cumulusorg.com', which is highlighted with a red arrow. Below the search bar, a summary table provides statistics: 0 min poor meeting minutes, 133 mins total meeting minutes, 0 min poor minutes of Call on W..., 0 min total minutes of Call on W..., 0 min poor Webex calling minutes, 0 poor meetings, 5 total meetings, 0 poor calls, 0 total calls, and 0 poor calls. A red arrow points to the 'In progress' status in the list of 'Omer Ilyas's meetings & calls' table.

- Click your demo user id

The screenshot shows the ThousandEyes AST visualization for a meeting. On the left, a chart titled 'Participants (1)' shows a single participant named 'Omer Ilyas' with a red arrow pointing to it. The chart has a 'Sort By A-Z' dropdown and buttons for 'Audio', 'Video', 'Sharing', 'Details', and 'Map'. On the right, a 'Meeting details' panel provides specific meeting information: Meeting ID (2295767706), Conference ID (27183112124305246), Site Name (cumulusorg), Meeting Date (2023-09-17), Meeting Time (11:45 AM - 12:22 PM (33 Minutes)), Meeting Type (Webex Meetings), Host Name (omer.ilyas@cumulusorg.com), Host Email (omer.ilyas@cumulusorg.com), Author (you), Video (Not Loaded), Recording (Not Loaded), Screen Share (Not Loaded), and Apps (Not Loaded). A legend at the bottom defines colors: blue for 'In Progress', green for 'Good', and orange for 'Bad'.

- You will notice ThousandEyes path. **ThousandEyes AST** starts capturing network path data as soon as the meeting starts. However, there could be a delay of up to five minutes before that data populates in Troubleshooting section.

**Participant Details - Omer Ilyas (omer.ilyas@cumulusorg.com)**

**Equipment and Networks**

- Client: Webex Meetings 43.8.2.6
- Platform: Windows 10.0.19041
- Join From: WebexApp 43.9.0.27194
- Connection: ethernet
- Media Node: London, England
- Local IP: [REDACTED]
- Public IP: [REDACTED]
- Location: London, GB
- Audio Transport: TCP
- Video Transport: Not Available
- Audio codec: Not Available
- Video Codec: Not Available
- Microphone: Remote Audio
- Speaker: Remote Audio
- Camera: OBS Virtual Camera
- Noise removal: Not Used
- Virtual Background: Not Used

**Chart Legend**

Indicators	Signal Quality
Host	Good (Green)
Panellist	Fair (Yellow)
	Poor (Red)

- The network path route shows the details for each node that the hop connected to. Click on any of the dotted lines

**Network path 11:55 - 11:56**

--- [Private Network] --- [Private Network] --- [Private Network] --- [9 Unknown N...] ---

Name	IP Address	Prefix	Latency (Link ...)	Network	Location
m41lnmcs15...	69.26.16...	69.26.16...	4 ms	Webex Com...	London, ...

[Launch the ThousandEyes Dashboard](#) [Copy ThousandEyes URL](#)

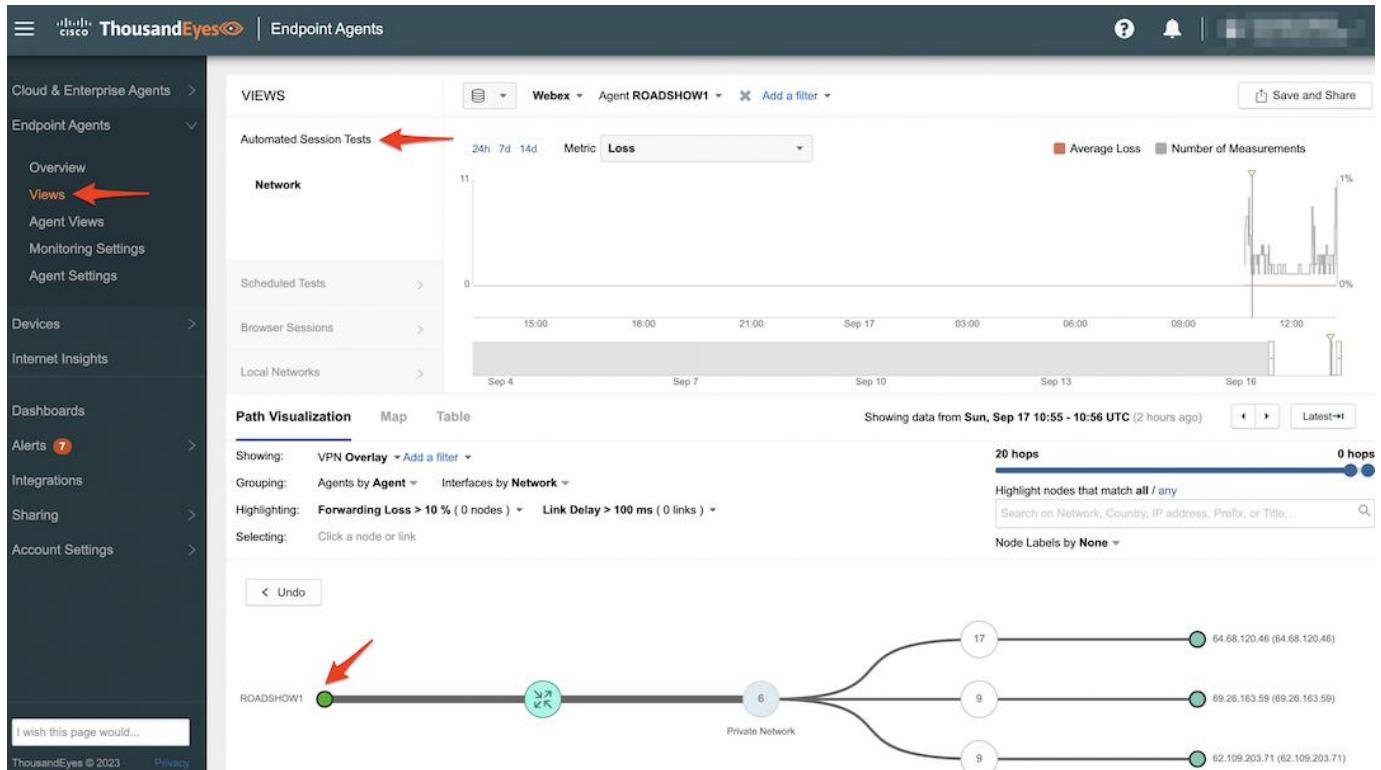
- You can hover over a dotted line to see the user's latency (round-trip) average value during that interval. The color changes depending on the threshold that the value met. Thresholds in Webex are calculated as:

```

- Poor (red)-Latency > 400ms or Loss (round-trip) > 5%
- Good (green)-Latency < 300ms or Loss (round-trip) < 3%
- Fair (yellow)-Neither of the above.
- Unknown (grey)-Not available yet. You still be able to retrieve the metric from the TE dashboard.

```

- You can also click on **Launch the ThousandEyes dashboard**. It will cross-launch from the Webex ControlHub Network Path into ThousandEyes platform. You will be navigated to the Automated Session Tests view, which is found within the **Endpoint Agents > Views > Automated Session Tests** section of the web application. The view is pre-filtered to the corresponding user and time segment from Webex Control Hub.



## 1.6.2 Understanding Scheduled tests

Before setting up scheduled tests it's a good idea to create an Agent Label and assign your EPA to it. Labels are a super powerful way to dynamically manage how ThousandEyes Endpoint Agents are configured for testing and reporting.

For more information on Endpoint Agent Labels check out our documentation.

Click the **Agent Labels** if you are still viewing your EPA otherwise navigate to **Endpoint Agents > Agent Settings > Agent Labels**.

Click **Add New Label**. Name the label e.g RS\_PC, select any color.

In the Filter section select **Agent in** and use the pull down to select your agent (note you can use the search field to quickly find your agent). Click **Save**. See the image below for an example of how to add your agent to your label.

