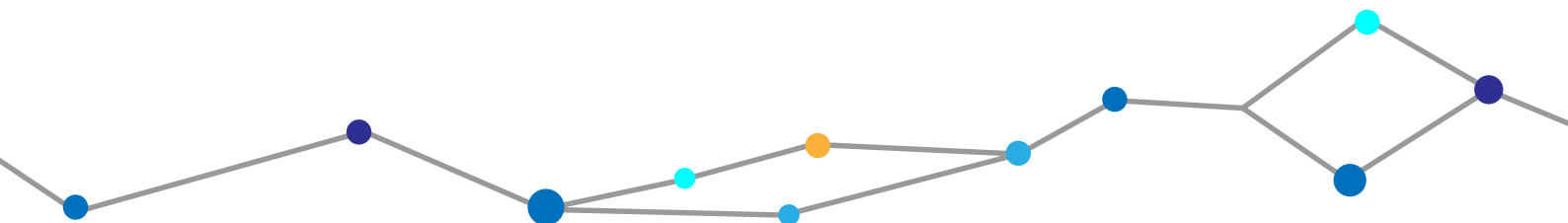


# Microsoft Teams Solution Brief

How to Monitor Microsoft Teams  
for Your Remote Workforce



# Monitoring Teams Audio Video Performance and Ensuring a Superior Digital Experience for Remote Employees

Businesses need remote tools like Microsoft Teams to unify collaboration and communication with team members and external stakeholders. And, with the dependence on these remote collaboration tools, the digital end-user experiences and the quality of service (QoS) are always on the minds of IT administrators and the C-suite. As users move to remote and hybrid work environments, they will often complain about poor audio video quality, desktop and application sharing, authentication issues, and more. As a result, there is a high demand for company wide monitoring solutions to predict Teams networking problems and detect the root cause immediately.



With a combination of Exoprise CloudReady synthetics for proactive monitoring and Service Watch Real User Monitoring (RUM) for complete coverage, any IT organization can ensure maximum productivity and deliver its end users with a robust digital experience.

Exoprise is the ONLY vendor that automates, tests, and proactively monitors the end-to-end performance of the actual Teams audio video (AV) platform and the underlying Azure infrastructure.

This brief guide is for Unified Communication (UC) specialists and network administrators to use Exoprise for monitoring Microsoft Teams proactively with complete coverage for every user in their organization. Optimize Microsoft Teams performance today so your employees can connect efficiently from anywhere via chat, calls, meetings, and video conferencing.

# Deploy Private Sites, Your Starting Point

Private sites are instances of Exoprise secure service (or monitoring agent) that you securely deploy on a Windows machine or VM. Installing a private site allows you to run sensors or probes to capture the end-user perspective of the Teams cloud service and check the health of an individual network. That network could be a LAN, WAN, Wi-Fi, MPLS, or SD-WAN.

Make private sites available on multiple computers to evaluate different network conditions from multi-

ple vantage points, especially if the current working model is hybrid. Remember that a private site has minimal overhead on a desktop or laptop and runs efficiently in the background with multiple probes for multiple services.

After you have created an Exoprise account, navigate to the 'Sites' section. Under Sites, click on 'Deploy' and follow along.

The screenshot shows the Exoprise web interface for deploying private sites. The browser address bar shows 'secure.exoprise.com/locations/deployment'. The page title is 'Deploying Private Sites'. The main content area includes a description of private sites, a 'Show Private Site Requirements' button, and three deployment methods: 'Guided Installation (recommended)', 'Configure & Download', and 'Bulk Deploy'. The 'Guided Installation' method is selected, showing a 'Get Started Installing a Private Site' button.

Figure 1 Deploy a Private Site

Once a site is ready, you can add a CloudReady Teams synthetics sensor from any device.

# Synthetic Monitoring

## Add a Teams AV Sensor to Proactively Monitor the Availability & Network Path Performance of the Microsoft Collaboration Service

The Exoprise Microsoft Teams audio-video sensor generates actual Teams traffic using a real Teams client and its underlying WebRTC stack to an Azure-hosted Exoprise AV bot. As a result, network administrators can proactively monitor the end-to-end cloud service performance, network conditions, QoS, and Teams infrastructure from anywhere in the world. Essentially, the Teams sensor emulates an end-user joining a meeting or conference session from an office, home, or on the road and measures their AV experience. Use this to diagnose network conditions without having to involve a business user.

First, you will need a valid Teams account to configure these tests and later be able to access the following performance metrics:

- Jitter
- Packet loss
- Time to first byte
- Login times
- Upload and download times
- TCP/IP connect
- SSL negotiation
- Response time

