

cisco

Roadshow-WebexAmplify

Enabling Hybrid Work with ThousandEyes

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1. Lab

1.1 Overview - Enabling Hybrid Work with ThousandEyes

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.

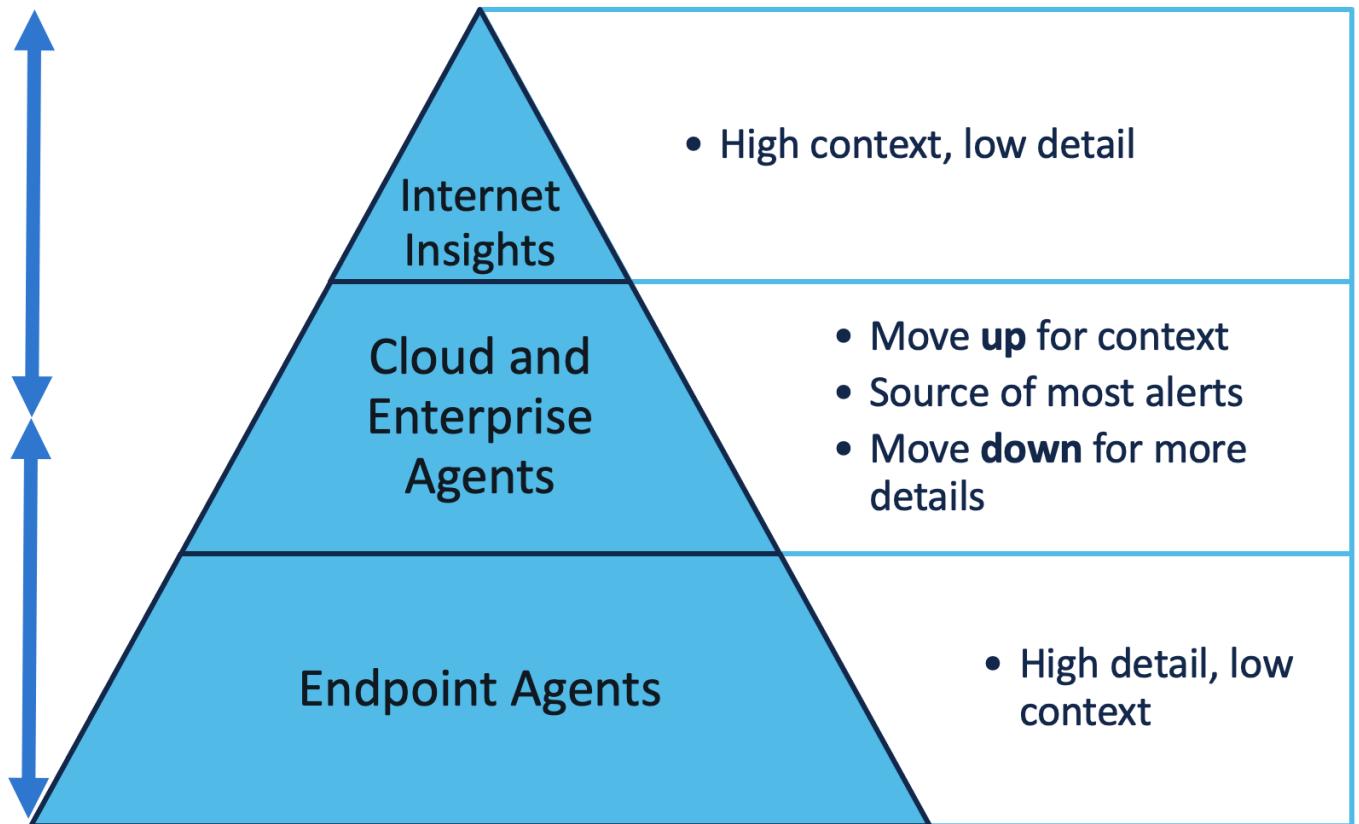
1.1.1 Upon completion of this lab you will be able to

- 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

- 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 software 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.ilyas@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 Hirth**: 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)	<input type="button" value="▼"/>
Password	password	<input type="button" value="eye"/>

A red arrow points to 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 to the "Create Device" button, the "Add New Room Device" button, and the "Create a New Device" modal window.

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. The top navigation bar includes links for 'Help and Info' and 'Send Us Feedback'. On the right, there's an email link 'oilyas@cisco.com' and a user profile icon. Below the header, a 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' (Home, My Demo Sessions, My Tools, My Characters, My Devices, My Favorites, My User Profile) and 'DEMONS & TOOLS'. The central content area contains a brief description of the integration and a video player titled 'Webex with ThousandEyes Overview Video'.

Troubleshooting Webex Meetings & Devices with ThousandEyes

Start Demo

OVERVIEW

Instructions Collateral

Feature Overview Video

Webex with ThousandEyes Overview Video

Global Systems Engineering

Equipment and Networks

Client: Webex Meeting 4.0.3.9
Platform: Mac 12.3.1
User Name: oilyas Ilyas oilyas@...
OS: Mac OS X 10.15.7

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

External Type

Tradeshow Name

Roadshow

Demo Session Name

Troubleshooting Webex Meetings & Devices with ThousandEyes

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 diagram consists of four horizontal arrows pointing from left to right, each accompanied by a small icon and text.
 1. The first arrow shows a server icon labeled 'Datacenter' pointing to a cloud icon labeled 'Cloud'.
 2. The second arrow shows a stack of three boxes labeled 'App Stack' pointing to a cloud icon labeled 'SaaS + API'.
 3. The third arrow shows an office building icon labeled 'Office' pointing to a location pin icon labeled 'Anywhere'.
 4. The fourth arrow shows a network mesh icon labeled 'Network' pointing to a globe icon labeled 'Internet'.

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

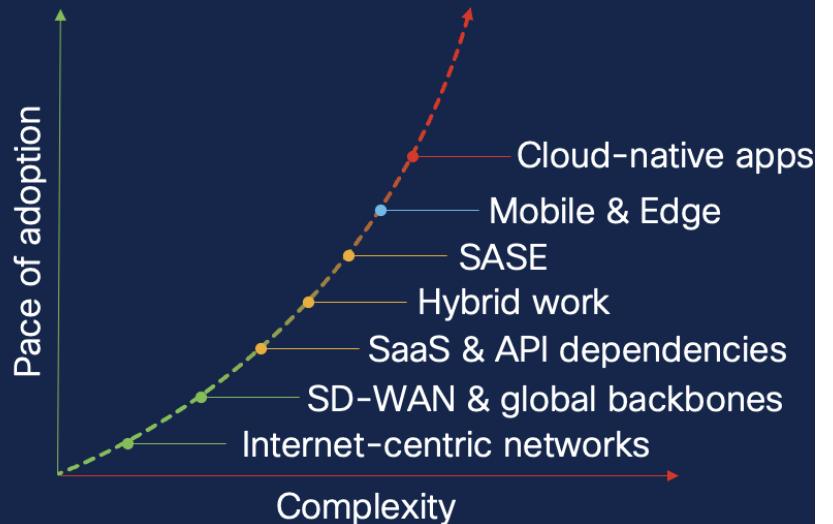
A central blue circle contains a server icon labeled 'Data Center'. It is surrounded by several cloud icons representing different cloud providers like IBM Cloud, AWS, and others. Five speech bubbles are positioned around the central circle, each containing a question:
 - Top-left (red): "Is it the Internet?"
 - Top-right (red): "Is it the cloud?"
 - Bottom-left (orange): "Is it the user environment?"
 - Bottom-right (orange): "Is it the application?"
 - Right (blue): "Is it the Edge?"

The Challenge

Soaring complexity curve is widening visibility gap

Competitive pressures driving technology adoption

Adoption outpacing capabilities to manage new environments



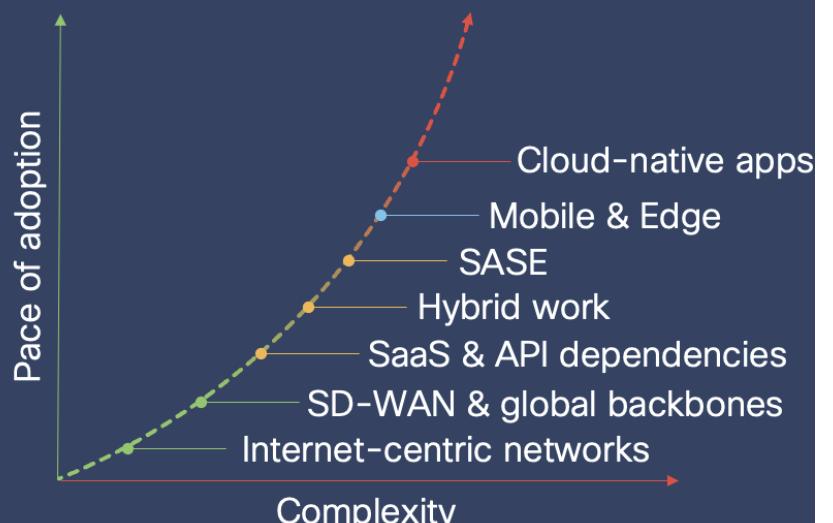
Connectivity is your business, but it's changing rapidly. Your brand is only as good as your network. Digital experience is how you are measured, but most of the path is outside your control (outside the core). What do you need to do about it? How can you understand digital experience to the things your 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