The screenshot shows the Cisco ThousandEyes interface. On the left, the navigation menu includes 'Cloud & Enterprise Agents', 'Endpoint Agents' (selected), 'Overview', 'Views', 'Agent Views', 'Monitoring Settings', 'Agent Settings' (highlighted in orange), 'Devices', 'Internet Insights', 'Dashboards', 'Alerts', 'Integrations', 'Sharing', and 'Account Settings'. The main panel shows 'Endpoint Agents' with a search bar and a table of agents. A red arrow points to the 'Agent Labels' tab. The right panel is titled 'Edit Label' with a 'Label Name' field containing 'RS\_PC' (also with a red arrow). It has a color palette, a 'Filter' section set to 'All' with 'Agent' selected and 'ROADSHOW1' in the dropdown, and a list of agents under 'Agents Availability for Scheduled Tests' with 'ROADSHOW1' checked (also with a red arrow). A red arrow also points to the 'ROADSHOW1' entry in the list.

### 1.6.3 Set up Scheduled Tests for your ThousandEyes EPA

You will build a test that will run every minute to <https://office.com> for this lab but feel free to build other tests. You can have up to 10 tests run on an EPA.

Navigate to **Endpoint Agents > Monitoring Settings**

**Click Add New Test**

- Type Web, HTTP Server (this is the default)
- Test Name: Set a unique name
- URL: <https://office.com>
- Interval: 1 minute
- Agents: Agent label then select the label you created
- Click the prioritize slider (as this is an important test)
- Click **Add New Test** (note you can also Run Once but if you do this don't forget to save the test!)

**TestingRS** [Show details](#) [X](#)

---

Type  
**Web — HTTP Server**

Test Name  
RS-O365

[Basic Configuration](#) [Advanced Settings](#)

URL  
https://office.com

Protocol  
Auto-detect

Interval  
1 minute

Agents

Agent labels: RS\_PC

Prioritize this test for the selected agents

Alerts  
2 of 2 alert rules selected [Edit Alert Rules](#)

Proxy Options  
Endpoint Agent's proxy configur...

Max No. of Agents

[Cancel](#) [Run Once](#) [Save Test](#)

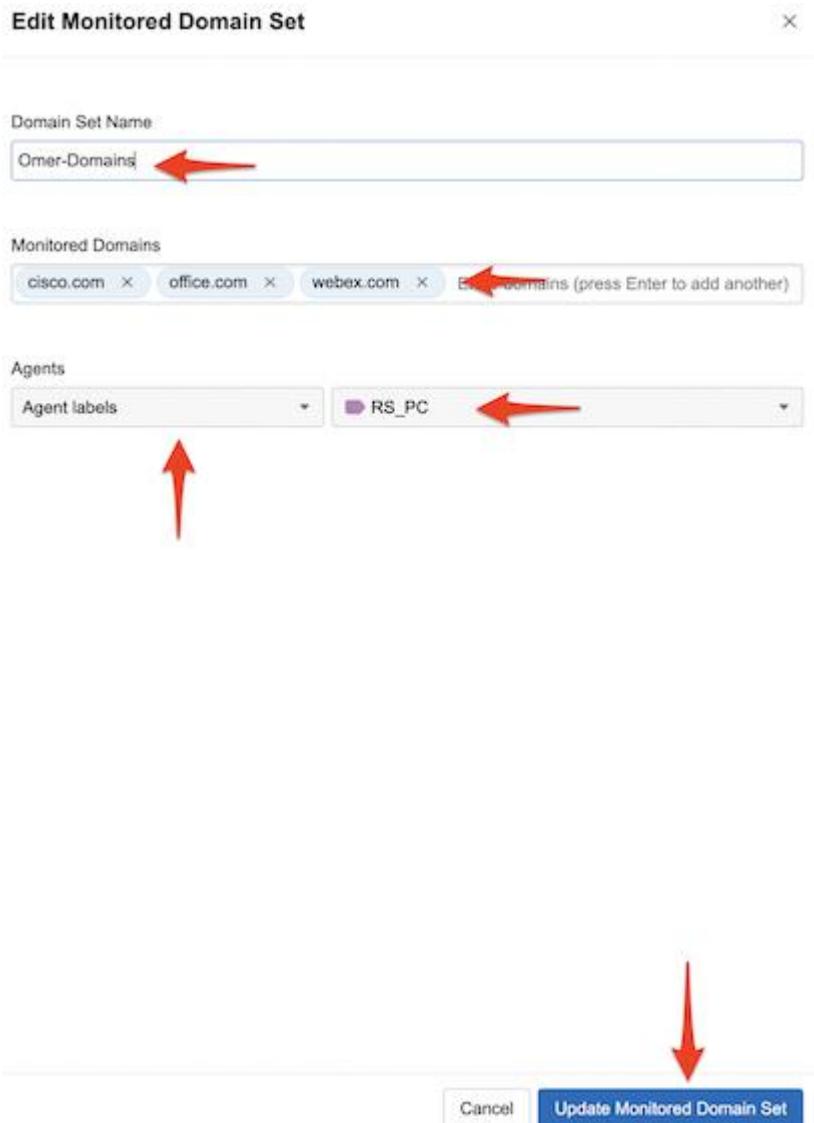
#### 1.6.4 Set up Browser Sessions for your ThousandEyes EPA

Set up domains to be monitored when the browser on the Windows VM accesses them (Note: Only Chrome, Edge or IE 11+ browsers are supported). Typically these consist of the domains that are critical for your users and business operations. You'll see shortly how powerful this can for troubleshooting user issues.

Navigate to **Endpoint Agents > Monitoring Settings > Browser Sessions**. For more information on Browser Session monitoring click [here](#).

Click **Add New Monitored Domain Set**

- Domain Set Name: Set a unique name
- Monitored Domains: office.com, webex.com, cisco.com (feel free to add in other domains)
- Agents: Agent Labels and select your agent label that you created earlier
- Click **Add New Monitored Domain Set**

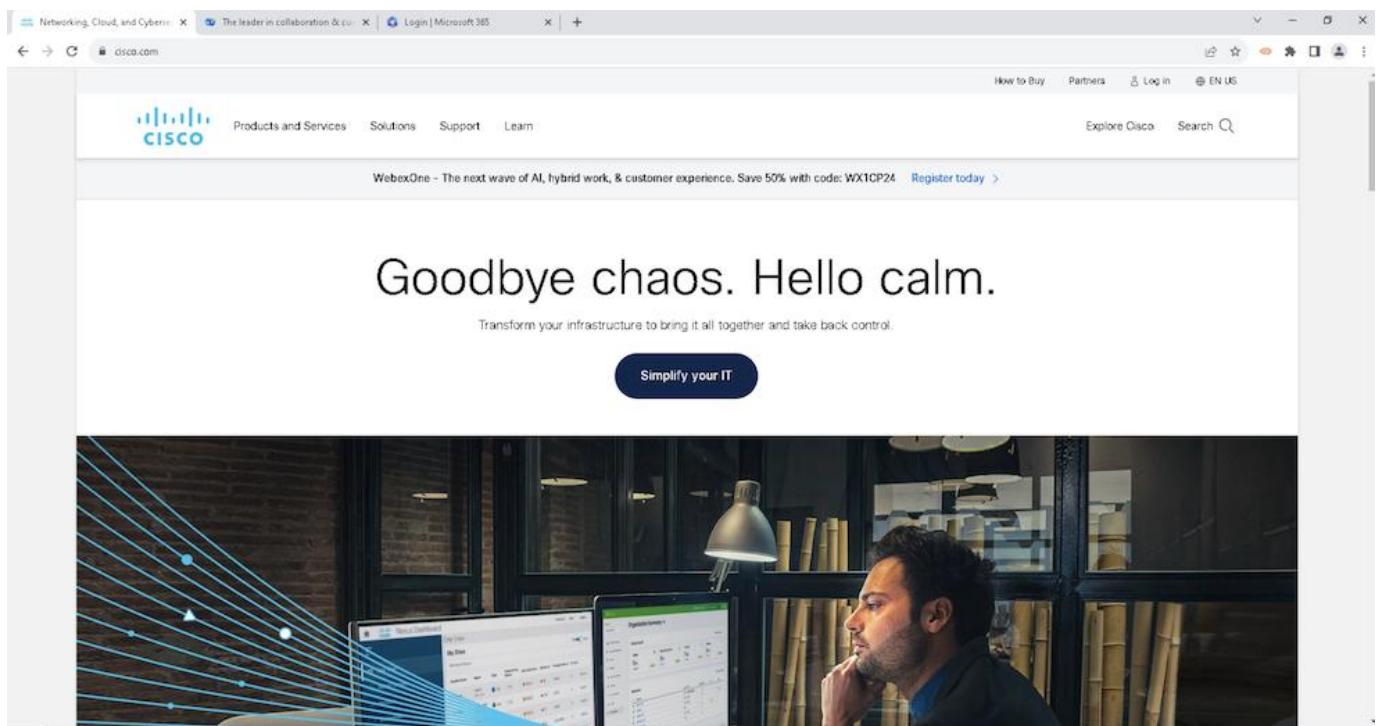


## 1.6.5 Automated Sessions Tests (AST) for your ThousandEyes EPA

### 1.6.6 Navigate back to your VM

Open the Chrome Browser and navigate to the domains you set for browser sessions. Open a tab and bring up a site in each tab:

- <https://cisco.com>
- <https://webex.com>
- <https://office.com>



Click refresh on each tab a few times to create some extra sessions. Do this for a few minutes randomly to generate web browser traffic which we will analyze later. If you need to test out having browser traffic randomly generated to a site or set of sites a great chrome plug in to use is Auto Refresh Plus. We won't go into configuring or installing it for this lab.

You should have some good data captured with the Webex session running in the background on the VM being captured with the Webex AST, the scheduled tests running in background providing a baseline and then the browser sessions. Time to move onto Task 6 and start analyzing the data!

## 1.7 Analyzing ThousandEyes EPA Data

Typically when a user experiences an issue they will either suffer in silence, wait for the issue to go away and when it crops up again get frustrated and call in for help. Sometimes while they are working with support or the helpdesk the issue resolves itself. This makes it really difficult to troubleshoot issues if they aren't persistent. ThousandEyes stores 30 days of data so you have the ability to go back in time and see what was occurring or see if this issue has been occurring and the user just didn't call into support.

If you are troubleshooting an issue and want to quickly see all the test data for a user's system **Agent Views** provides the perfect visualization.

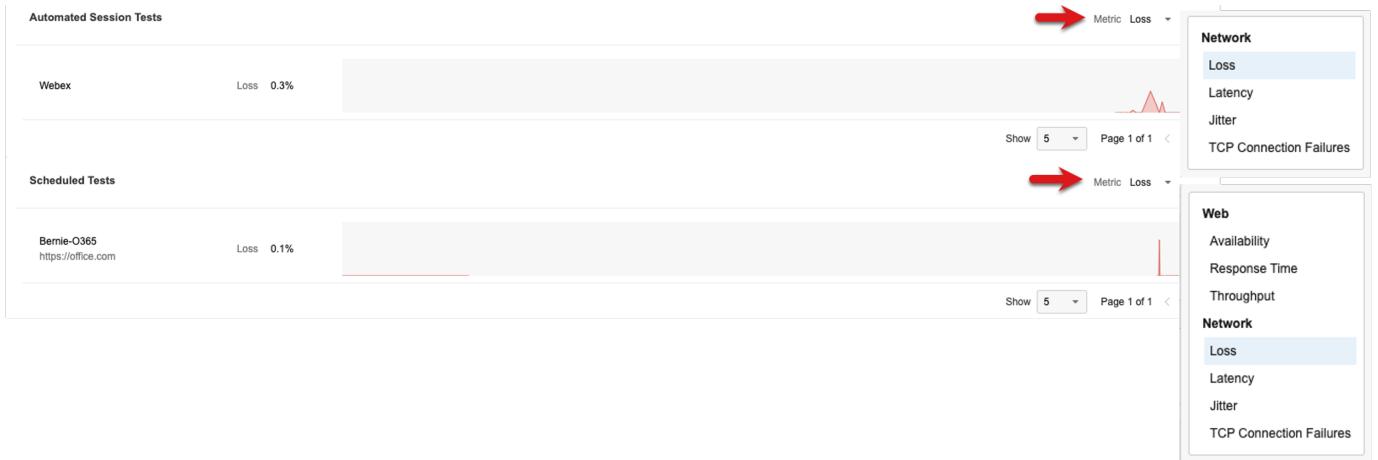
Navigate to VM session and browse to ThousandEyes portal. Open **Endpoint Agents > Agent Views** (be sure to use the incognito browser). Use the search box to find your agent which will be what you named your VM. Then you can begin to explore the metrics and tests. The top section contains your system's performance metrics.

- Use the Metrics pull down to view the different system metrics

The screenshot shows the ThousandEyes Agent Views interface for the agent **ROADSHOW1**. The left sidebar includes links for Cloud & Enterprise Agents, Endpoint Agents (Overview, Views, Agent Views - highlighted with a red arrow), Monitoring Settings, Agent Settings, Devices, Internet Insights, Dashboards, Alerts (with 6 notifications), Integrations, Sharing, and Account Settings. The main area displays Local Networks (System: Memory 41.6%, CPU Load 18.8%; Network Access: Link Speed 1 Gbps) and Automated Session Tests (Gateway: Gateway Latency < 1 ms, Gateway Loss 0%). On the right, a Metrics dropdown menu is open, showing 8 of 17 selected metrics across categories: System (CPU Load, Memory checked), Network Access (Signal Quality, Link Speed checked), Gateway (Gateway Loss, Gateway Latency checked), VPN (VPN Loss, VPN Latency checked), and Proxy.

The middle section shows Automated Session Tests (ASTs) and Scheduled Tests (up to 10 max).

- Use the pull down to view the different web and network metrics.



The bottom section shows browser sessions. If you don't see anything you might need to refresh the tabs in your VM's browser a few extra times or refresh the Agent Views page.

- Use the pull down to view the different browser and network metrics.



### 1.7.1 Drill into a Automated Session Test

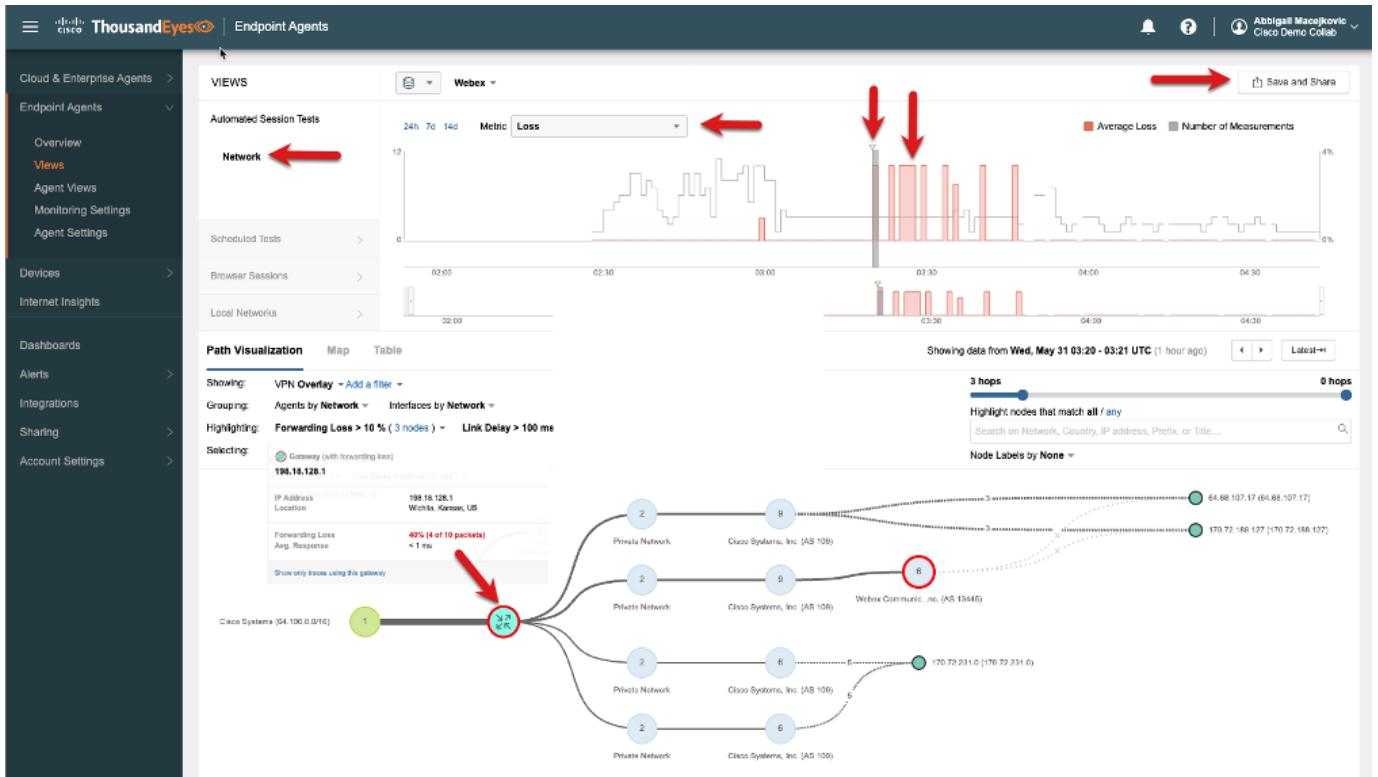
Now that you've explored the Agent Views page click on the AST metric to dive into the detailed view associated with the Webex Test. If you don't have any network loss try changing the metric to latency.