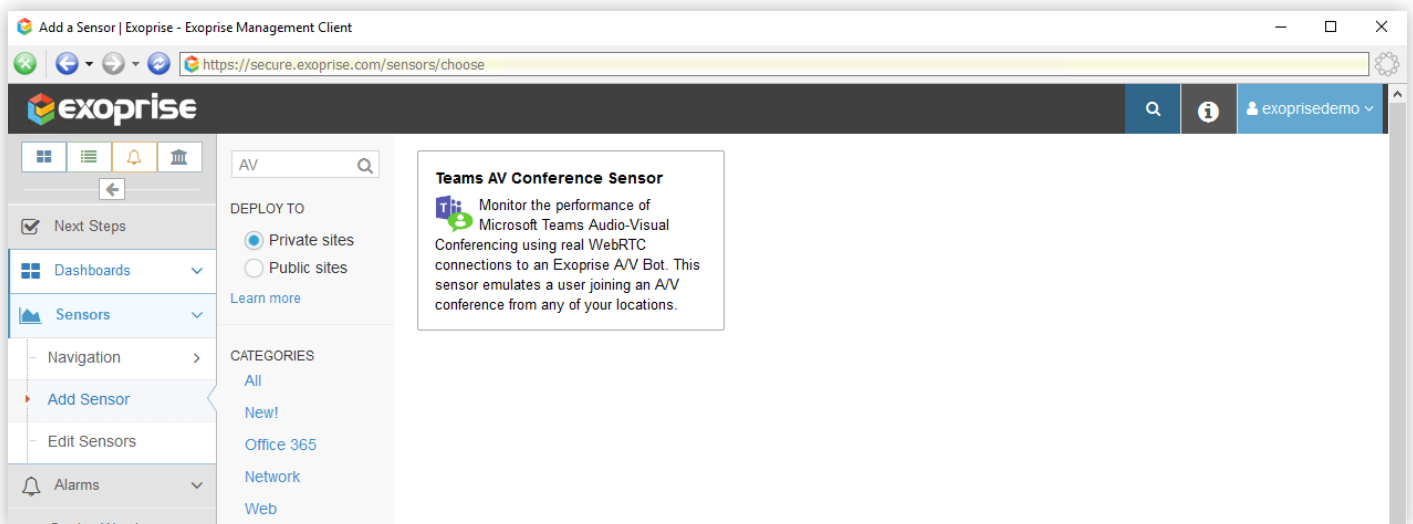


Figure 2 Select the Teams AV Conference Sensor

These detailed metrics are critical in pinpointing network congestion, packet loss, and excessive latency between a site and Microsoft Relay Servers. Exoprise collects this telemetry data as often as once every five minutes, aggregates, and crowdsources it within the Exoprise platform. The data is also available within the Call Quality Dashboard (CQD). Additionally, Network Path Performance (NPP) and hop-by-hop data is available for diagnostics. This waterfall diagram identifies poorly performing nodes in the LAN/WAN when it comes to jitter, packet-loss, and latency.

In the following wizard step, you will need to enter your username and password to access your Teams account and a **one-time administrative access to the tenant, so that it can accept the Exoprise OAuth registration for the bot to participate in a meeting.** Exoprise already prepopulates the Destination URL

address in this step. The Teams sensor validates your login credentials with an identity provider (managed or federated), so that you can test the availability of the Teams UC service. Setting up and testing MFA is optional in this step.

Figure 3 Configure the Teams AV sensor to Monitor Microsoft Teams Audio Video Conferencing

During the validation step of the Teams sensor, you will see a screenshot of what the sensor sees. This serves as a confirmation of the sensor setup. Right-click to open the image for a better view.

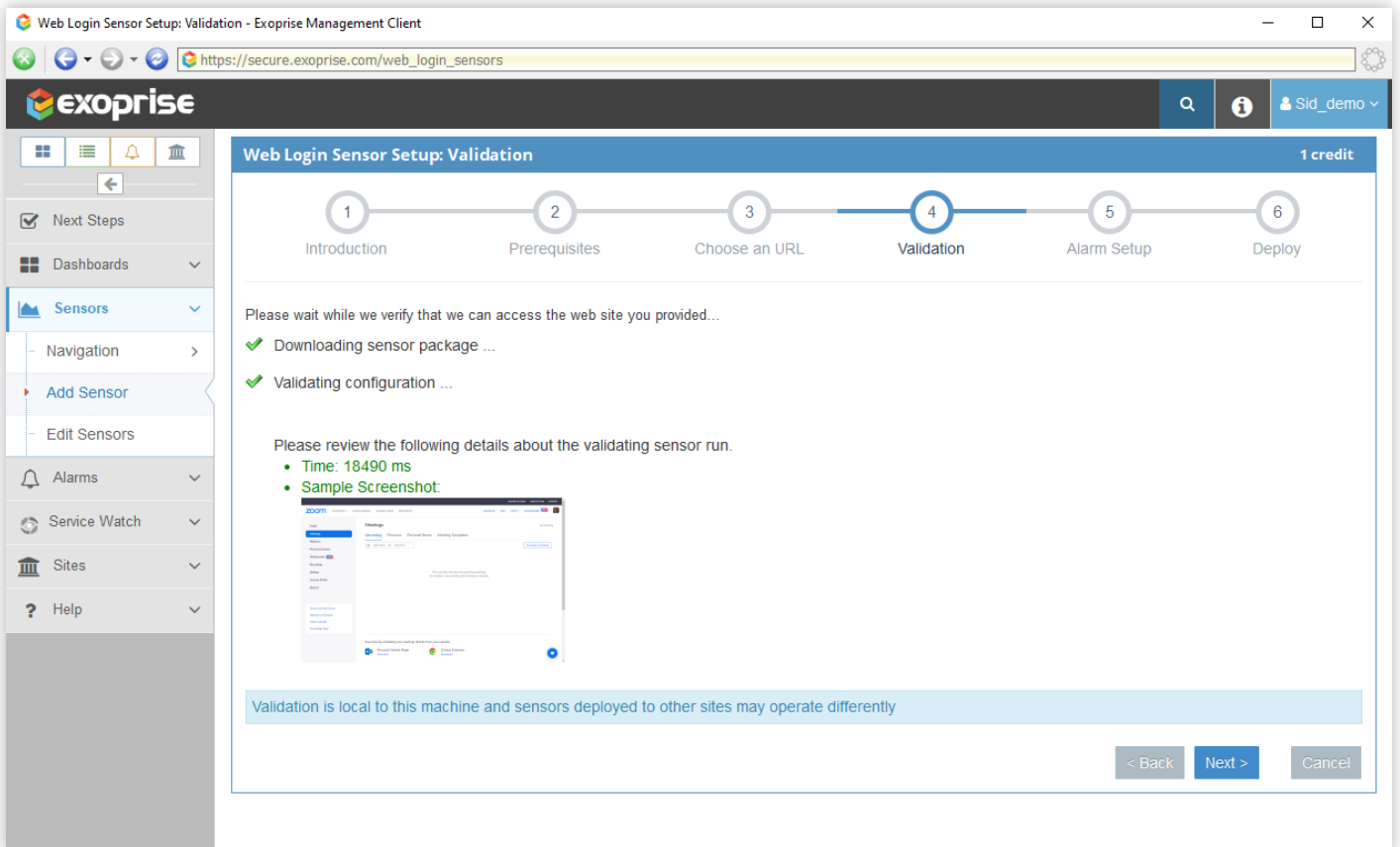
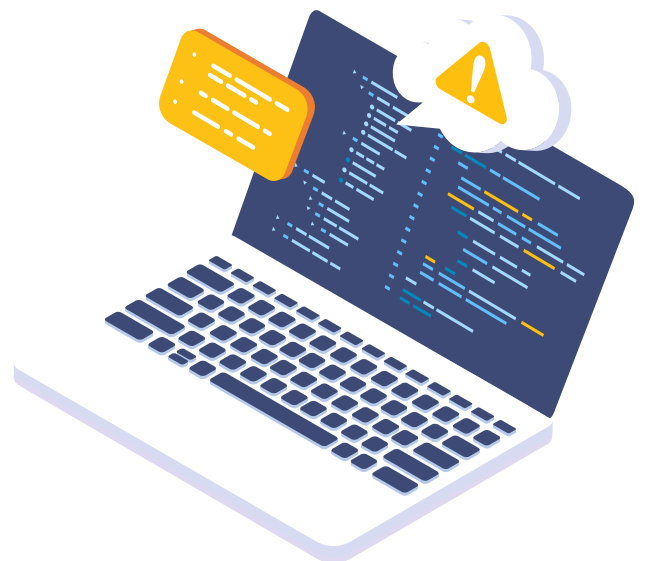


Figure 4 Validation screenshot of the destination page

The next step is to create new alarms to manage situations when Teams is down or has an outage. Finally, deploy the newly configured sensor to a private site that you first created. That's all you need to configure your first Teams AV conferencing sensor and start monitoring the end-to-end network performance of Microsoft Teams from any location.