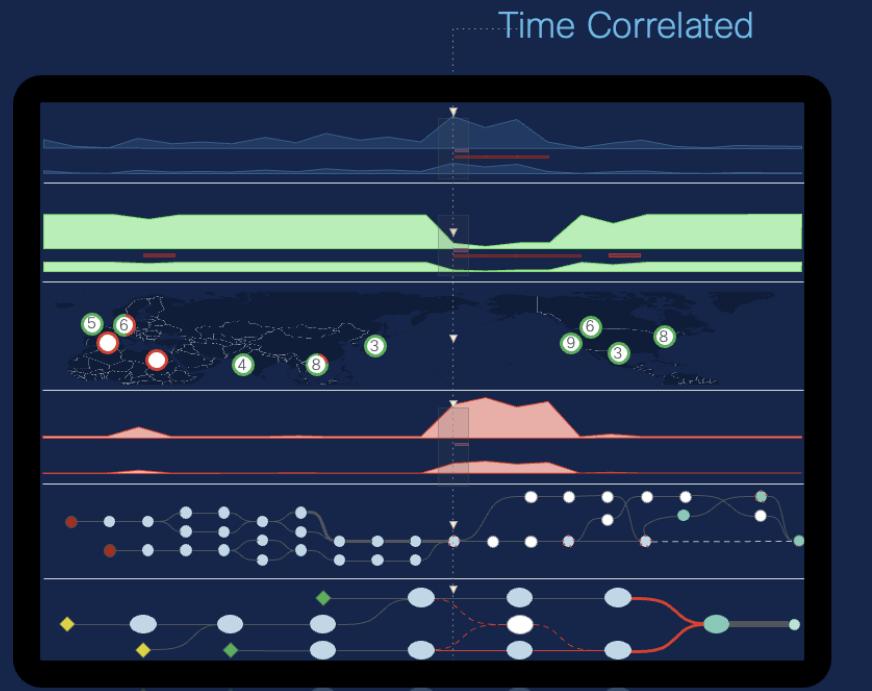
Our Solution

Collectively
powered
Internet
weather map



Our Solution

Correlate performance across every layer



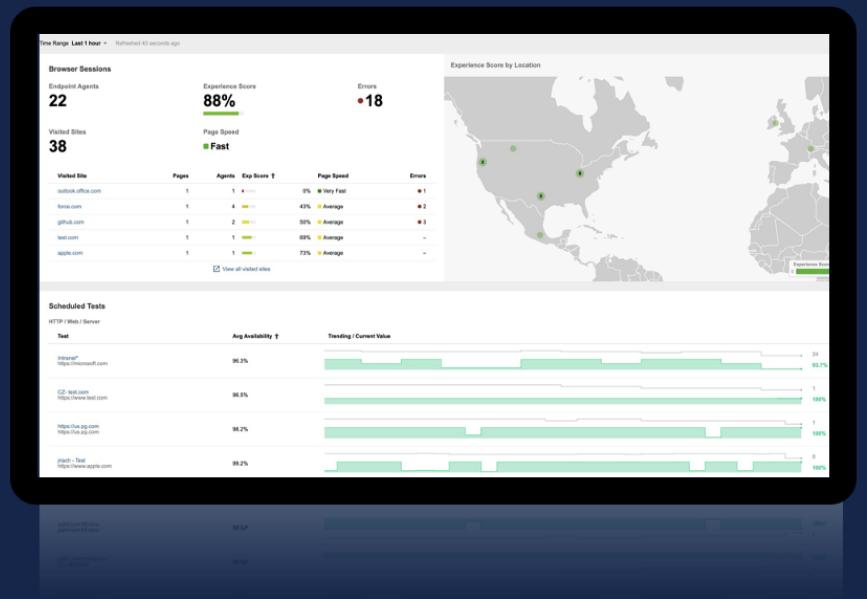
Our Solution

Visualize services end-to-end across every domain



Our Solution

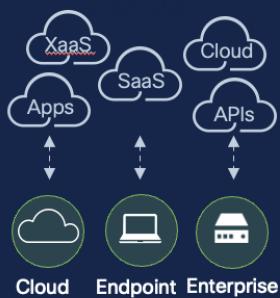
Understand
global
workforce
experience



Our Solution ThousandEyes Internet and Cloud Intelligence

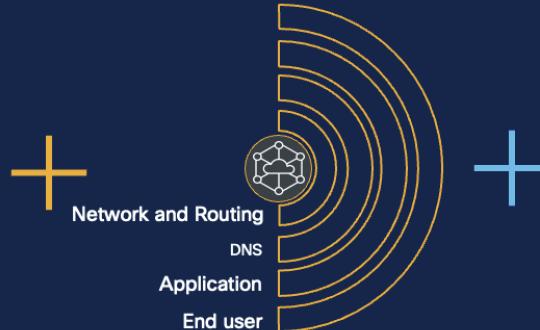
VISIBILITY

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 'DEMOS & TOOLS', several categories like All, Calling, Devices, etc., are listed. The 'My Demo Sessions' item in the main content area is highlighted with a blue background and a red arrow pointing to it. The main content area displays a card for a 'ThousandEyes' demo session. The card includes a circular icon with an eye, the title 'Troubleshooting Webex Meetings & Devices with ThousandEyes', a description, and status information: 'Status: Active' and 'Ends: in 2 days'. Below this, it says 'Using:' followed by a user profile picture and the name 'Omer Ilyas'. A red arrow points to the green 'View' button at the bottom of the card.

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 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

- 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.

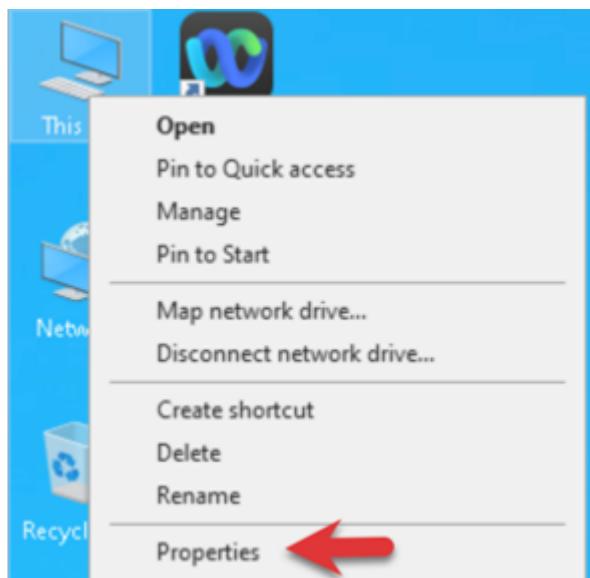
Workstation

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

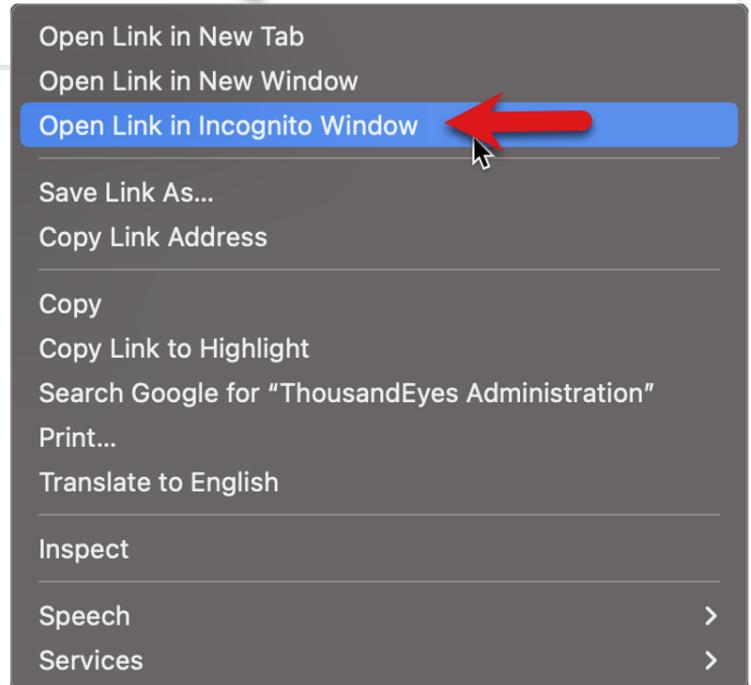
Next **Cancel**

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 "abbigail.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

abbigail.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](#)



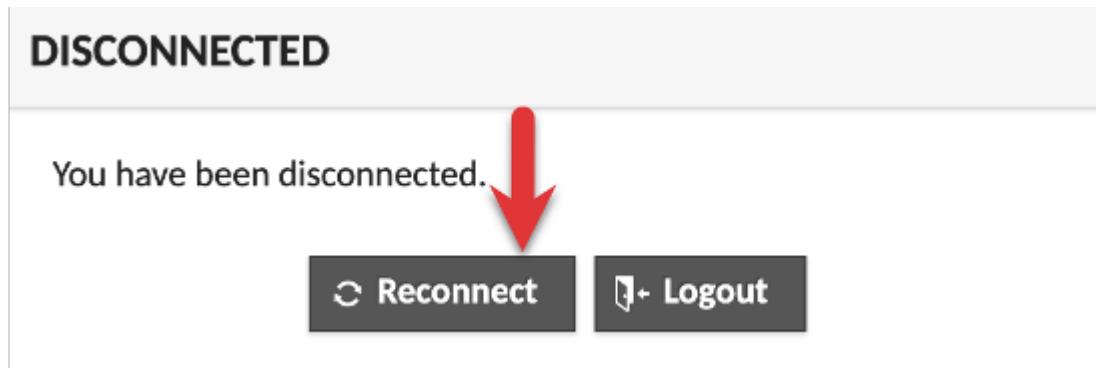
Sign in

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.

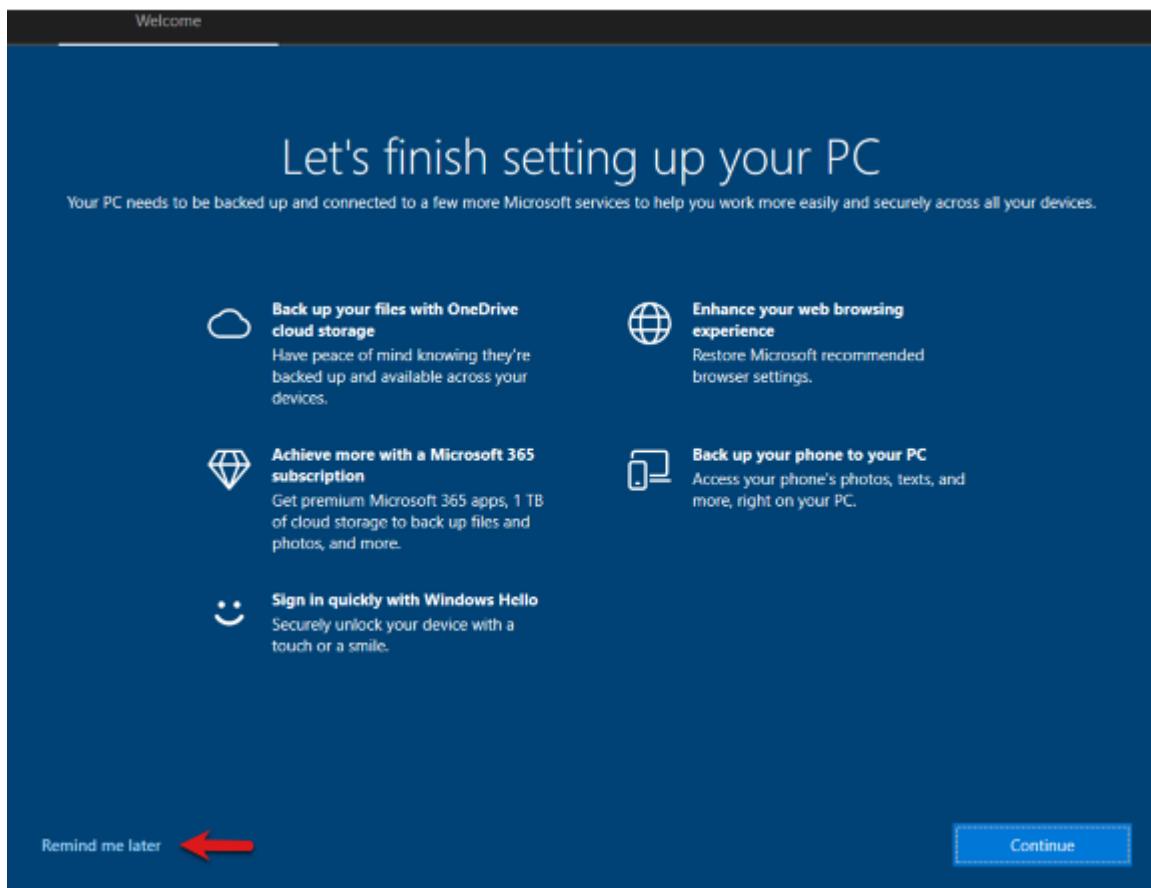
The screenshot shows the ThousandEyes Default Dashboard. On the left, there's a sidebar with navigation links: Cloud & Enterprise Agents, Endpoint Agents, Devices, Internet Insights, Dashboards (which is selected), Alerts, Integrations, Sharing, and Account Settings. The main content area has three main 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 Collab, 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.