You will now see a filtered view for your agent showing the network path which is dynamically created based on the endpoints your Webex session is connected to while the Webex session is running.

Here's an example view. I used the upper right **Save and Share** feature to create a snapshot that anyone can view for a full year! This can be very helpful as it can be attached to tickets, shared with the end user, another team or a service provider. They will see what you see making it simple to collaborate and reduce any finger pointing. (think back to the last slide in the ThousandEyes Overview).

- Open the snapshot in another browser tab
- You can mouse over the nodes for extra information
- Try changing the metric and drag over and navigate the time bar to see how the test changes



From this same view you can change the grouping to show IP Addresses and adjust the number of hops to get more a granular hop by hop network path.

- You can mouse over the nodes and links for extra information.
- You can also adjust the link delay. In the below screenshot used 10ms. You can also click on the 8 links to see all links highlighted that are over 10ms.



Feel free to navigate back to your Automated Session Test view showing your agent and click around to experiment with how to see similar data.

## 1.7.2 Drill into Scheduled Tests

Scheduled tests provide a consistent baseline. Whenever an Endpoint Agent is online the test runs at the specified interval. Navigate back to **Agent Views** and search and select your agent.

- Click **Agent Views** and use the search box to find your agent.
- Click into the scheduled test to drill into a filtered view. (If you set up other scheduled tests feel free to use one of them instead)

The screenshot shows the ThousandEyes Endpoint Agents interface. The left sidebar has a dark theme with white text. It includes links for Cloud & Enterprise Agents, Endpoint Agents (with a red arrow pointing to 'Agent Views'), Overview, Views, Monitoring Settings, Agent Settings, Devices, Internet Insights, Dashboards, Alerts (with a red dot), Integrations, Sharing, and Account Settings. The main content area is titled 'ROADSHOW1' and shows 'Local Networks' and 'Automated Session Tests'. A red arrow points to the 'Scheduled Tests' link in the main content area. The bottom right corner of the main content area has a red arrow pointing to a 'Next Page' button.

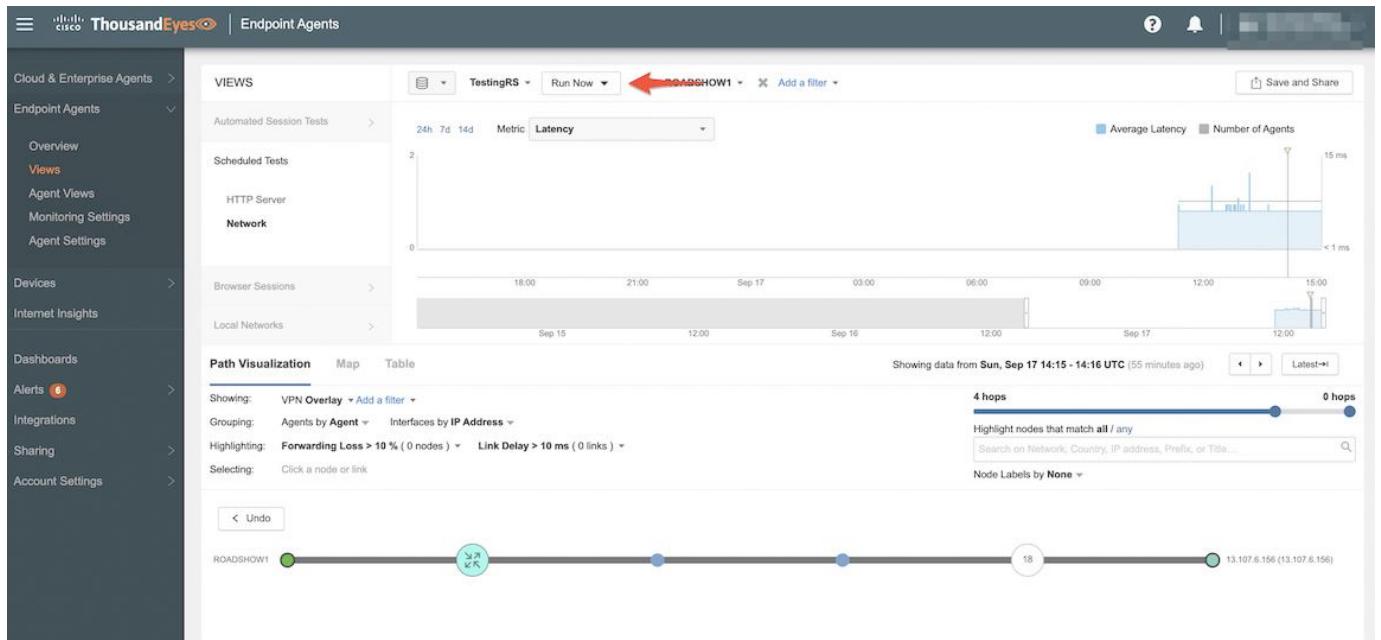
Now you're in a filtered test view. Note the filters at the top of the screen showing the test and your agent. See the below screen shot as an example.

- Adjust the metric to latency and change the grouping to IP Address
- Adjust the hops to max using the slider
- Set the link delay to 10ms and then click on the links to highlight them in the network path

The screenshot shows the ThousandEyes Endpoint Agents interface with the 'Views' link selected in the left sidebar. The main content area is titled 'TestingRS' and shows 'Automated Session Tests' and 'Scheduled Tests'. A red arrow points to the 'Add a filter' dropdown in the top navigation bar. Another red arrow points to the 'Metric Latency' dropdown. A third red arrow points to the 'Grouping' dropdown set to 'Agents by Agent'. A fourth red arrow points to the 'Highlighting' dropdown set to 'Forwarding Loss > 10 % (0 nodes)'. The bottom half of the screen shows a 'Path Visualization' section with a network diagram and various filtering and highlighting controls.

If you wanted to see all agents that are running the scheduled test you could just remove the agent filter (this won't work in this lab as we have only one agent). This would be a great way to figure out if an issue is effecting multiple users or start to isolate the users that are having issues as they might all be in the same building or connecting through the same router that is causing congestion, latency or loss. You can also right click on the agent to pull up the traceroute which is run every time the test is executed.