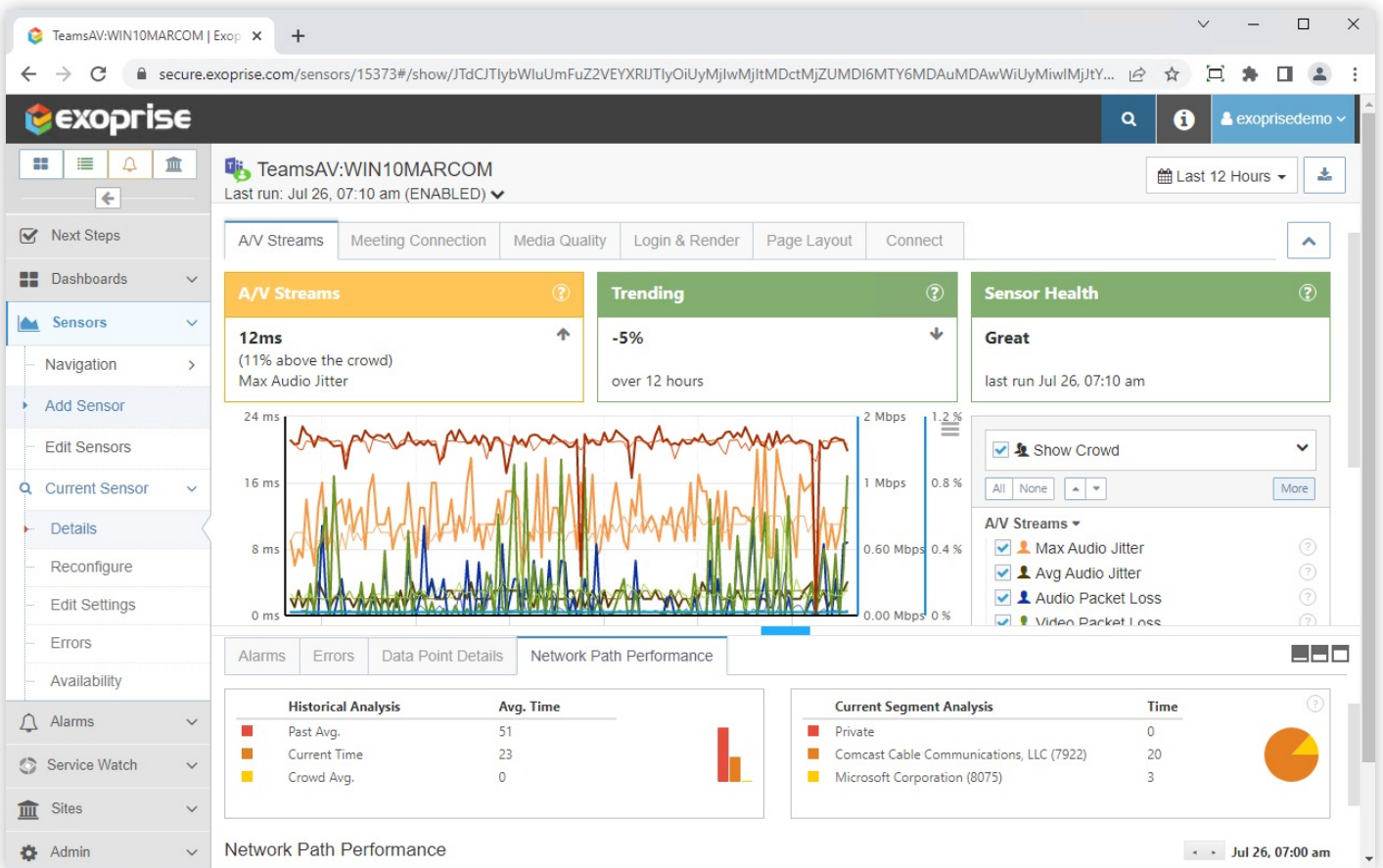
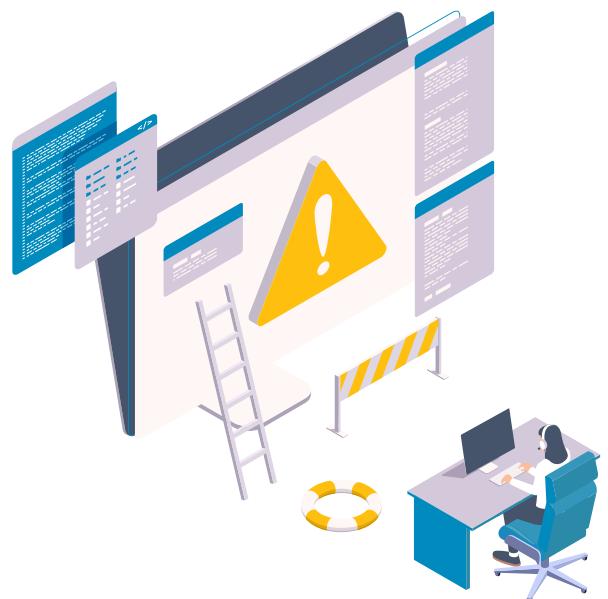


Figure 5 Microsoft Teams Performance Monitoring

CloudReady synthetics monitoring for Microsoft Teams proactively alerts IT teams to any performance degradation with the service. You can use our free crowdsourcing analytics or Internet insights to benchmark your performance against other Exoprise customers. You should be aware that Teams outages can occur on Microsoft's side, on the Azure Cloud platform, in gateways, ISPs, or anywhere in between so you need to investigate accordingly and run probes in these varying conditions.



# Synthetic Monitoring

## Add an Azure VoIP Sensor to Emulate Audio/Video Network Traffic

The Exoprise CloudReady VoIP sensors can be deployed quickly to proactively measure jitter, packet loss, throughput, latency from anywhere, and end-to-end performance against any Azure location. CloudReady VoIP sensors emulate audio/video conversations using the UDP streaming protocols for

high fidelity, real-time network testing. Azure VoIP sensors generate lightweight traffic and won't impact user service quality but can provide proactive insights into the Teams performance -- ideal for alerting network and unified communications administrators and integrating with alerting and operations tools.