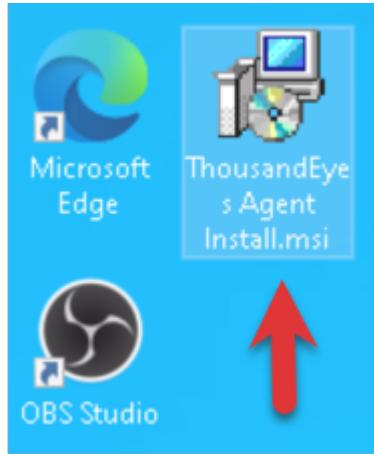
Note if a Let's finish setting up your PC window appears just click "Remind me Later". Also close the CC Cleaner browser and Accept the Webex EULA (if they appear).



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

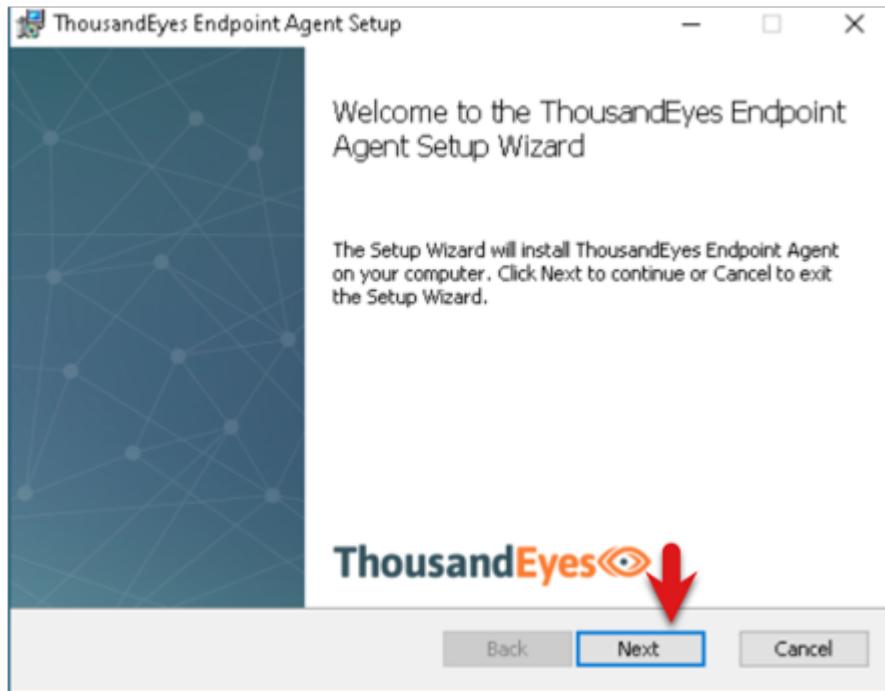
Troubleshooting packet loss in a Webex meeting

Deep dive into the integration and demo

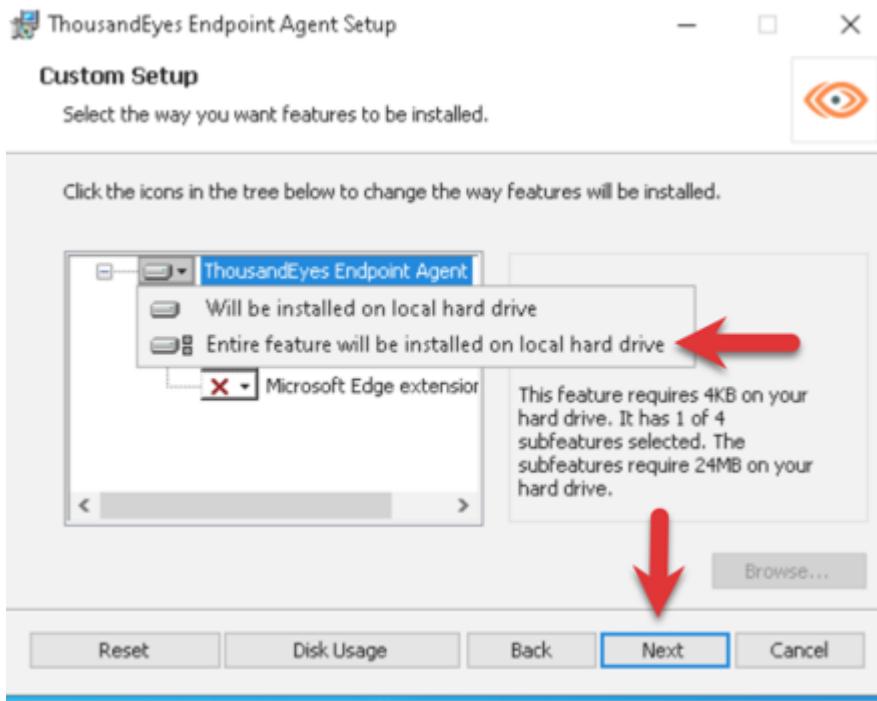
DEMO DOWNLOADS AND LINKS

- 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.

The screenshot shows a character profile for "Omer Ilyas". At the top is a circular profile picture of a cartoon character. Below it, the name "Omer Ilyas" is displayed. Underneath the name, the status is listed as "Scheduled". A "Demo" link is present, followed by an "Email" address: "omer.ilias@cumulusorg.com" with an edit icon. Two red arrows point to the edit icons for both the email and password fields. Below the email is a "Password" field containing "[.....]" with its own edit icon. Further down are "PMR" and "Extension" fields, each with its own edit icon. At the bottom are two buttons: a red "Delete" button and a blue "Refresh" button.

Omer Ilyas

Status: Scheduled

Demo: Troubleshooting Webex Meetings & Devices with ...

Email: omer.ilias@cumulusorg.com

Password: [.....]