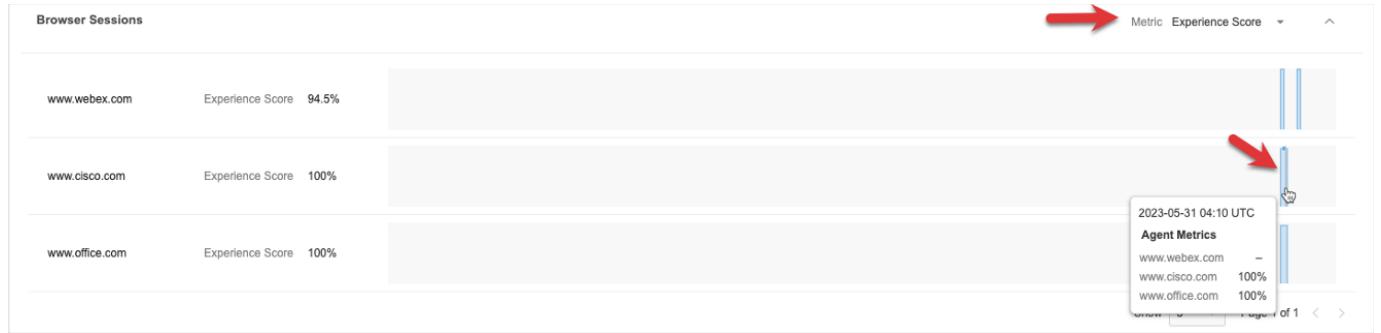
Another powerful feature is the **Run Now** option for when you are actively troubleshooting and need test results right away or you can make changes and run it. Feel free to test it out.



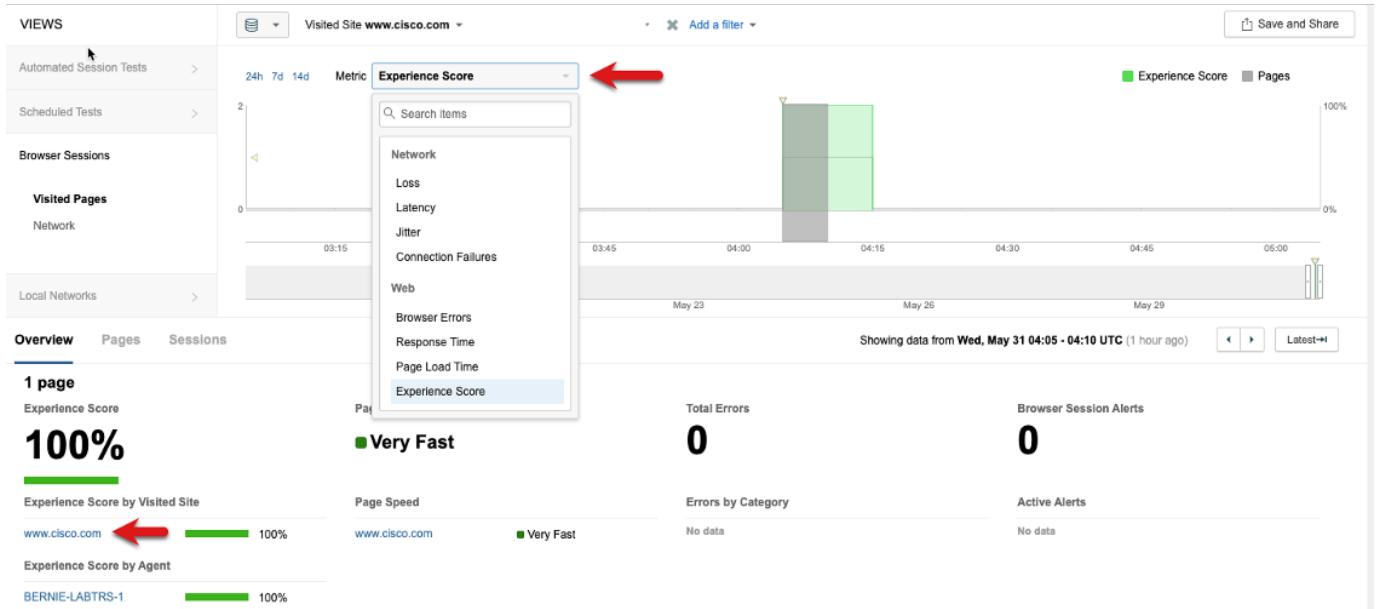
Note: It might take a few minutes for the test to complete and then be processed for visualization. So you may want to kick it off and then continue on with the lab and come back to the tab in a few minutes.

### 1.7.3 Drill into Browser Sessions

Browser Sessions are generated using the browser plugin and will monitor the user experience and network path for your monitored domain set. The experience score is a calculated metric to help gauge the end users web performance. You can change the metric based on what you are wanting to use for troubleshooting. Navigate back to **Agent Views** and search and select your agent. Click on the **www.cisco.com** session to drill into a filtered view. Note if your browser sessions aren't showing up, verify your agent is associated with the agent label and then make sure to go back to the browser and refresh the tabs.



The browser session view shows the visited pages and experience score. See the below screenshot for an example. Note the filter for the Visited Site and Agent which was automatically applied based on the browser session test you clicked from the **Agent View**.

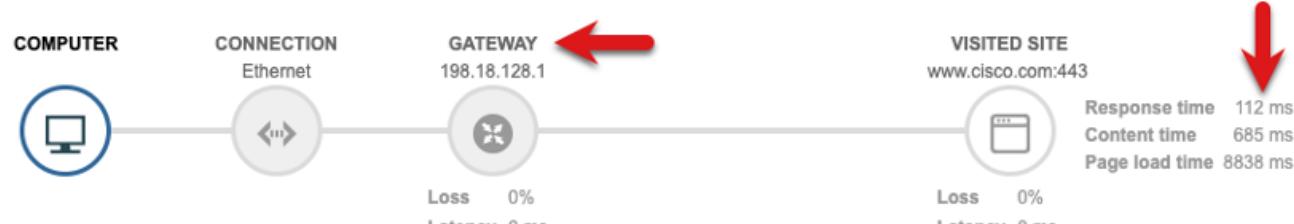


You can easily explore the other metrics from the session. Click on the web site to bring up the session, system and network details and review the tabs for the path trace and waterfall details. Additional metric will be pulled in based on how the Endpoint Agent is connected to the network like wireless, vpn or proxy.

**(unknown)**  
https://www.cisco.com/

1 of 1 page 

Experience Score	Agent	Time	
<b>100%</b>	Visited Site www.cisco.com	2023-05-31 04:06:13 UTC	Page Speed Very Fast
	Session ID 1685505900:zTtBWRkp		Errors —