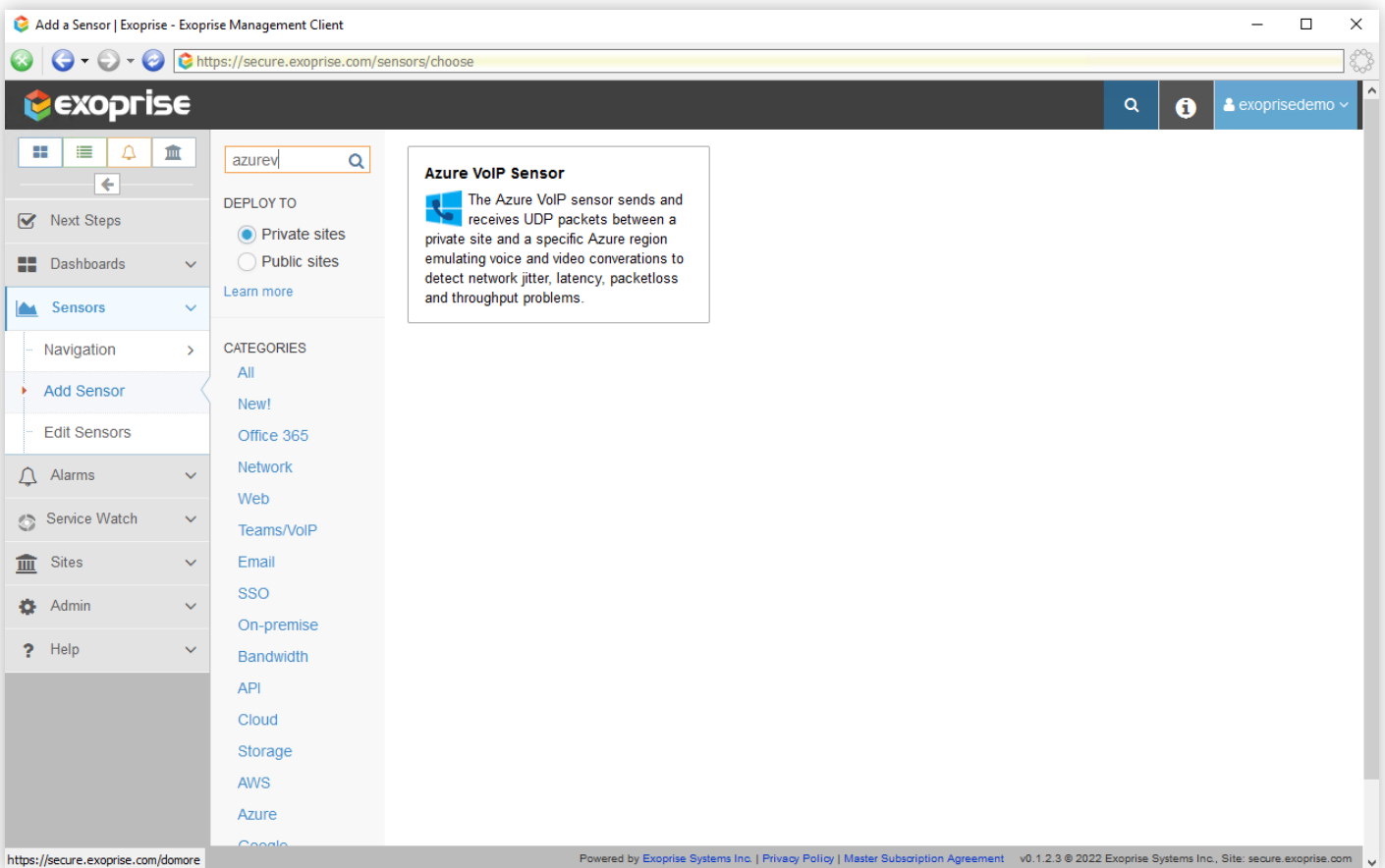


Figure 6 Adding Azure VoIP Sensor



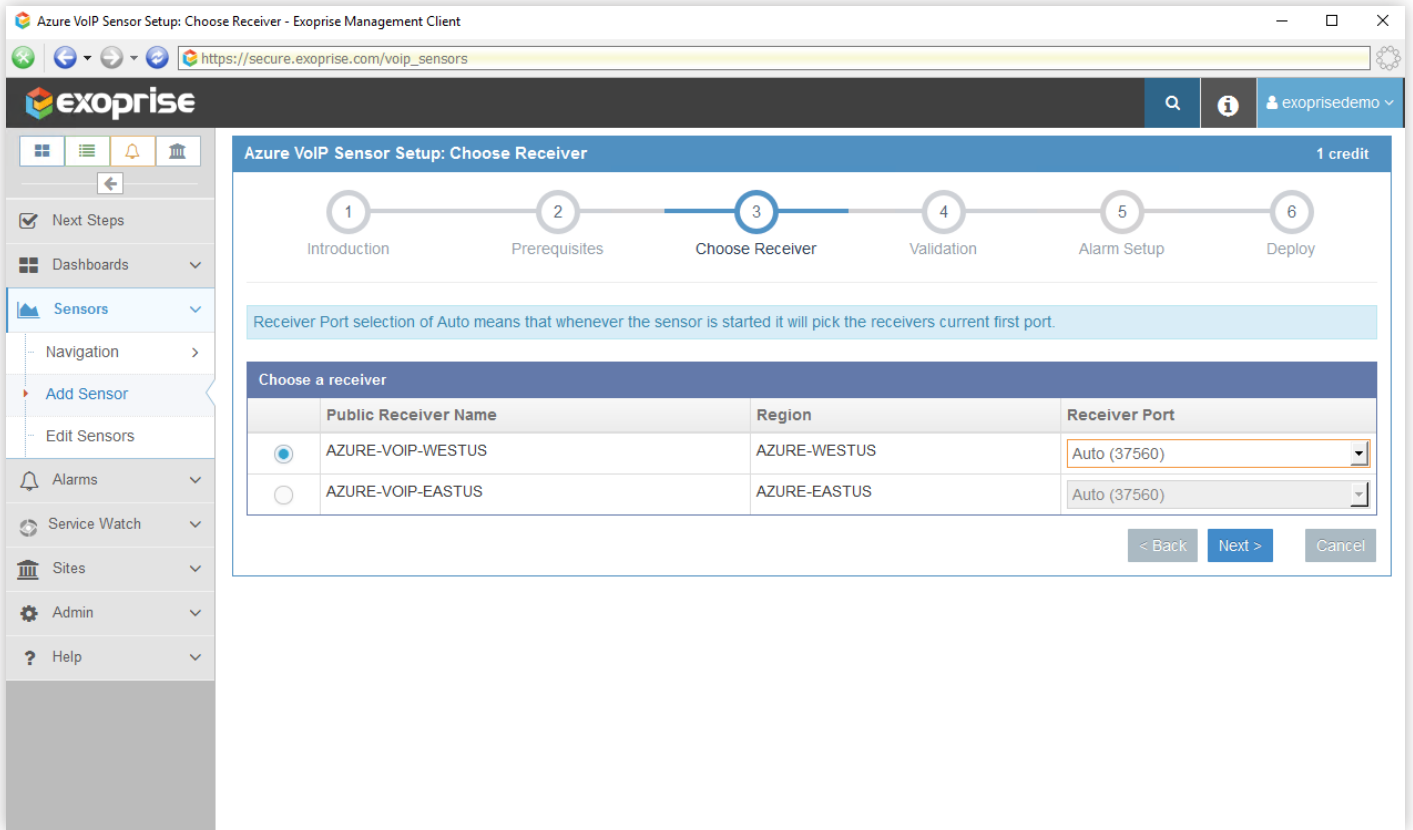


Figure 7 Select Azure Receiver

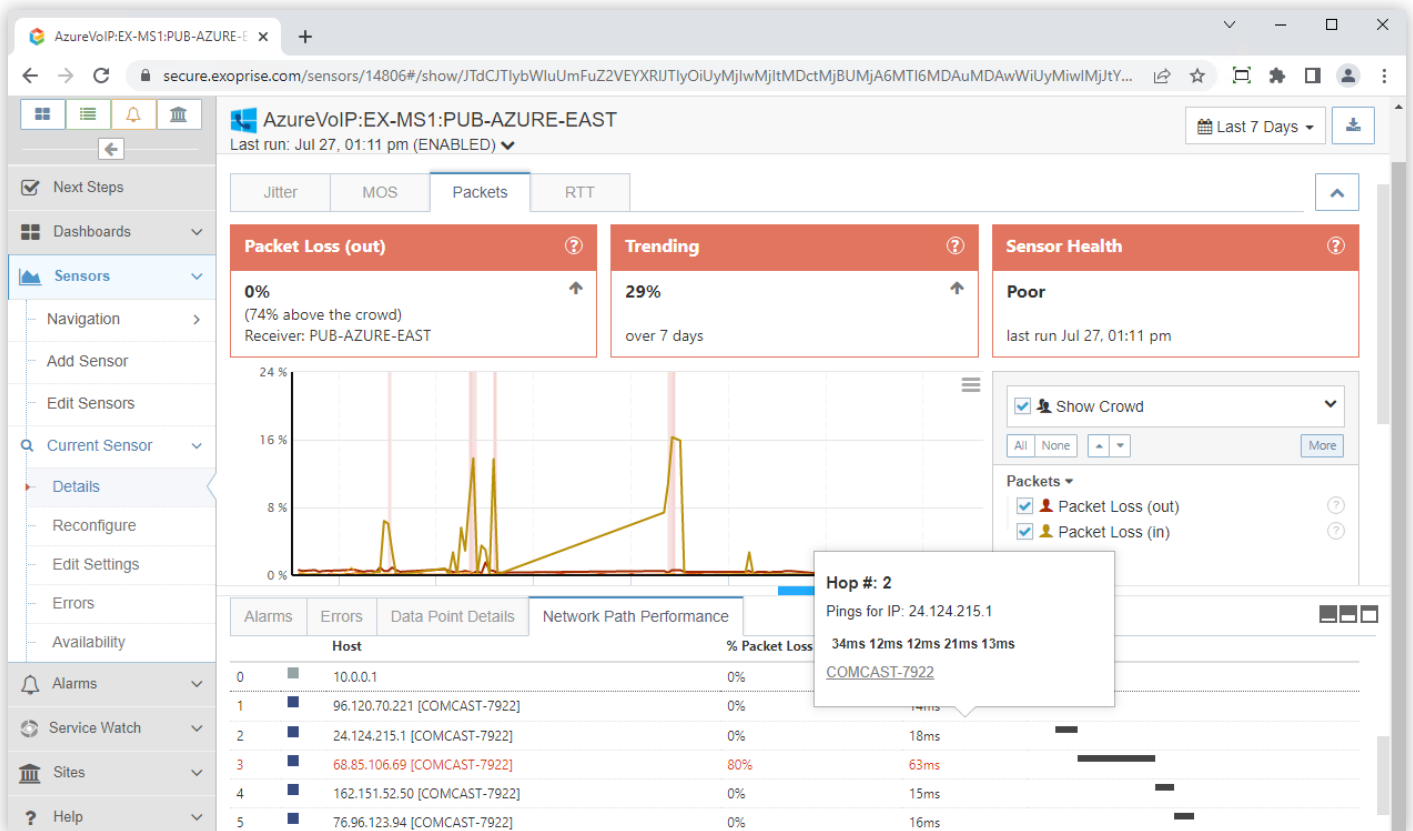


Figure 8 Azure VoIP Sensor Proactively Detects Packet Loss for Teams

# Real User Monitoring

## Deploy Service Watch Desktop to Troubleshoot Microsoft Teams Call Quality Issues from Every Vantage Point

Microsoft Teams users work in a hybrid environment, whether at headquarters, home or on the road. With the Exoprise Service Watch RUM solution, IT teams can successfully monitor jitter, packet loss, and latency from an employee's perspective and optimize the user experience. In the face of complex enterprise network topologies and changing home network conditions, diagnosing call quality problems on any protocol with unified communications and VoIP apps like Teams is challenging for both business and technology teams.

Deep Streaming and Connected Network Tracing can locate network path issues with the Teams thick client application from any device. Network administrators who want to resolve problems with Teams audio video conferencing can quickly identify and isolate problems down to Wi-Fi, gateway, ISP, or the cloud-native streaming infrastructure near the user's location.

When end-users engage with the Teams streaming app via audio, video, screen, and application sharing session, the Service Watch tool monitors low-level UDP connections and dependencies from an end-point machine on any network for complete visibility. In addition, rich and comprehensive metrics (Quality of Experience, RTT, packet loss) are collected every

30 seconds for each node in the communication path. You can also monitor the entire device experience score to get a 360-degree perspective of how a network, application, server, or desktop impacts Teams performance in real-time.