PMR

Extension: 200180

Delete Refresh

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

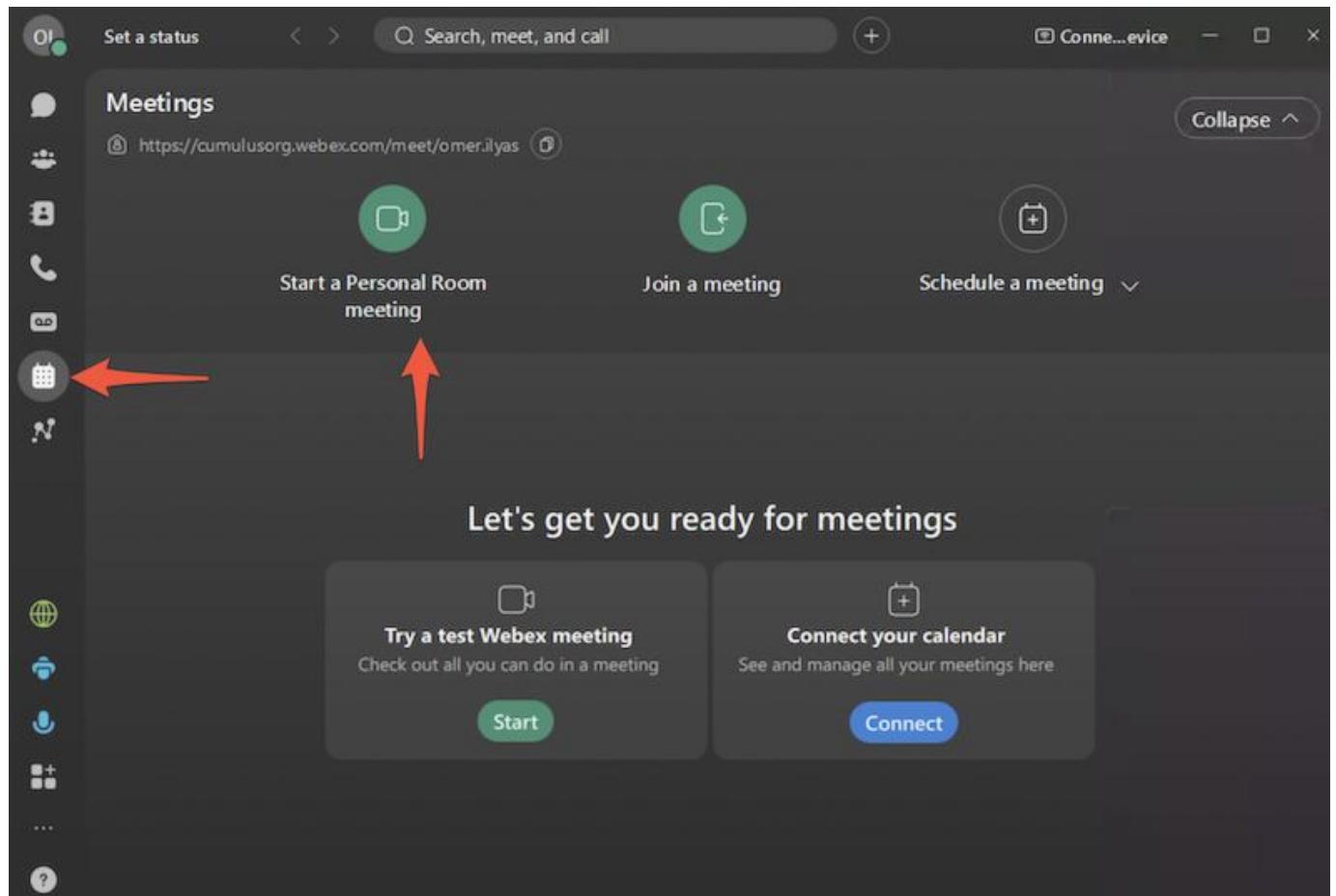
Enter password

.....|

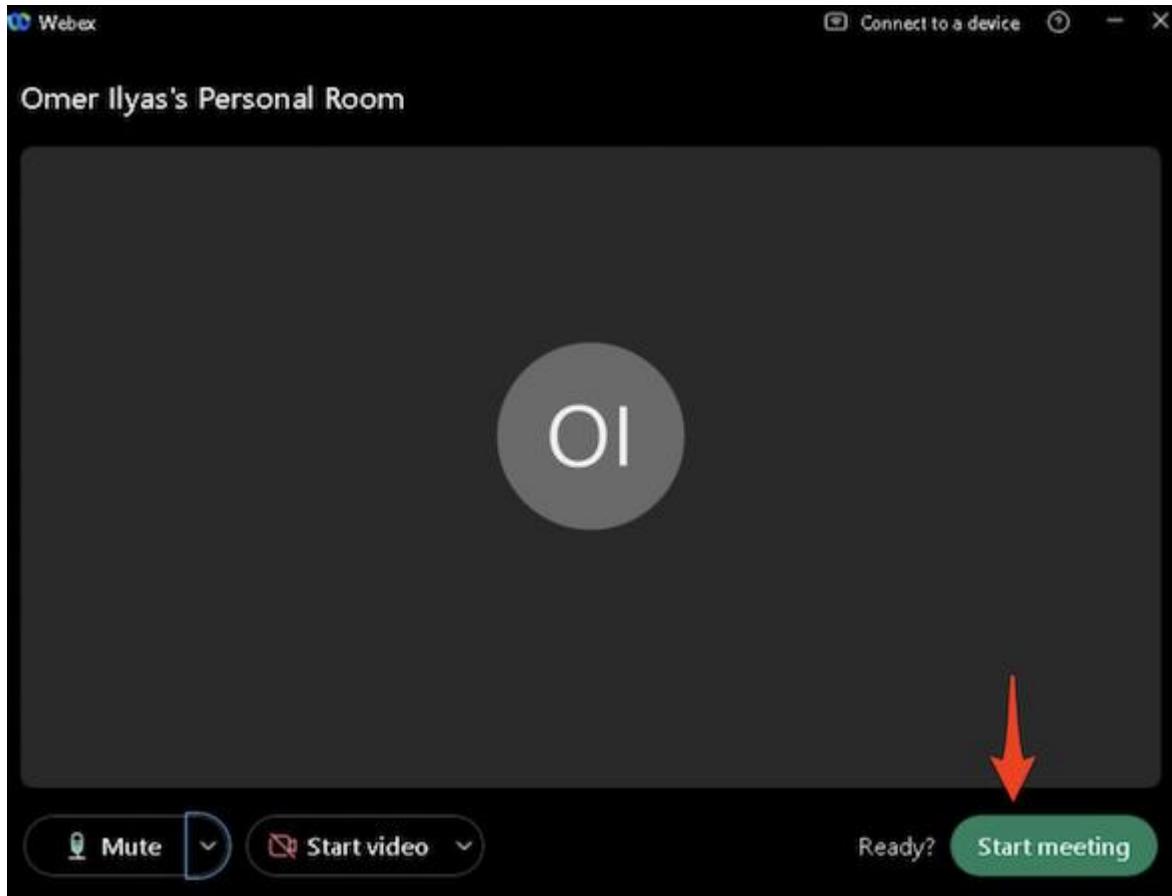


[Forgot my password](#)

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



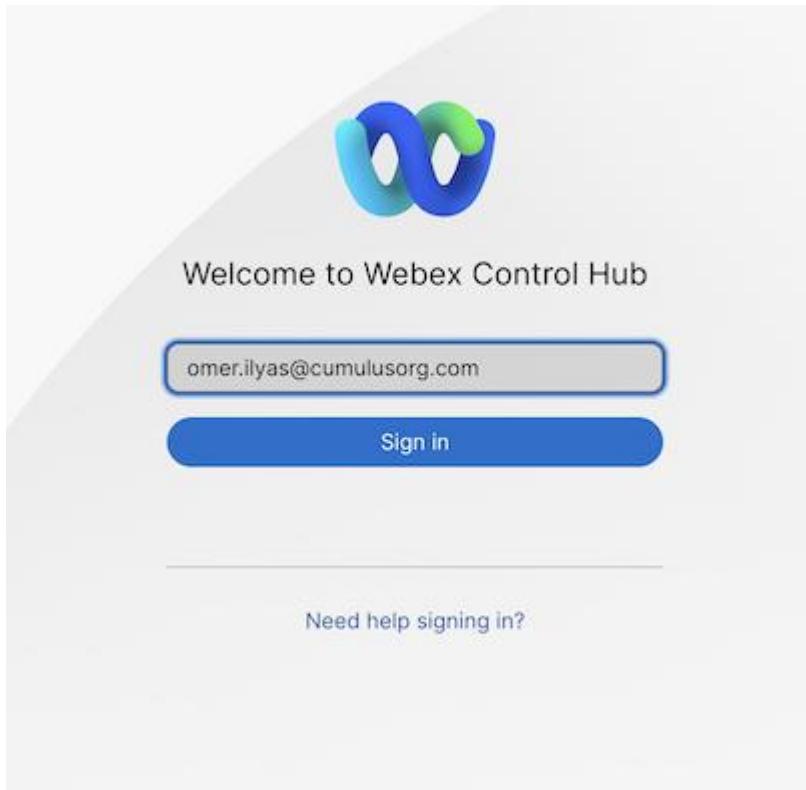
Click **Join meeting** and then click **Start meeting**.



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.

The screenshot shows the 'webex Control Hub' interface with the 'Troubleshooting' tab selected. On the left sidebar, the 'Troubleshooting' option is highlighted with a red arrow. In the main area, a search bar contains the text 'omer.ilyas@cumulusorg.com' with a red arrow pointing to it. Below the search bar, a table displays meeting statistics for 'Omer Ilyas' (Active). The table includes columns for Poor meeting minutes (0 min), Total meeting minutes (133 mins), Poor minutes of Call on W... (0 min), Total minutes of Call on W... (0 min), Poor Webex calling minutes (0 min), and other metrics. At the bottom, a table titled 'Omer Ilyas's meetings & calls' shows a single entry with a status of 'In progress'.

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 'Cloud & Enterprise Agents' and 'Endpoint Agents' selected. Below that are 'Overview', 'Views', 'Agent Views', 'Monitoring Settings', and 'Agent Settings'. The main area has tabs for 'Endpoint Agents', 'Proxy Settings', and 'Agent Labels', with 'Endpoint Agents' selected. 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 are 'Name', 'Agent Version', 'Browser Extension', 'Current Location', 'Last Contact', 'Public IP Address', 'Private IP Address', 'Last Modified', and 'License Type'. The single row in the table shows 'ROADSHOW1' (with 'ROADSHOW1\Administrator'), '1.169.3', 'TCP', 'City of London, England, UK', '2 minutes ago', '64.103.46.1', '198.18.133.36', '42 minutes ago', and 'Advantage'. Red arrows highlight the search term 'road' in the search bar, the 'Browser Extension' column header, and 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/ddnennmeinlkkmajmmfaojcnppdnpbg>

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 a single entry for 'ROADSHOW1' with a green 'Browser Extension' status icon. Red arrows point to the 'road' entry in the table and 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. A red arrow points to the 'Monitoring Settings' link in the sidebar, and another red arrow points to the 'Add New Test' button in the top right corner of the main area.

- Create an AST to monitor Webex Meetings in your organization

The screenshot shows the 'Webex' test configuration dialog. It includes sections for 'Basic Configuration', 'Target', 'Protocol', 'Interval', 'Agents', and 'Max No. of Agents'. There is also a 'Prioritize this test for the selected agents' checkbox and a timeline at the bottom. Red arrows point to several fields: 'Test Name' (containing 'Webex'), 'Target' (containing 'Webex'), 'Protocol' (containing 'Auto-detect'), 'Agents' (containing 'All agents'), and the 'Save Test' button. A large red arrow also points to the timeline at the bottom.

Setting	Value
Test Name	Webex
Target	Webex
Protocol	Auto-detect
Interval	1 minute
Agents	All agents
Prioritize this test for the selected agents	<input checked="" type="checkbox"/>
Max No. of Agents	2500

Timeline at the bottom:

- Agents assigned to the test
- Agents running the test
- Max no. of Agents

Timeline scale: 00, 15:00, 18:00, 21:00, Sep 17, 03:00, 06:00, 09:00, 12:00

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. The left sidebar has a 'Troubleshooting' tab highlighted with a red arrow. The main area shows a search bar with the email 'omer.ilyas@cumulusorg.com' entered, resulting in 5 meetings found. Below the search bar, there are date filters set to '9 Days' from '9/10/2023' to '9/18/2023' and a time zone dropdown set to '(GMT +01:00) Europe/London'. The results table lists Omer Ilyas as active, with 0 poor meetings, 133 mins total meeting minutes, 0 min poor meeting minutes, 0 min total poor meeting minutes, 0 total calls, and 0 poor calls. A red arrow points to the 'In progress' status in the 'Meetings & calls' table.

- Click your demo user id

The screenshot shows the 'Meetings and calls' section for 'Omer Ilyas's Personal Room'. It displays various statistics: Total participants (1), Poor audio minutes (0%), Poor video minutes (0%), Poor sharing minutes (0%), and Unexpected drops (0%). The 'Participants' section shows one participant named 'Omer Ilyas' with a red arrow pointing to it. The 'Meeting details' panel on the right shows a meeting ID of 27183112124305240, conference ID 27183112124305240, site name 'cumulusorg', meeting date 2023-09-17, meeting time 11:49 AM - 12:27 PM (33 Minutes), host 'omer.ilyas@cumulusorg.com', host email 'omer.ilyas@cumulusorg.com', and other participants listed as 'you'. A red arrow points to the 'In progress' status in the meeting details panel.