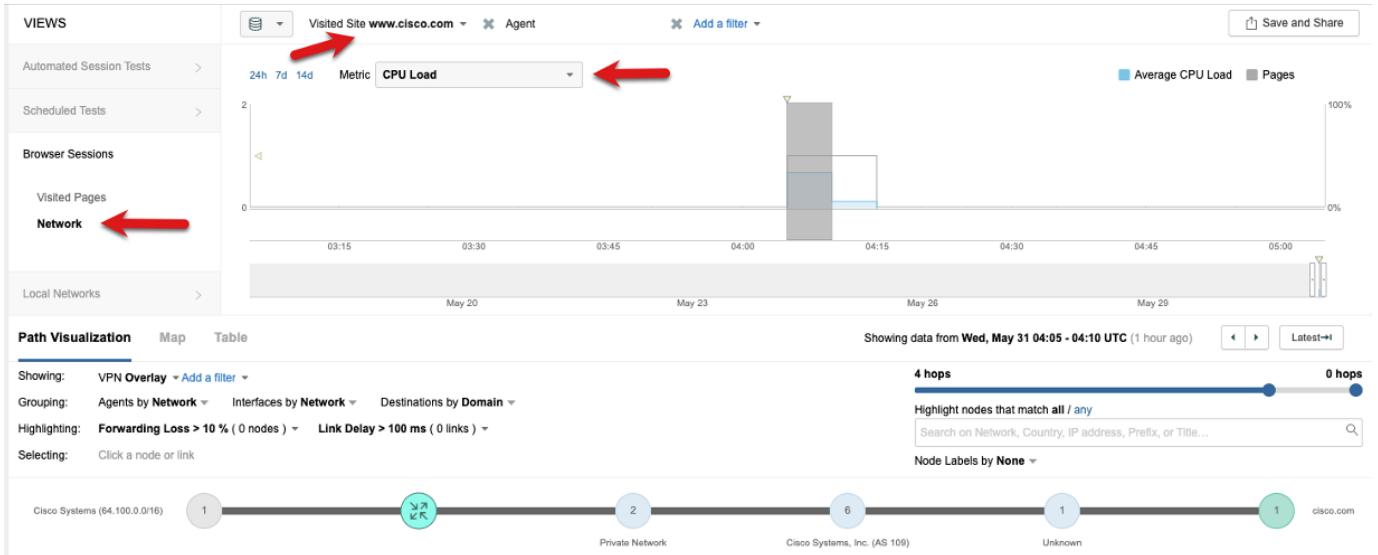


Computer Info	Path Trace	Waterfall
<b>BERNIE-LABTRS-1</b>		
Model VMware Virtual Platform	CPU 34%	
Manufacturer VMware, Inc.	Browser Google Chrome (113.0.0.0)	
OS Version Microsoft Windows 10 Pro	Public IP Address 64.100.12.5	
Kernel 10.0.19045	Private IP Address 198.18.133.36	
Memory 3278 MB / 8191 MB (40%)	Private Subnet Mask 255.255.255.0	
Endpoint Agent Version 1.158.1	DNS Servers 8.8.8.8	

Computer Info		Path Trace	Waterfall
Trace from Computer to 104.106.160.119			
	Name (IP Address)		Delay
1	198.18.128.1 (198.18.128.1)		0 ms
2	10.255.0.3 (10.255.0.3)		0 ms
3	10.1.27.9 (10.1.27.9)		0 ms
4	64.100.12.36 (64.100.12.36)		1 ms
5	rtp5-dmzaas-gw1-ten1-3.cisco.com (64.102.244.193)		1 ms
6	rtp10-cd-dmznet-gw1-ten2-3.cisco.com (64.102.244.181)		1 ms
7	rtp1-mdal-dmzbb-gw1-twe2-0-25.cisco.com (64.102.254.237)		1 ms
8	64.102.255.145 (64.102.255.145)		2 ms
9	128.107.6.22 (128.107.6.22)		1 ms
10	a104-106-160-119.deploy.static.akamaitechnologies.com (104.106.160.119)		8 ms

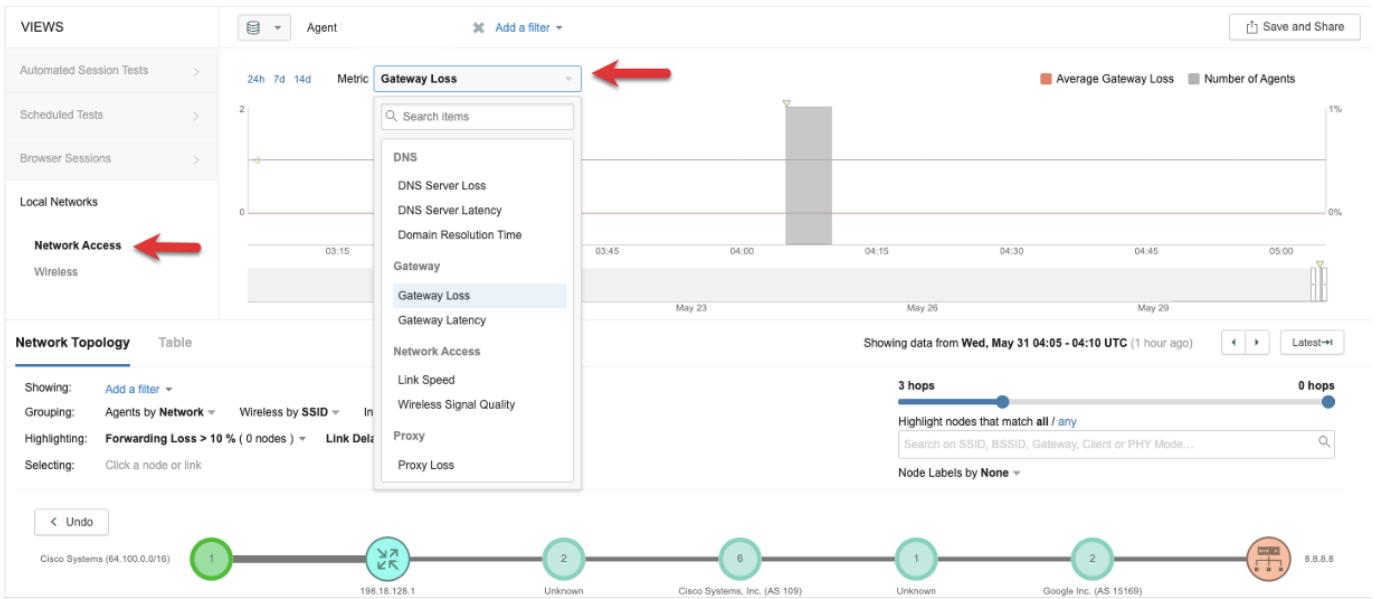
Computer Info		Path Trace	Waterfall
<a href="https://www.cisco.com/">https://www.cisco.com/</a>			
https://www.cisco.com/			
			
Object	Response Code	Domain	Size (kB)
 /	200 [Headers]	www.cisco.com	15
 0	204 [Headers]	bat.bing.com	
 recording	200 [Headers]	k-aus1.clickta...	0
 display	204 [Headers]	c.clicktale.net	
 events	204 [Headers]	c.clicktale.net	
 ctm-core.js	200 [Headers]	www.cisco.com	9.6
 personali...	200 [Headers]	www.cisco.com	4.9
 plain.css	200 [Headers]	www.cisco.com	0
 clientlib-d...	200 [Headers]	www.cisco.com	4.9 (cached)
 clientlib-b...	200 [Headers]	www.cisco.com	9.9 (cached)
 clientlib-h...	200 [Headers]	www.cisco.com	78.6 (cached)
 ctm.js	200 [Headers]	www.cisco.com	30.9
 otSDKStu...	200 [Headers]	cdn.cookielaw...	6.8 (cached)
 segments...	200 [Headers]	www.cisco.com	1.2 (cached)
 UserProfile	200 [Headers]	www.cisco.com	0.5
 token.json	403 [Headers]	www.cisco.com	0.3
 VisitorAPI.js	200 [Headers]	www.cisco.com	19
 targeter-b...	200 [Headers]	www.cisco.com	14.6
 01303338...	200 [Headers]	cdn.cookielaw...	1.8 (cached)
 otBanner...	200 [Headers]	cdn.cookielaw...	99 (cached)
 root.html	200 [Headers]	www.cisco.com	6.2
 root.html	200 [Headers]	www.cisco.com	5
 root.html	200 [Headers]	www.cisco.com	5.1

ThousandEyes takes a layered approach with visualizing the data to help you isolate and troubleshoot issues. The Network Layer will show the network path filter on the browser session. Click on the Network Layer that is associated with the Browser Session. Explore the different metrics that are captured in context in time like CPU Load.