Start configuring Service Watch Desktop in your Exoprise account and link it to the Microsoft collaboration service.



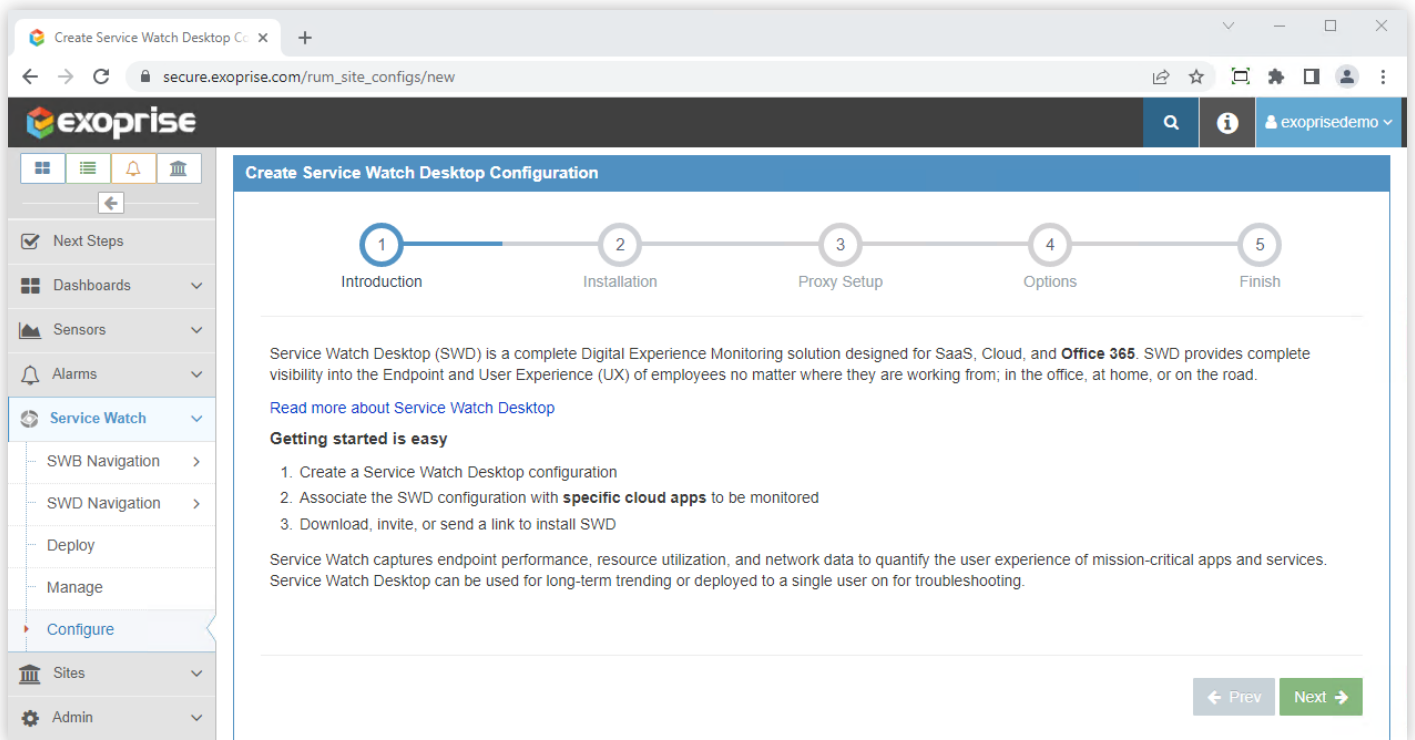


Figure 9 Service Watch Desktop Configuration for the Microsoft Teams Thick Client

Service Watch Desktop, our endpoint monitoring solution, comes with Service Watch Browser – a RUM browser plugin to monitor the user experience with SaaS apps. In the following step, you can select multiple browser configurations and decide what sites to monitor.