- 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 4.3.8.2.6
- Platform: Windows 10.0.19041
- Join From: WebexApp 4.3.9.0.27194
- 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

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

Launch the ThousandEyes Dashboard

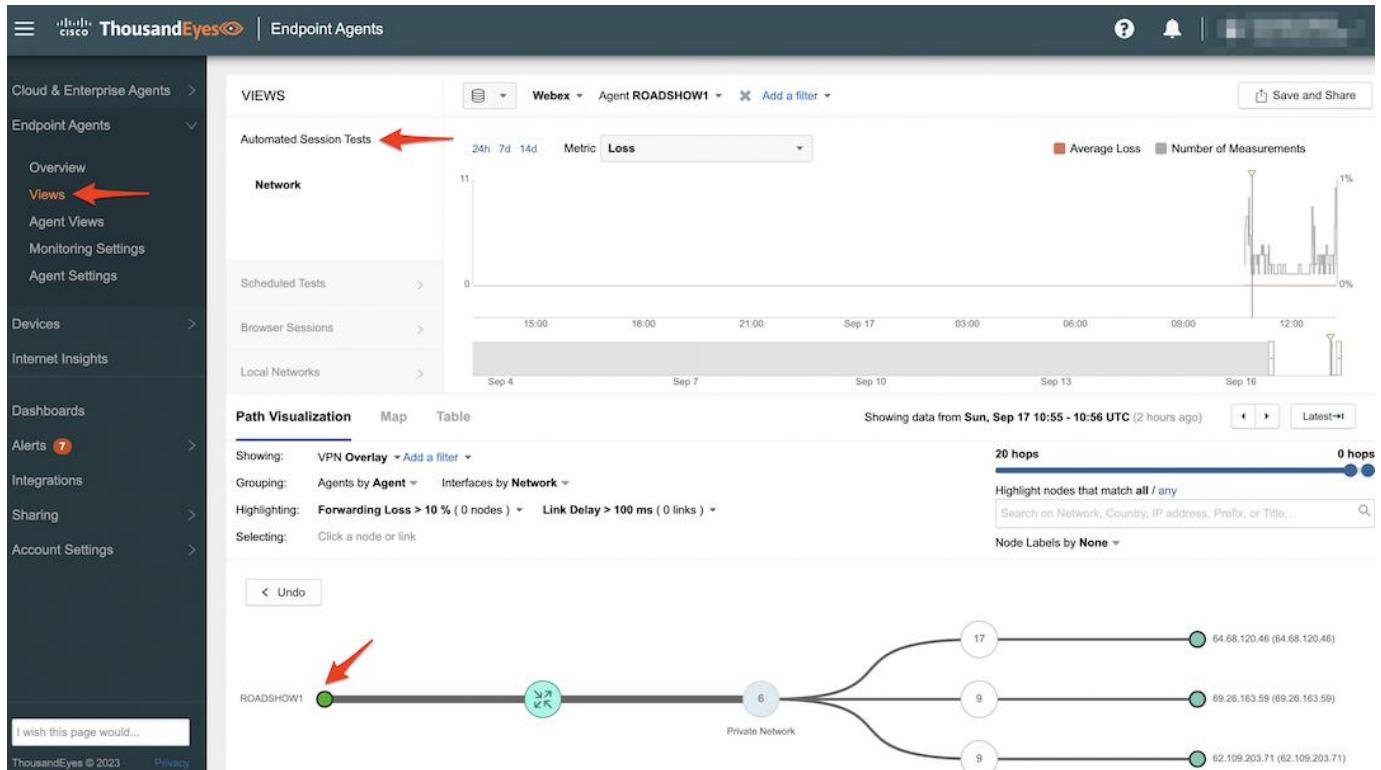
- You can hover over a dotted line to see the user's latency (round-trip) average value during that interval. The color changes depending on the threshold that the value met. Thresholds in Webex are calculated as:

```

- 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 ThousandEyes Endpoint Agents interface. On the left, the navigation menu includes Cloud & Enterprise Agents, Endpoint Agents (selected), Overview, Views, Agent Views, Monitoring Settings, Agent Settings (highlighted with a red arrow), Devices, Internet Insights, Dashboards, Alerts (7 notifications), Integrations, Sharing, and Account Settings.

In the center, under 'Agent Labels', a new label 'RS_PC' is being created. The 'Label Name' field contains 'RS_PC' (with a red arrow pointing to it). The 'Color' section shows a color palette. The 'Filter' section has 'All' selected, and the 'Agent' dropdown is set to 'in'. A search bar shows 'ROADSHOW1'. Below this, a list of agents is shown with 'ROADSHOW1' checked (indicated by a red arrow).

On the right, a modal window titled 'Edit Label' displays the 'Label Name' as 'RS_PC' (with a red arrow pointing to it) and the 'Agent' dropdown set to 'ROADSHOW1' (with another red arrow pointing to it). The list of agents includes:

- NTEUNISSL-M-VVK2
- OJ-SURFACE-PRO
- PLBMEDINA-5310
- RDEKENIN-M-64VQ
- RMK1Plus
- ROADSHOW1 (highlighted with a red arrow)
- ROWLAPAG-M-RE3L
- SARAPHIL-M-DGDN
- SEP00778D9080B0
- SEP00778D9080B0
- SEP00A5BFC4727E
- SEP00A5BFC48FA0
- SEP00A5BFC5B88B
- SEP00A5BFC5B88B8
- SEP00A742FFFC82

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](#)

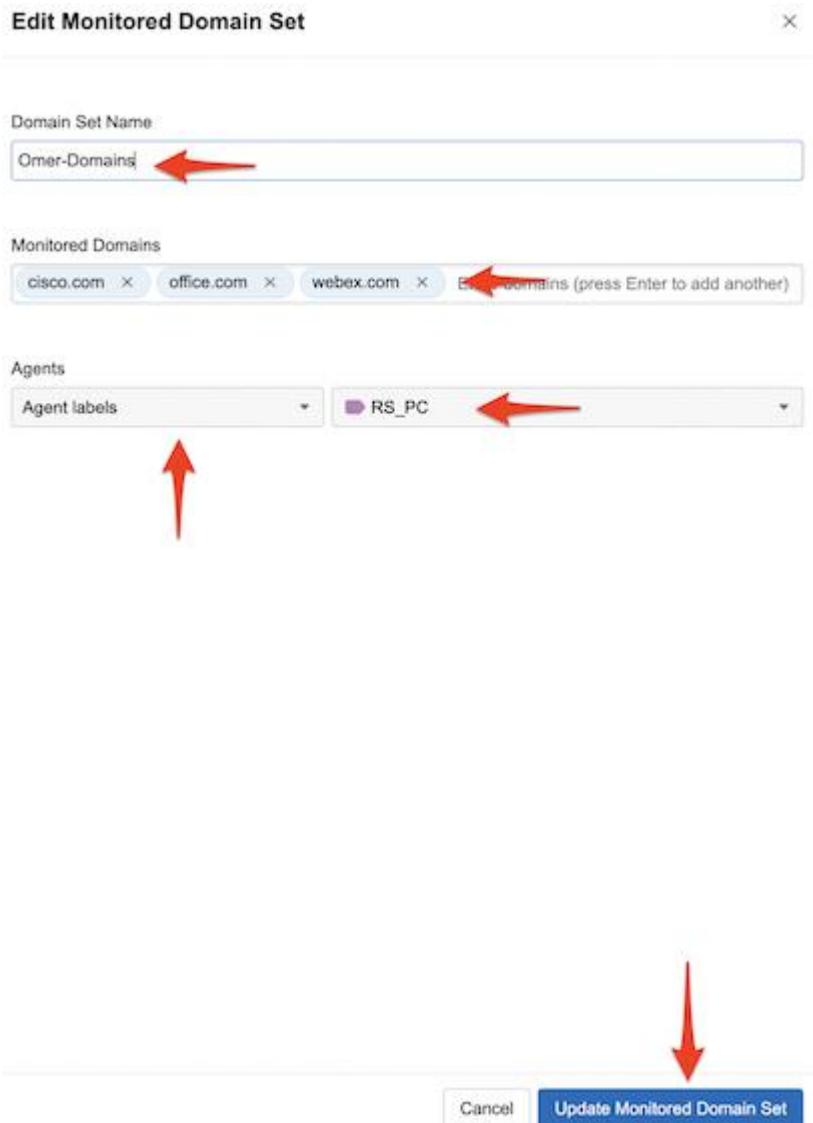
1.6.4 Set up Browser Sessions for your ThousandEyes EPA

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**

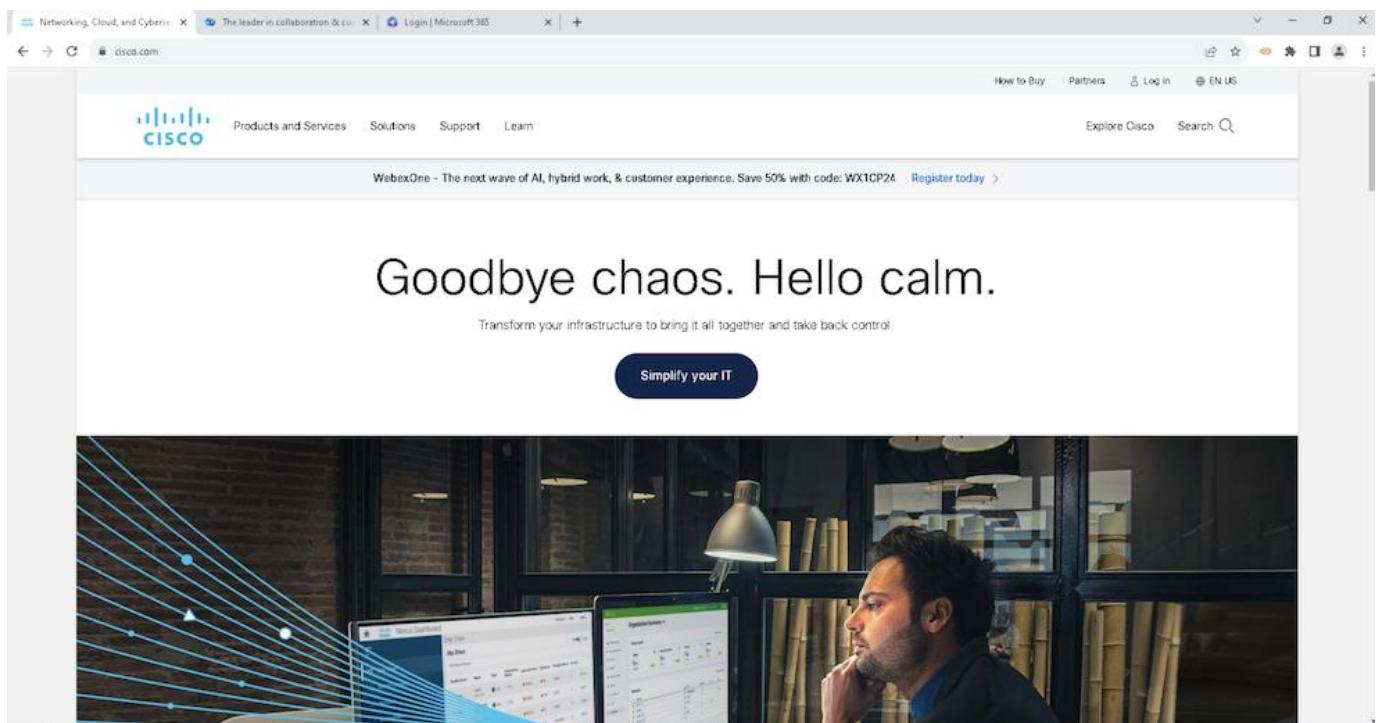


1.6.5 Automated Sessions Tests (AST) for your ThousandEyes EPA

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.

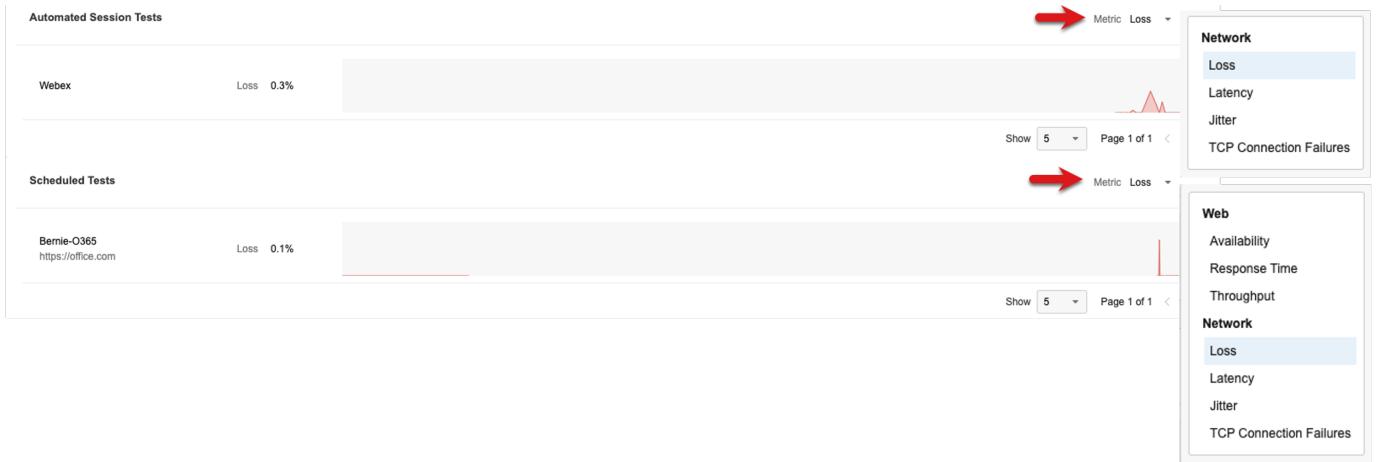
If you are troubleshooting a issue and want to quickly see all the test data for a users system **Agent Views** provides the perfect visualization.

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 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

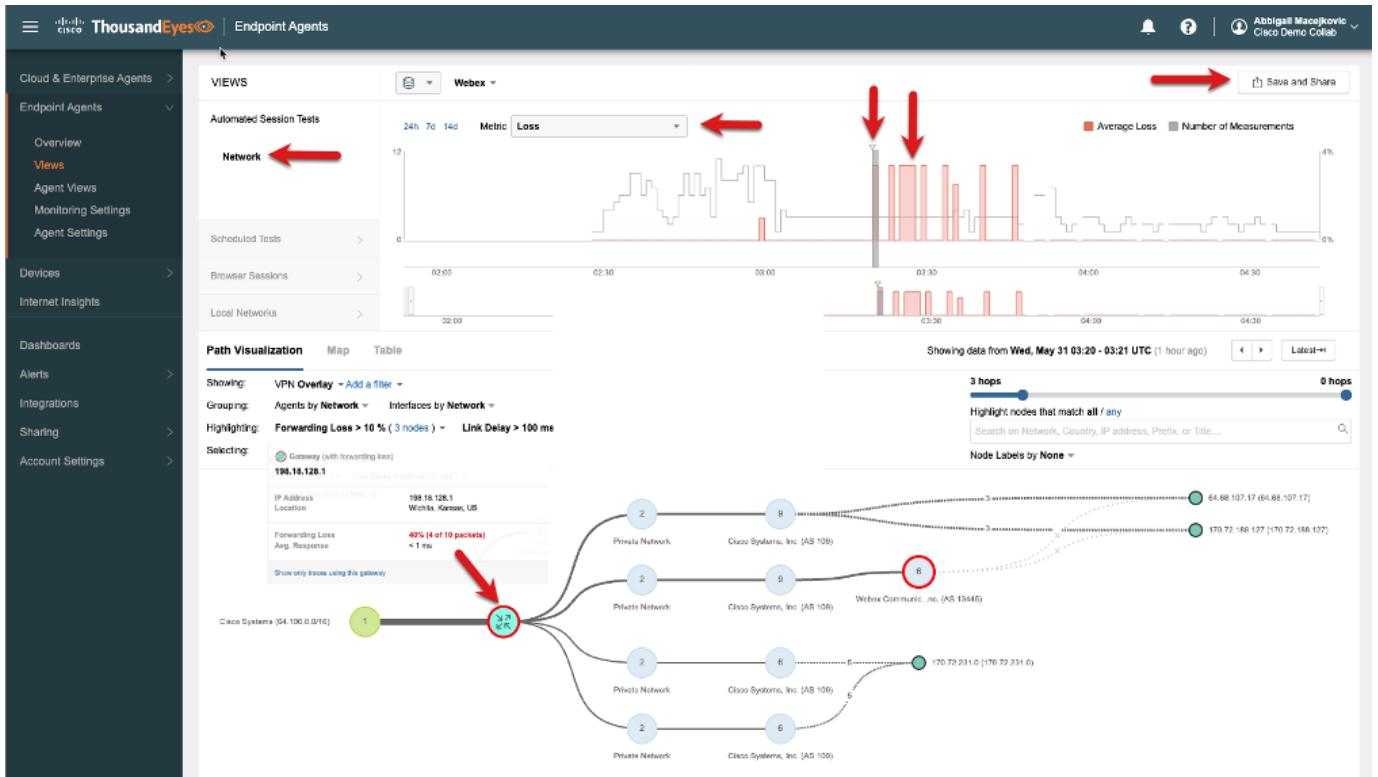
Now that you've explored the Agent Views page click on the AST metric to dive into the detailed view associated with the Webex Test. If you don't have any network loss try changing the metric to latency.



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 for the host **ROADSHOW1**. The left sidebar includes navigation links such as 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 content area displays Local Networks (System and Network Access) and Automated Session Tests (Gateway and Webex). A red arrow points to the 'Scheduled Tests' section at the bottom, which lists a test for 'TestingRS https://office.com' with 0% loss. Navigation controls like 'Show 5', 'Page 1 of 1', and 'Next Page' are visible.

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

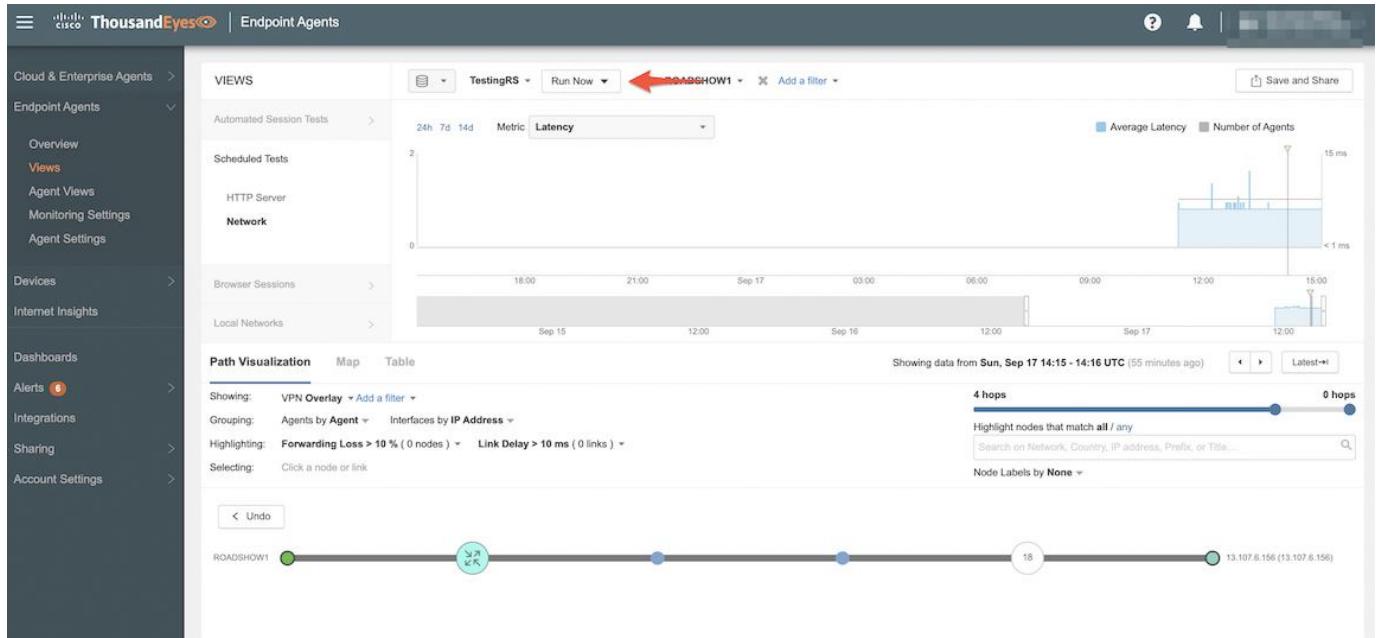