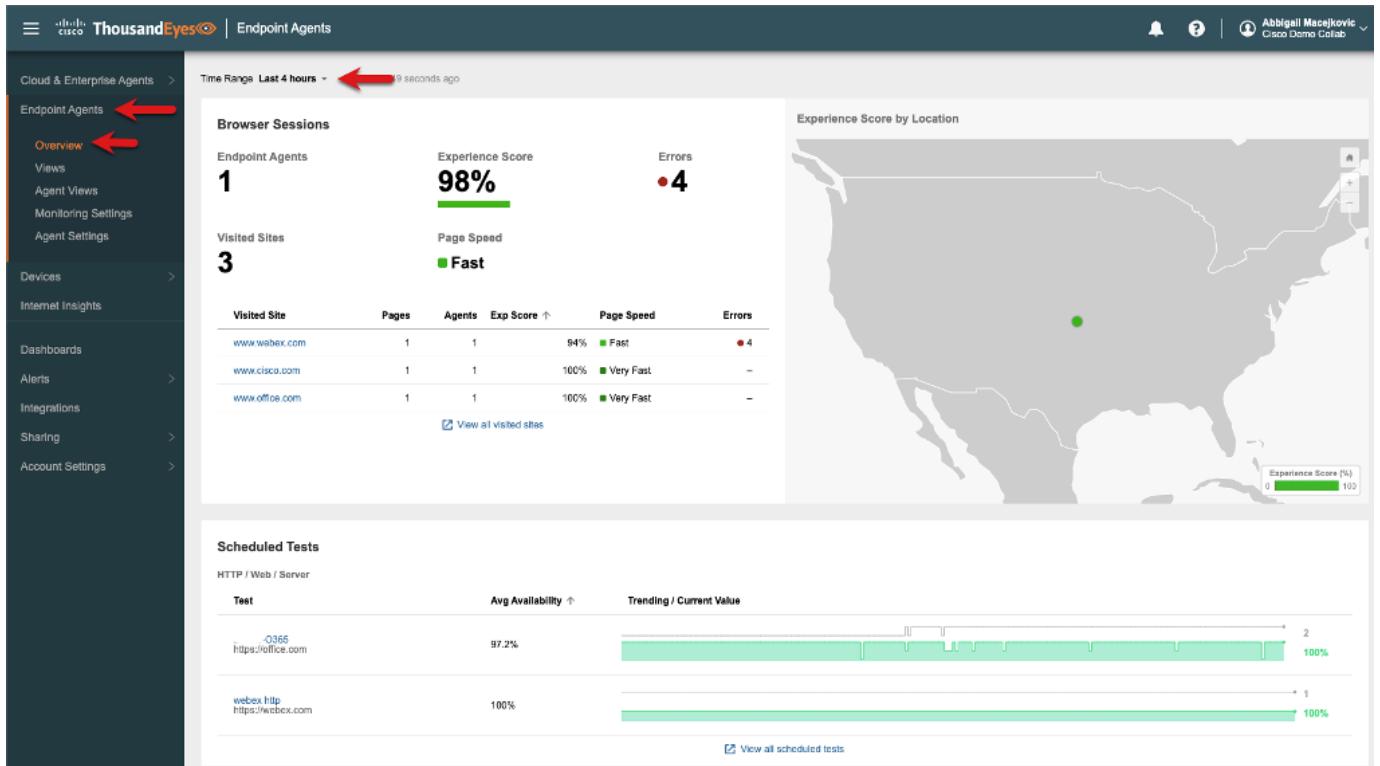
## 1.7.4 Local Network View

The Local Networks view will provide the local network and DNS information. This can be very helpful for finding bad DNS settings or Wi-Fi related issues. Click into the **Local Networks > Network Access** layer and make sure your agent is still in the agent filter or clear it out with the X to see all agents. Explore the different metrics as well using the pull down. If this was a production environment the filters could be used for isolation of issues.



## 1.7.5 Endpoint Agent Overview

This page provides a quick overall health view of your Endpoint Agents. Navigate to the **Endpoint Agents > Overview** to see all the stats from all the agents. Try adjusting the time range as well.



Now that you've learned about the metrics, tests and various way that ThousandEyes can help you troubleshoot, isolate and resolve end users issues you're one short step from the final stage of this learning journey. The last step will be learning about some of the ways a dashboard can be used to visualize the endpoint agent data and shared with other stakeholders. Check out Task 7 to learn about Endpoint Agent data in Dashboards.

## 1.8 ThousandEyes Home Worker Dashboard (optional)

Dashboards provide a rich powerful way to visualize your ThousandEyes tests, quickly isolate issues, and see the health of your infrastructure and applications. Since we are focused on the Endpoint Agent we will use a dashboard that is based off this blog: Best Practices to Create a "Remote Workforce" Dashboard.

Navigate to **Dashboards**. Use the pull down to select the **Home Worker Dashboard** then select the “...” pull down to duplicate the dashboard. Name it your name-Roadshow Home Worker Dashboard as this will allow you to try out some of the widgets without effecting the original.

The screenshot shows the ThousandEyes Home Worker Dashboard interface. On the left, a sidebar menu includes options like Cloud & Enterprise Agents, Endpoint Agents, Devices, Internet Insights, Dashboards (which is selected), Alerts, Integrations, Sharing, and Account Settings. The main area displays two world maps. The left map, titled 'Endpoint Agent Status', shows the number of agents in various regions: 47 Online, 81 Offline, and 12 Disabled. The right map, titled 'Map' and 'Visited Pages — Experience Score > 1 day', shows a color-coded heatmap of visited pages across the globe. A red arrow points to a context menu in the top right corner of the dashboard area, which includes options like 'Create New Dashboard', 'Duplicate Dashboard' (highlighted with a red box), 'Edit Dashboard', and 'Delete Dashboard'. At the bottom left, there is an 'Alert List' section with a note 'No Alert Activity'.

Test out the pull down for time and use the toggle to update all widgets. The snapshot feature will create a link for the dashboard. Additionally it can be scheduled to be emailed to team members or executives who may use for reports or meetings. Lastly the download options can create a pdf or csv file.

The screenshot shows a detailed dashboard interface for monitoring endpoint agent status and network performance. Key features include:

- Endpoint Agent Status:** A world map showing the status of endpoints across continents. A legend indicates 48 Online, 0 Offline, and 12 Disabled.
- Alert List:** An empty section indicating "No Alert Activity".
- Live Experience Score By Domain (2nd Percentile):** A section showing experience scores for three domains across three regions:
  - Asia / APAC:** 80% (webex.com), 53.3% (cisco.com)
  - North America:** 94.3% (webex.com), 100% (cisco.com), 100% (office.com)
  - Europe / EMEA:** 84.8% (webex.com), 85.5% (cisco.com)
- Live Response Time By Domain (98th Percentile):** A section showing response times for three domains across three regions:
  - Asia / APAC:** 833 ms (webex.com), 1209 ms (cisco.com)
  - North America:** 0 ms (webex.com), 65 ms (office.com), 112 ms (cisco.com)
  - Europe / EMEA:** 514 ms (cisco.com), 1833 ms (webex.com)
- Map:** A world map showing visited pages with an experience score of 1 day. A color scale from green to red indicates the score.

Each widget can be customized, or new widgets can be added based on your reporting requirements. Dashboards can be created to show Wi-Fi health of home vs. office, floor or building using the SSID or BSSID and labels. This makes it so your dashboard will be dynamic based on the time and how users are accessing the network and applications.

We'll use CPU color grid widget for this example. Click on the **settings** icon in the top right and click **Configuration** to see the Editing Color Grid pop out.

The dashboard displays several key metrics:

- Live Experience Score By Domain (2nd Percentile):**
  - Visited Pages — Experience Score + 1 day
  - Asia / APAC 88 %**: 80 webex.com, 83.3 cisco.com
  - North America 94.3 %**: 94.3 webex.com, 100 cisco.com, 100 office.com
  - Europe / EMEA 94.8 %**: 84.8 webex.com, 95.5 cisco.com
- Experience Score By User (Update w/ your App):**
  - Visited Pages — Experience Score + 1 day
  - All: 100 %
- CPU Load % (20 highest):**
  - System — CPU Load + Limiting to 20 cards per group + 1 day
  - All 100 %**: 100 CSCO-W-PF3..., 100 CSCO-W-PF3..., 100 DESKTOP-6..., 100 WORKSTATION..., 100 CSCO-W-PF2..., 100 DESKTOP-8...
  - 100 CSCO-W-PF3..., 99.98 CSCO-W-PF3..., 99.84 CSCO-W-PF3..., 98.49 CSCO-W-PF2..., 98.48 CSCO-W-PF3..., 90.34 WORKSTATION...
  - 89.82 DESKTOP-0..., 88.8 BERNIE-LAB..., 86.2 MINZHAN2-M..., 85.42 MICRORATE-M..., 85.13 EYI-M-KCAN, 84.97 CHAKHO-M...
  - 82.97 Monks, 81.4 DESKTOP-6...
- Memory Load % (20 highest):**
  - System — Memory + Limiting to 20 cards per group + 1 day
  - All 94.65 %**: 94.65 DESKTOP-8..., 94.09 CSCO-W-PF3..., CSCO-W-PF2...
  - 91.4 MINZHAN2-M..., 91.35 DESKTOP-0..., NIKSHAH-M...
  - 89.67 NIKSHAH-M..., 89.41 MICHEROO-M..., CSCO-W-PF3...
  - 86.57 NTEUNISS-M..., 86.53 MICOSTAN-M...