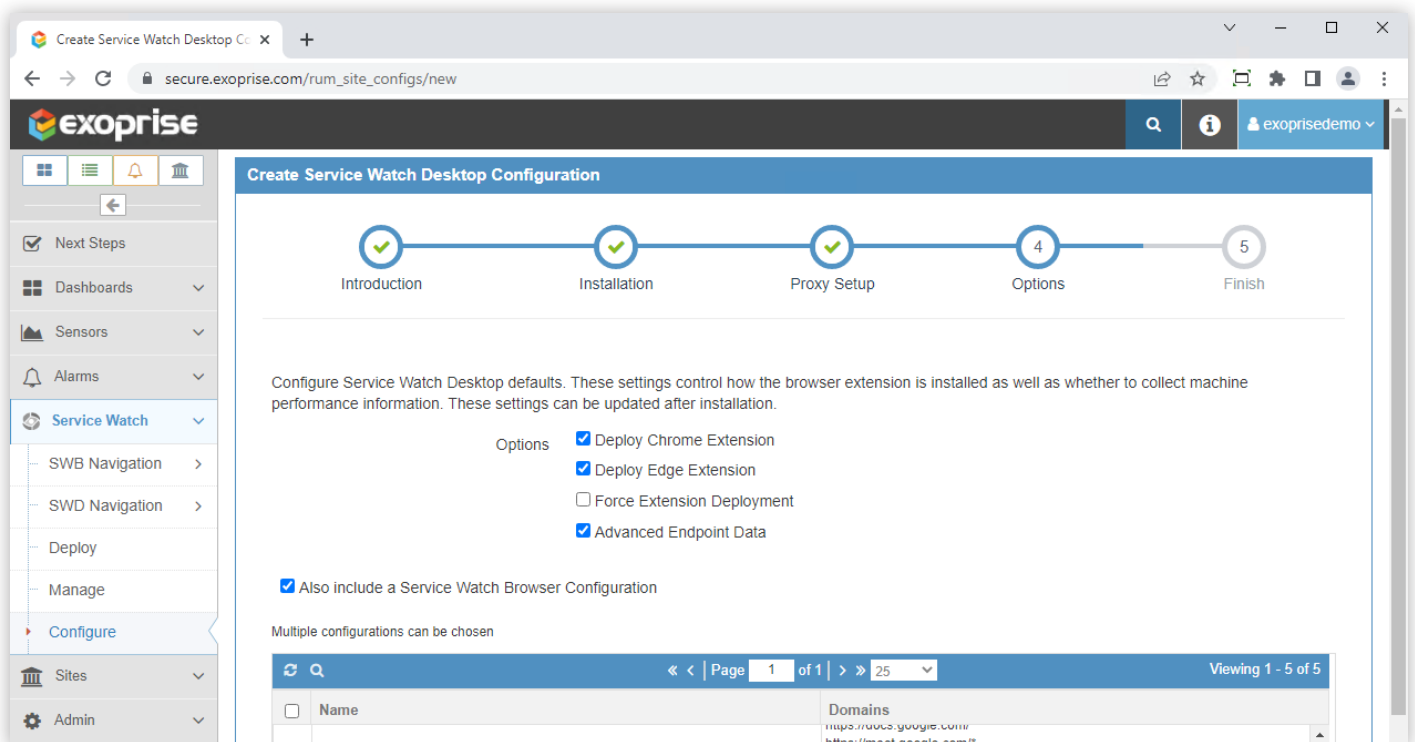
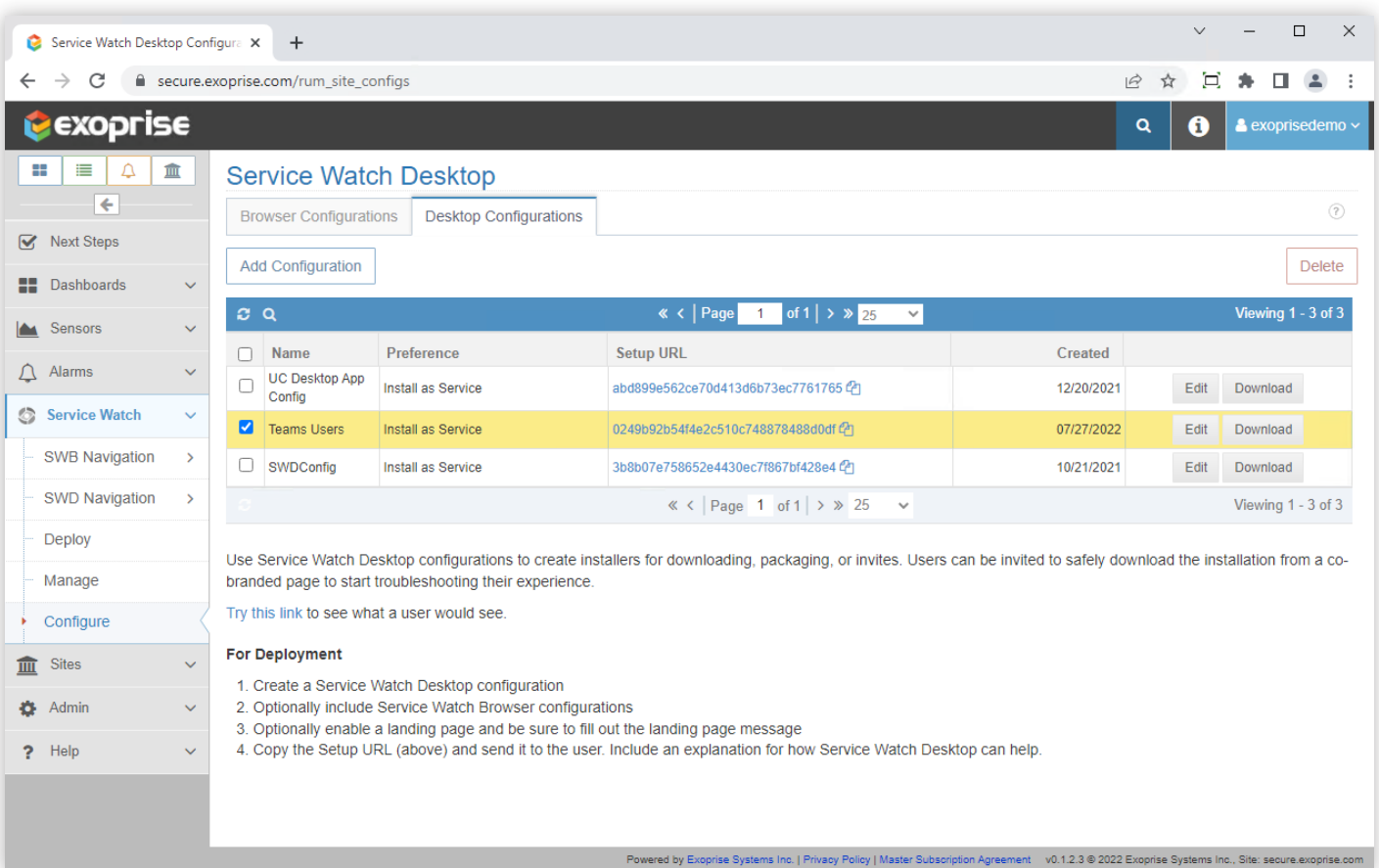


Figure 10 Select the Teams Web Client for Monitoring (Optional)

After the Teams Service Watch Desktop configuration is complete, you can send the installation link to multiple users in the company. Or, better yet, package and deploy the Service Watch Desktop installation using System Center or other deployment tools.



The screenshot shows the Exoprise Service Watch Desktop configuration interface. The main content area displays a table of configurations under the 'Desktop Configurations' tab. The table has columns for Name, Preference, Setup URL, and Created. The 'Teams Users' configuration is selected with a blue checkmark.

<input type="checkbox"/>	Name	Preference	Setup URL	Created		
<input type="checkbox"/>	UC Desktop App Config	Install as Service	<a href="#">abd899e562ce70d413d6b73ec7761765</a>	12/20/2021	Edit	Download
<input checked="" type="checkbox"/>	Teams Users	Install as Service	<a href="#">0249b92b54f4e2c510c748878488d0df</a>	07/27/2022	Edit	Download
<input type="checkbox"/>	SWDConfig	Install as Service	<a href="#">3b8b07e758652e4430ec7f867bf428e4</a>	10/21/2021	Edit	Download

Below the table, there is a section titled 'For Deployment' with a list of steps:

1. Create a Service Watch Desktop configuration
2. Optionally include Service Watch Browser configurations
3. Optionally enable a landing page and be sure to fill out the landing page message
4. Copy the Setup URL (above) and send it to the user. Include an explanation for how Service Watch Desktop can help.

Figure 11 Multiple Service Watch Desktop Configurations

Once the Service Watch installation is done, IT can start monitoring the performance of the Microsoft Teams app from their devices. Telemetry data for Teams and other UC apps is displayed in the dashboard within five minutes *when users are actively using the service*.