The screenshot shows the ThousandEyes Endpoint Agents dashboard. The left sidebar includes sections for Cloud & Enterprise Agents, Endpoint Agents (selected), Overview, Views (highlighted in orange), Agent Views, Monitoring Settings, Agent Settings, Devices, Internet Insights, Dashboards, Alerts (with 6 notifications), Integrations, Sharing, and Account Settings.

The main area displays a network monitoring interface. At the top, there are dropdown menus for 'TestingRS' (set to 'Run Now'), 'Agent ROADSHOW1' (with a red arrow pointing to the 'Add a filter' button), and a 'Views' section. Below this is a chart showing 'Latency' over time (24h, 7d, 14d) with a red arrow pointing to the 'Metric' dropdown set to 'Latency'. To the right is a histogram of latency values.

On the left, under 'Views', are 'Automated Session Tests' (selected) and 'Scheduled Tests'. Under 'Automated Session Tests' are 'HTTP Server' and 'Network' sections. On the right, there's a 'Path Visualization' section with tabs for 'Path Visualization' (selected), 'Map', and 'Table'. It shows a network path from 'ROADSHOW1' to '13.107.6.156 (13.107.6.156)' with various nodes highlighted. The 'Showing' dropdown is set to 'VPN Overlay' with an 'Add a filter' button. The 'Grouping' dropdown is set to 'Agents by Agent' with a red arrow pointing to it. The 'Highlighting' dropdown is set to 'Forwarding Loss > 10 % (0 nodes)' and 'Link Delay > 10 ms (0 links)'. The 'Selecting' dropdown is set to 'Click a node or link'. A red arrow points to the 'Link Delay > 10 ms (0 links)' dropdown. The bottom right shows a search bar for 'Search on Network, Country, IP address, Prefix, or Title...' and a 'Node Labels by None' dropdown.

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.

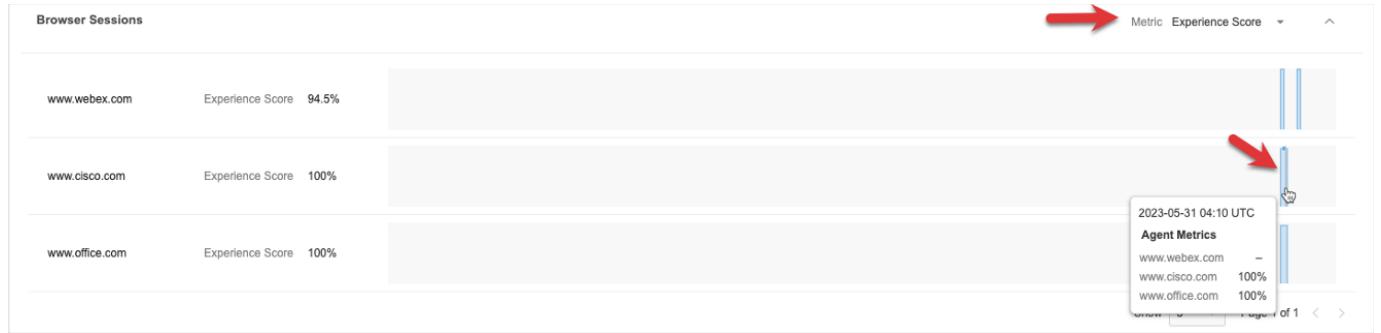
Another powerful feature is the **Run Now** option for when you are actively troubleshooting and need test results right away or you can make changes and run it. Feel free to test it out.



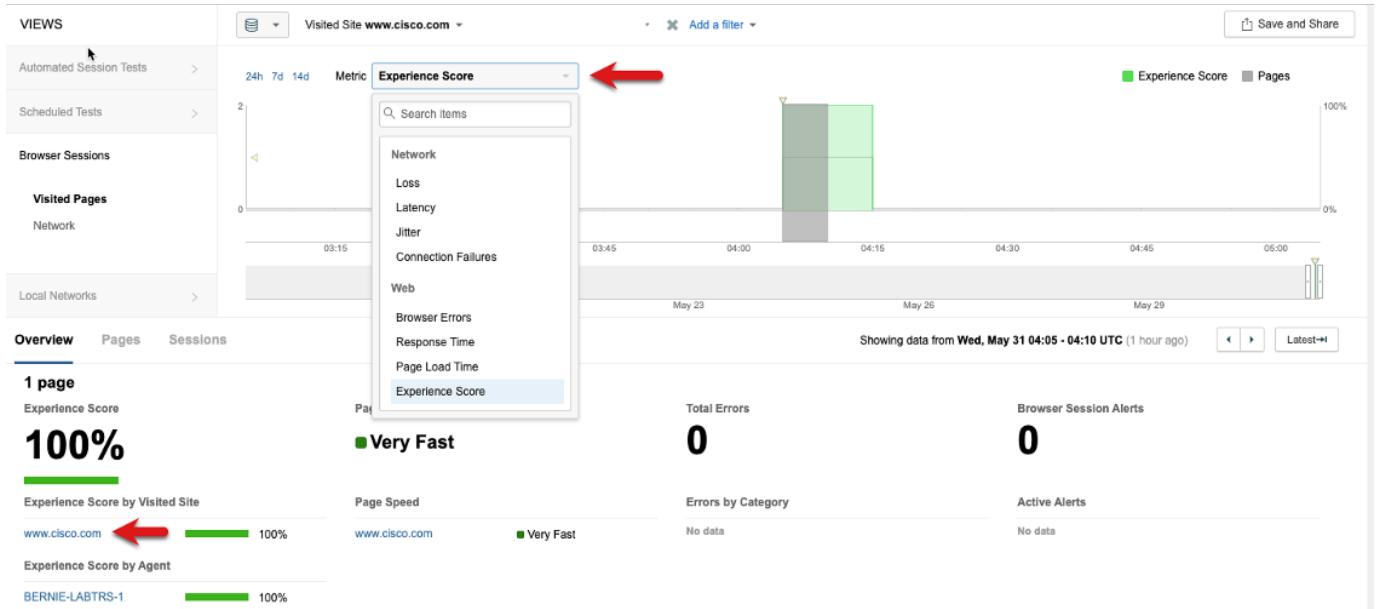
Note: It might take a few minutes for the test to complete and then be processed for visualization. So you may want to kick it off and then continue on with the lab and come back to the tab in a few minutes.

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**.

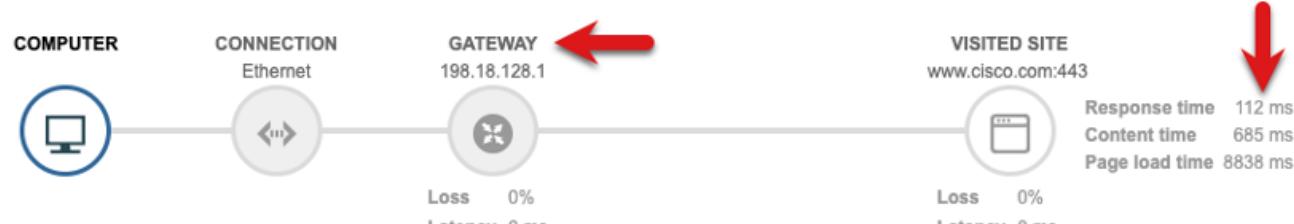


You can easily explore the other metrics from the session. Click on the web site to bring up the session, system and network details and review the tabs for the path trace and waterfall details. Additional metric will be pulled in based on how the Endpoint Agent is connected to the network like wireless,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

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

1 of 1 page 

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

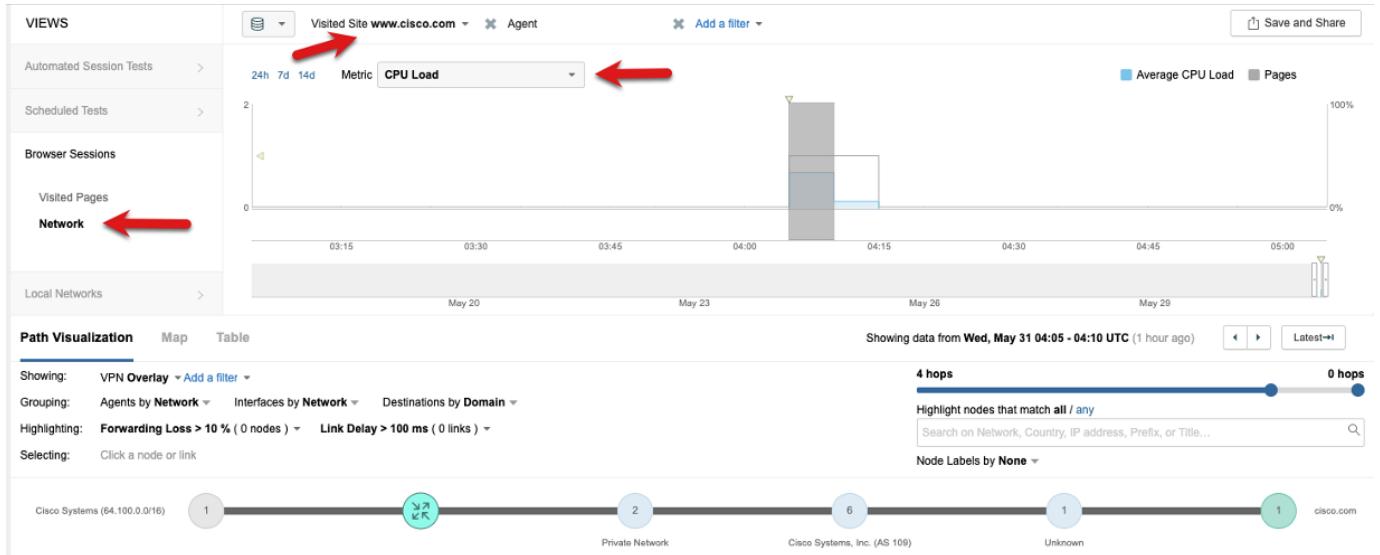


Computer Info	Path Trace	Waterfall
BERNIE-LABTRS-1		
Model: VMware Virtual Platform	CPU: 34% 	
Manufacturer: VMware, Inc.	Browser: Google Chrome (113.0.0.0)	
OS Version: Microsoft Windows 10 Pro	Public IP Address: 64.100.12.5	
Kernel: 10.0.19045	Private IP Address: 198.18.133.36	
Memory: 3278 MB / 8191 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

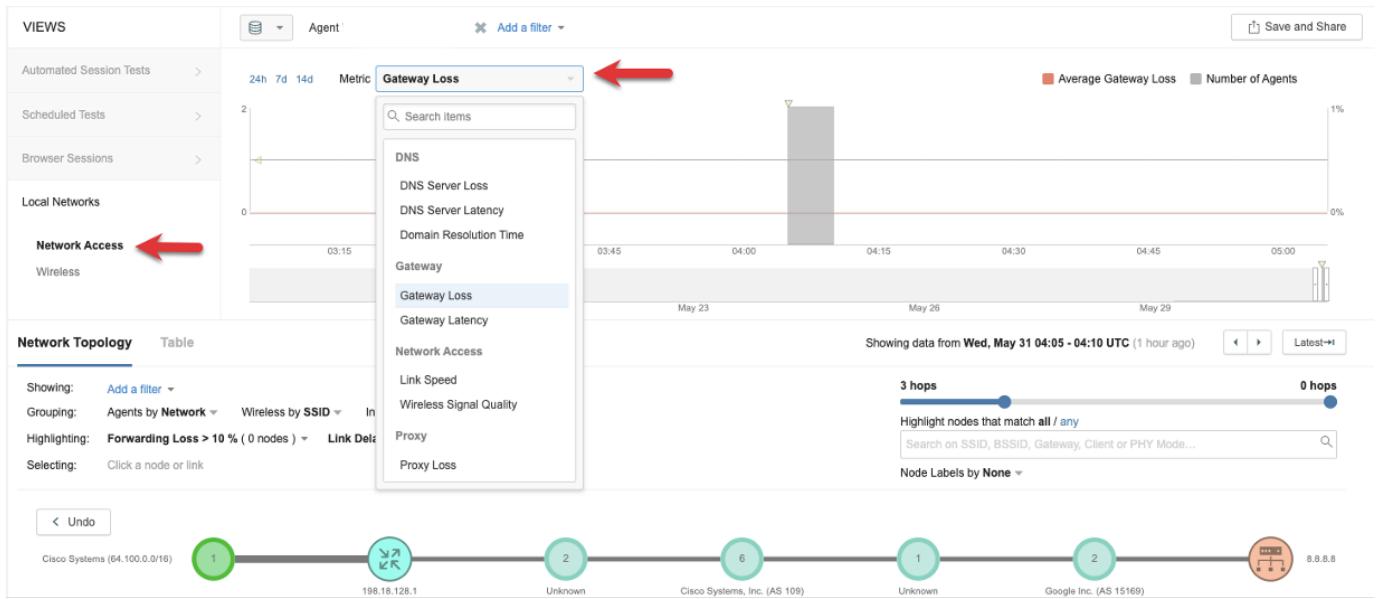
Computer Info		Path Trace	Waterfall
https://www.cisco.com/			
https://www.cisco.com/			
			
Object	Response Code	Domain	Size (kB)
 /	200 [Headers]	www.cisco.com	15