**Editing Color Grid** dialog box (right side):
 

- DATA** section shows **Endpoint Local Networks** selected.
- 3rd Party Applications**, **Alerts**, **Cloud & Enterprise Agents**, **Devices**, **Endpoint Automated Session Tests**, **Endpoint Browser Sessions**, **Endpoint Local Networks**, **Endpoint Scheduled Tests**, and **Routing** are listed with red arrows pointing to them.
- Cards** section shows **Endpoint Agents** selected.
- Group Cards By**: All
- Sort Cards By**: Value
- Relative time**: 5 Minute(s)
- Columns**: 1
- Limit To**: 20 cards in each group
- DRILL DOWN**: Private Network, Select item(s), Add a filter
- Buttons**: Save & Add Another Widget, Cancel, Save

Changing the **Data Source** allows for different categories and Endpoint Agent metrics to be displayed in the widget. You can use the "..." to duplicate or delete the widget. Adjusting the **DESIGN** section will change the way the cards show up. The **Drill Down** is a great way to provide a filter for the metrics. For example if you were looking at **Visited Pages** for a category you could use it to filter down to the critical domain(s) you want the widget to display.

The dashboard displays several key performance indicators:

- Live Experience Score By Domain (2nd Percentile):**
  - Visited Pages — Experience Score + 1 day
  - Asia / APAC 88 %**
  - 80 webex.com (green)
  - 83.3 cisco.com (orange)
- North America 94.3 %:**
  - 94.3 webex.com (green)
  - 100 cisco.com (green)
  - 100 office.com (green)
- Europe / EMEA 94.8 %:**
  - 84.8 webex.com (green)
  - 95.5 cisco.com (green)
- Experience Score By User (Update w/ your App):**
  - Visited Pages — Experience Score + 1 day
  - All (blue bar)
- CPU Load % (20 highest):**
  - System — CPU Load + Limiting to 20 cards per group + 1 day
  - All 100 %**

100 CSCO-W-PF3...	100 CSCO-W-PF3...	100 DESKTOP-6...	100 WORKSTATI...	100 CSCO-W-PF2...	100 DESKTOP-B...
100 CSCO-W-PF3...	99.98 CSCO-W-PF3...	99.84 CSCO-W-PF3...	98.49 CSCO-W-PF2...	98.48 CSCO-W-PF3...	90.34 WORKSTATI...
89.82 DESKTOP-O...	88.8 BERNIE-LAB...	86.2 MINZHAN2-M...	85.42 MICRORATE-M...	85.13 EYI-M-KZAN	84.97 CHAKHO-M...
82.97 Monks	81.4 DESKTOP-6...				
- Memory Load % (20 highest):**
  - System — Memory + Limiting to 20 cards per group + 1 day
  - All 94.65 %**

94.65 DESKTOP-B...	94.09 CSCO-W-PF3...	CSC...
91.4 MINZHAN2-M...	91.35 DESKTOP-O...	NIK...
89.67 NIKSHAH-M...	89.41 MICHEROD...	CSC...
86.57 NTEUNISS-M...	86.53 MICOCHAN-M...	

To the right, a "Editing Color Grid" window is open, showing a configuration interface for "Endpoint Local Networks". It includes a "DATA" section with a "Data Source" dropdown set to "Endpoint Local Networks", a search bar, and a list of third-party applications. Red arrows point to the "Endpoint Automated Session Tests", "Endpoint Browser Sessions", "Endpoint Local Networks", and "Endpoint Scheduled Tests" items in the list.

Feel free to modify, add widgets and make changes to your dashboard. Have fun with it and if you want to learn more about ThousandEyes dashboards check out our Getting Started with Dashboards documentation.

Outside of the scope of this but a best practice recommendation is to set up alert rules with suitable conditions and assign those to your tests associated with your Endpoint Agents. This ensures you are notified of potential issues as soon as they occur, allowing for a swift resolution before user impact. For instance, if an Endpoint Agent detects a network connection issue, it can send an alert to your IT team. They can then investigate and resolve the issue before it starts affecting users. Alert rules can be configured to monitor performance metrics such as latency, packet loss, and jitter, or to flag when an application becomes unavailable or experiences degraded performance.

You can choose to receive these alerts when certain thresholds are exceeded and have them directed to a tool of your preference. ThousandEyes supports numerous integration options, including native integrations with Webex and ITSM tools such as ServiceNow and PagerDuty. Alternatively, you can choose from various custom webhook templates such as Webex, Slack, Microsoft Teams, or any third-party tool of your choice using the generic template. ThousandEyes integrations are powerful, delivering alerts directly into your existing workflow, thereby centralizing data and notifications from multiple sources into a single platform. For more information check out Getting Started with Alerts.

You've done an amazing job learning about how to deploy, configure and use the ThousandEyes Endpoint Agent to help you solve and isolate your end users issues providing you with actionable data and reducing your mean time to resolution (MTTR). Continue on to Logging Out and Ending the Lab Session

## 1.9 Logging Out and Ending the Lab Session

Close out of the Chrome Browser Close out Webex Close the Windows VM browser tab Log out of the ThousandEyes and close the incognito browser

In the Webex Demo Toolbox browser tab scroll to the bottom and click **End**

The screenshot shows the "Webex Demo Toolbox" interface with the title "Troubleshooting Webex Meetings & Devices with ThousandEyes - Active". The sidebar includes sections for Help and Info, Send Us Feedback, Filter Menu, DASHBOARD (Home, My Demo Sessions, My Tools, My Characters, My Devices, My Favorites, My User Profile), and DEMOS & TOOLS (All, Calling, Devices, Feature VODs, Integrations, IT Admin, Meeting, Messaging, Security, Tools). The main content area has tabs for Details, Overview, Instructions, and Collateral. A message states: "Demo the power of Webex and ThousandEyes working together to troubleshoot Webex meetings and devices using the Control Hub/ThousandEyes integration." Below this, there are two sections: "Character" and "Control Hub/ThousandEyes Read Only Admin". The "Character" section shows a user named "Omer Ilyas" with status "Scheduled" and a scheduled demo. The "Control Hub/ThousandEyes Read Only Admin" section shows a user named "Eldridge Fritsch" with status "Shared With: olyas@cisco.com". At the bottom of the page, there are sections for "Device" (with a note about optional devices), "ThousandEyes Portal" (with a note about right-clicking), "Control Hub URL" (with a note about opening in incognito mode), and "Workstation" (with a note about troubleshooting). A red arrow points to the "End" button at the bottom right of the page.

Click **End Session** in the pop up to shutdown the lab and close the tab

## End Troubleshooting Webex Meetings & Devices with ThousandEyes? ☀

Are you sure you want to end the demo Troubleshooting Webex Meetings & Devices with ThousandEyes?

Cancel

End Session

Time to wrap things up with the Lab Conclusion.

## 1.10 Conclusion

## Why ThousandEyes?

See, understand and improve digital experience everywhere

### Broad Data Collection

Deliver ubiquitous visibility

E2E visibility, synthetic, and cloud network visibility across every vantage point that matters

### Proactive Intelligence

Identify and isolate issues quickly

Event detection, correlation, and causal analysis for intelligent troubleshooting

### Operational Workflows

Integrate with a connected ecosystem

Unlock intelligence and data across ecosystems via open standards

Cisco ThousandEyes assuring every element of modern digital experience



Thank you for taking the time to learn about the ThousandEyes Endpoint Agent. Please **provide feedback** as I'm always looking at ways I can improve this content. If you have ideas where you think the ThousandEyes Endpoint Agent could be improved please submit them as well so we can better help you solve your end users issues and provide you more time to do the things you enjoy.