 0	204 [Headers]	bat.bing.com	
 recording	200 [Headers]	k-aus1.clickta...	0
 display	204 [Headers]	c.clicktale.net	
 events	204 [Headers]	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.



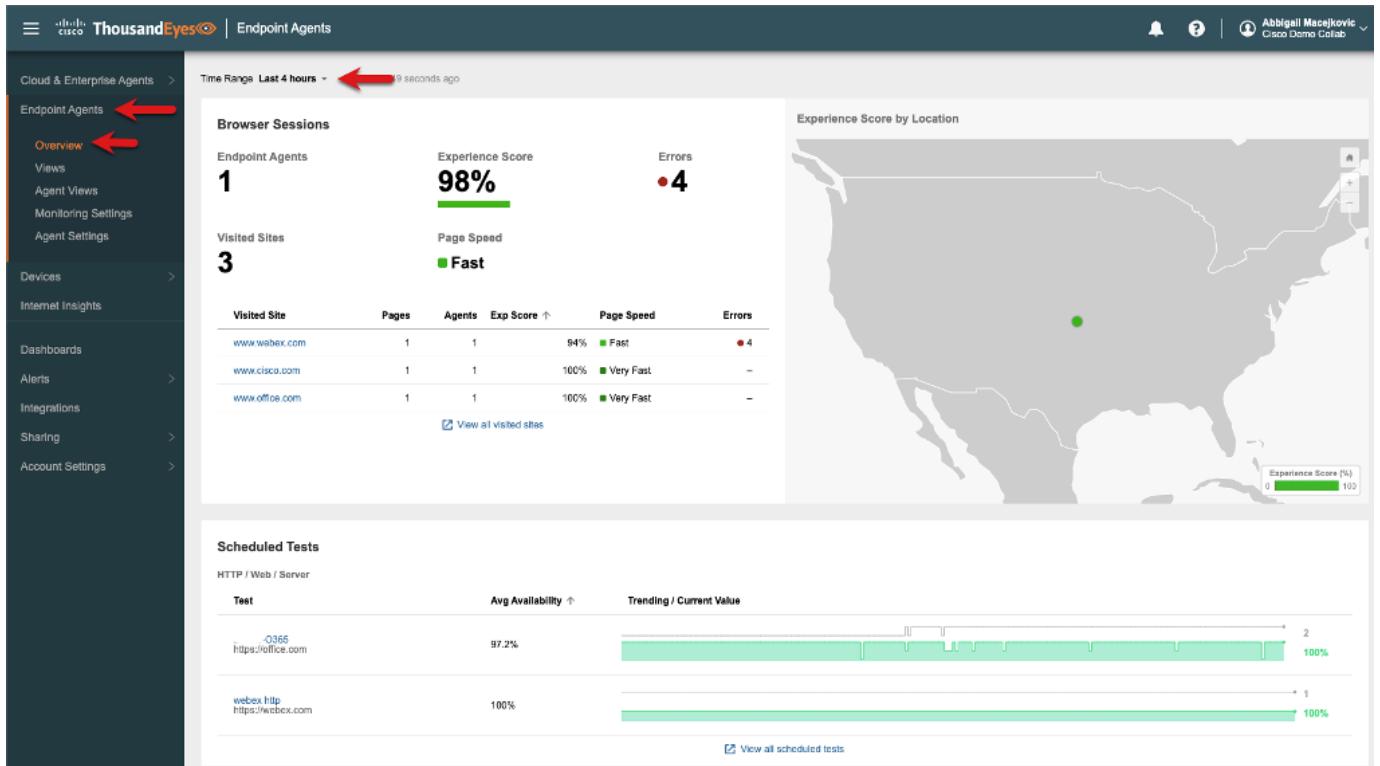
1.7.4 Local Network View

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 lists various 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 three states: Online (47), Offline (81), and Disabled (12). The right map, titled 'Map' and 'Visited Pages — Experience Score > 1 day', shows a color-coded heatmap of experience scores 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's an 'Alert List' section with a note '1 day' and '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 displays the ThousandEyes Home Worker Dashboard interface. On the left, a navigation sidebar lists categories like Cloud & Enterprise Agents, Endpoint Agents, Devices, Internet Insights, Dashboards, Alerts, Integrations, Sharing, and Account Settings. The main dashboard area features several widgets:

- Endpoint Agent Status:** A world map showing the status of endpoints. A legend indicates 48 Online (green), 40 Offline (red), and 12 Disabled (orange). A red arrow points to the settings icon in the top right corner of this widget.
- Map:** A world map showing visited pages with an experience score. A color scale at the bottom ranges from green (low) to red (high).
- Alert List:** A section titled "Alert List" for the last 24 hours, which is currently empty ("No Alert Activity").
- Live Experience Score By Domain (2nd Percentile):** A section for Asia / APAC showing scores for webex.com (80) and cisco.com (53.3).
- Live Response Time By Domain (98th Percentile):** A section for Asia / APAC showing response times for webex.com (833 ms) and cisco.com (1209 ms).
- North America:** A section showing scores for webex.com (94.3), cisco.com (100), and office.com (100).
- Europe / EMEA:** A section showing scores for webex.com (84.8) and cisco.com (85.5).
- North America:** A section showing response times for webex.com (0 ms), office.com (65 ms), and cisco.com (112 ms).
- Europe / EMEA:** A section showing response times for cisco.com (514 ms) and webex.com (1833 ms).

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 screenshot displays the Cisco ThousandEyes Home Worker Dashboard. On the left, a sidebar lists navigation options: Cloud & Enterprise Agents, Endpoint Agents, Devices, Internet Insights, Dashboards, Alerts, Integrations, Sharing, and Account Settings. The main area features several cards:

- Live Experience Score By Domain (2nd Percentile):** Visited Pages — Experience Score + 1 day. Shows Asia / APAC at 88% with cards for webex.com (80) and cisco.com (83.3).
- North America:** 94.3%. Shows cards for webex.com (94.3), cisco.com (100), and office.com (100).
- Europe / EMEA:** 94.8%. Shows cards for webex.com (84.8) and cisco.com (95.5).
- Experience Score By User (Update w/ your App):** Visited Pages — Experience Score + 1 day. Shows a large blue bar chart labeled "All".
- CPU Load % (20 highest):** System — CPU Load + Limiting to 20 cards per group + 1 day. Shows a grid of cards for various hosts like CSCO-W-PF3... (100), DESKTOP-6..., WORKSTATION..., CSCO-W-PF2..., DESKTOP-B..., and Monks (82.97).
- Memory Load % (20 highest):** System — Memory + Limiting to 20 cards per group + 1 day. Shows a grid of cards for hosts like MINZHAN2-M... (99.84), DESKTOP-O..., BERNIE-LAB..., and NIKSHAH-M... (89.67).

To the right, a modal window titled "Editing Color Grid" is open, allowing configuration of a "CPU Load % (20 highest)" card. The "DATA" section shows "Endpoint Local Networks" selected. The "Cards" section includes dropdowns for "Endpoint Agents" and "All". Configuration options include "Group Cards By All", "Sort Cards By Value", "Relative time 5 Minute(s)", "Columns 1", and a checkbox for "Limit To 20 cards in each group". A "DRILL DOWN" section allows filtering by "Private Network" and "Select item(s)". Buttons for "Save & Add Another Widget", "Cancel", and "Save" are at the bottom.

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 %**
- Europe / EMEA 94.8 %**
- 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... (red)
 - 100 CSCO-W-PF3... (red)
 - 100 DESKTOP-6... (red)
 - 100 WORKSTATION... (red)
 - 100 CSCO-W-PF2... (red)
 - 100 DESKTOP-B... (red)
 - 100 CSCO-W-PF3... (red)
 - 99.98 CSCO-W-PF3... (red)
 - 99.84 CSCO-W-PF3... (red)
 - 98.49 CSCO-W-PF2... (red)
 - 98.48 CSCO-W-PF3... (red)
 - 90.34 WORKSTATION... (red)
 - 89.82 DESKTOP-O... (red)
 - 88.8 BERNIE-LAB... (red)
 - 86.2 MINZHAN2-M... (red)
 - 85.42 MICRORATE-M... (red)
 - 85.13 EYI-M-KZAN (red)
 - 84.97 CHAKHO-M... (red)
 - 82.97 Monks (red)
 - 81.4 DESKTOP-6... (red)
- Memory Load % (20 highest):**
 - System — Memory + Limiting to 20 cards per group + 1 day
 - All 94.65 %**
 - 94.65 DESKTOP-B... (red)
 - 94.09 CSCO-W-PF3... (red)
 - 91.35 DESKTOP-O... (red)
 - 91.4 MINZHAN2-M... (red)
 - 89.67 NIKSHAH-M... (red)
 - 89.41 MICHEROO-M... (red)
 - 86.57 NTEUNISS-M... (red)
 - 86.53 MICOCHAN-M... (red)

To the right, a "Editing Color Grid" window is open, showing a list of data sources with red arrows pointing to "Endpoint Automated Session Tests", "Endpoint Browser Sessions", and "Endpoint Local Networks".

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. On the left, there's a sidebar with sections like "DASHBOARD" (Home, My Demo Sessions, My Tools, My Characters, My Devices, My Favorites, My User Profile) and "DEMO & TOOLS" (All, Calling, Devices, Feature VODs, Integrations, IT Admin, Meeting, Messaging, Security, Tools). The main content area has tabs: "Details", "Overview", "Instructions", and "Collateral". A banner at the top says "Troubleshooting Webex Meetings & Devices with ThousandEyes - Active" and "Ends: in 3 days". On the right, there's an "Enable Auto-Refresh" toggle set to "Yes".

Character
Character to schedule Webex meeting with.

	Omer Ilyas Status: Scheduled Demo: Troubleshooting Webex Meetings & Devices with... Email: oilyas@cisco.com Password: [REDACTED] Phone: [REDACTED] Extension: 200180
--	--

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

	Eldridge Fritsch Shared With: oilyas@cisco.com Email: eldridge.fritsch@cumulusorg.com Password: [REDACTED] Phone: [REDACTED] Extension: 700535
--	---

Device
Use this device during the meeting to see the new ThousandEyes device agent at work.
Optional device was not chosen during demo schedule.

Control Hub URL
TIP: Right click link and choose open in incognito/private browser.
[Control Hub Administration](#)

ThousandEyes Portal
TIP: Right click link and choose open in incognito/private browser.
[ThousandEyes Administration](#)

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		
---------------	--	--

End

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.