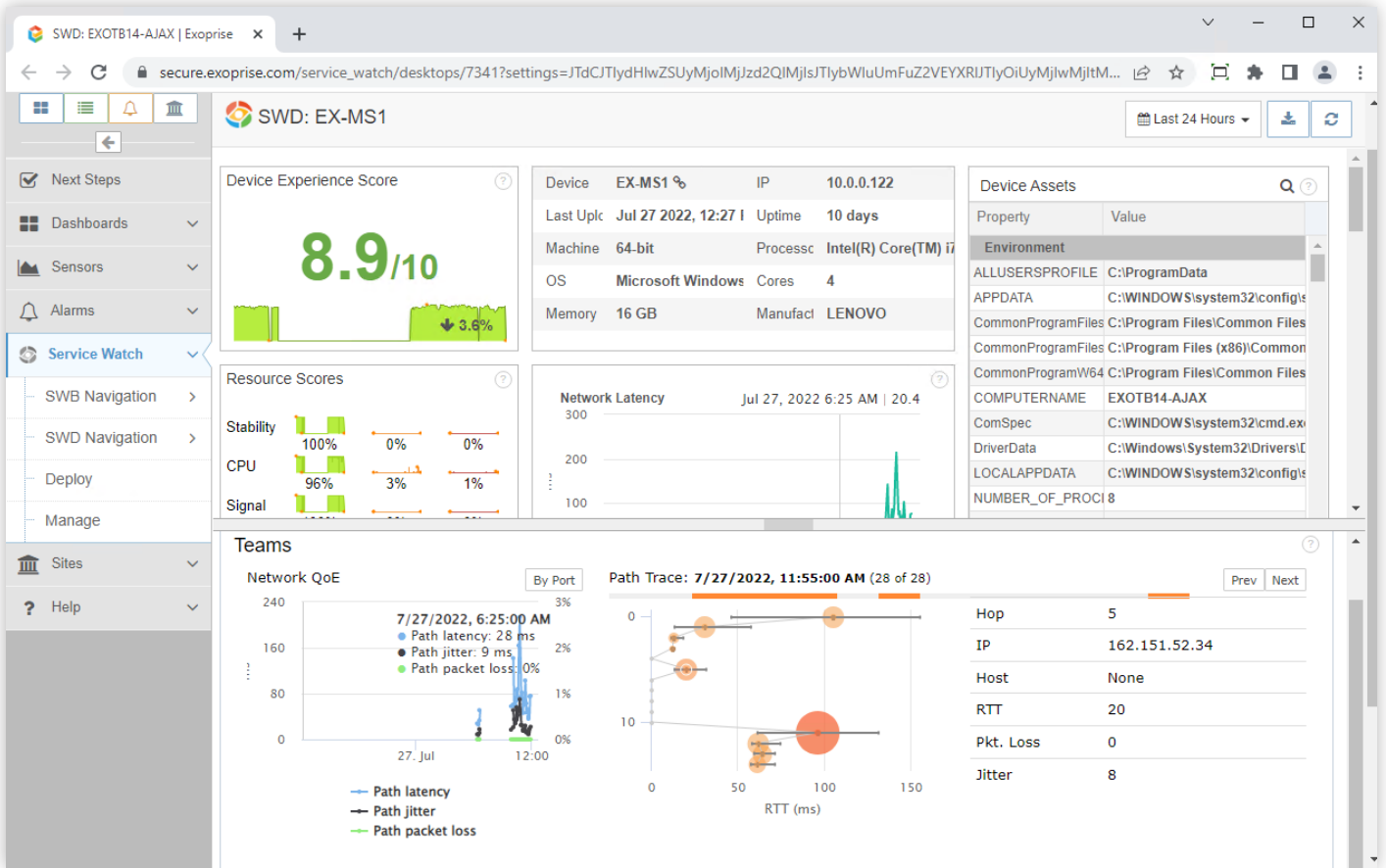


Figure 12 Teams UDP Latency Metrics

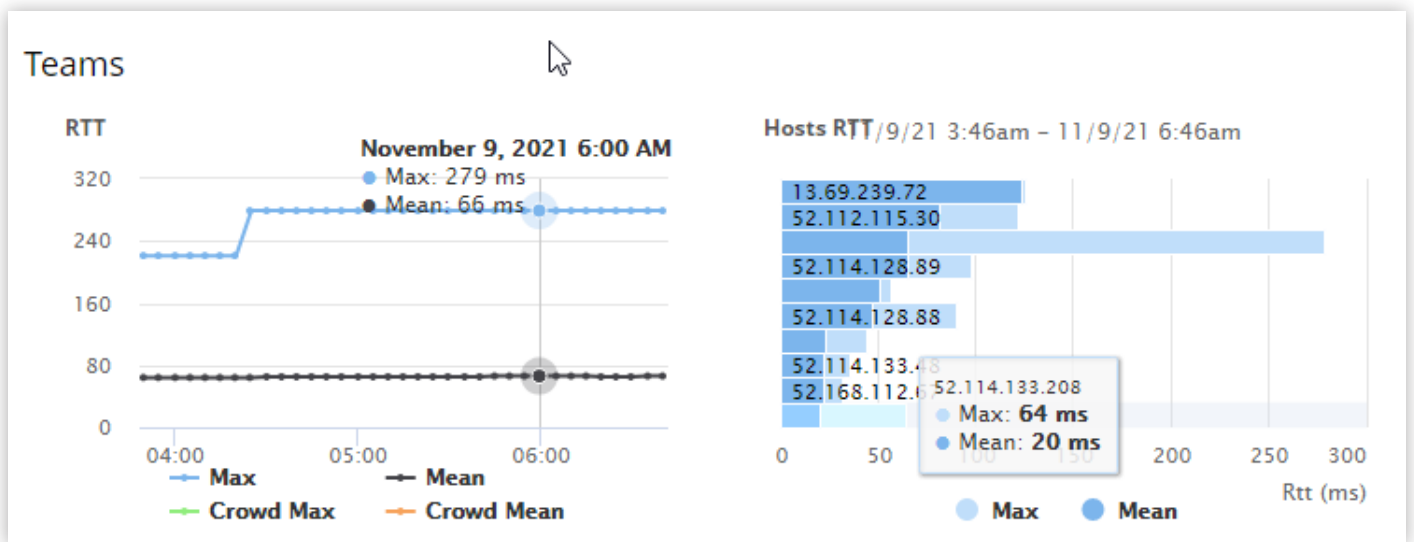


Figure 13 Teams TCP Latency Metrics

# More is Better

## Complete Coverage. Visualize Teams Health End-to-End.

Using Exoprise CloudReady synthetics, you get proactive notifications about Microsoft Teams slowdowns and outages. With Exoprise Service Watch agents, you get complete coverage for every employee, every network condition.

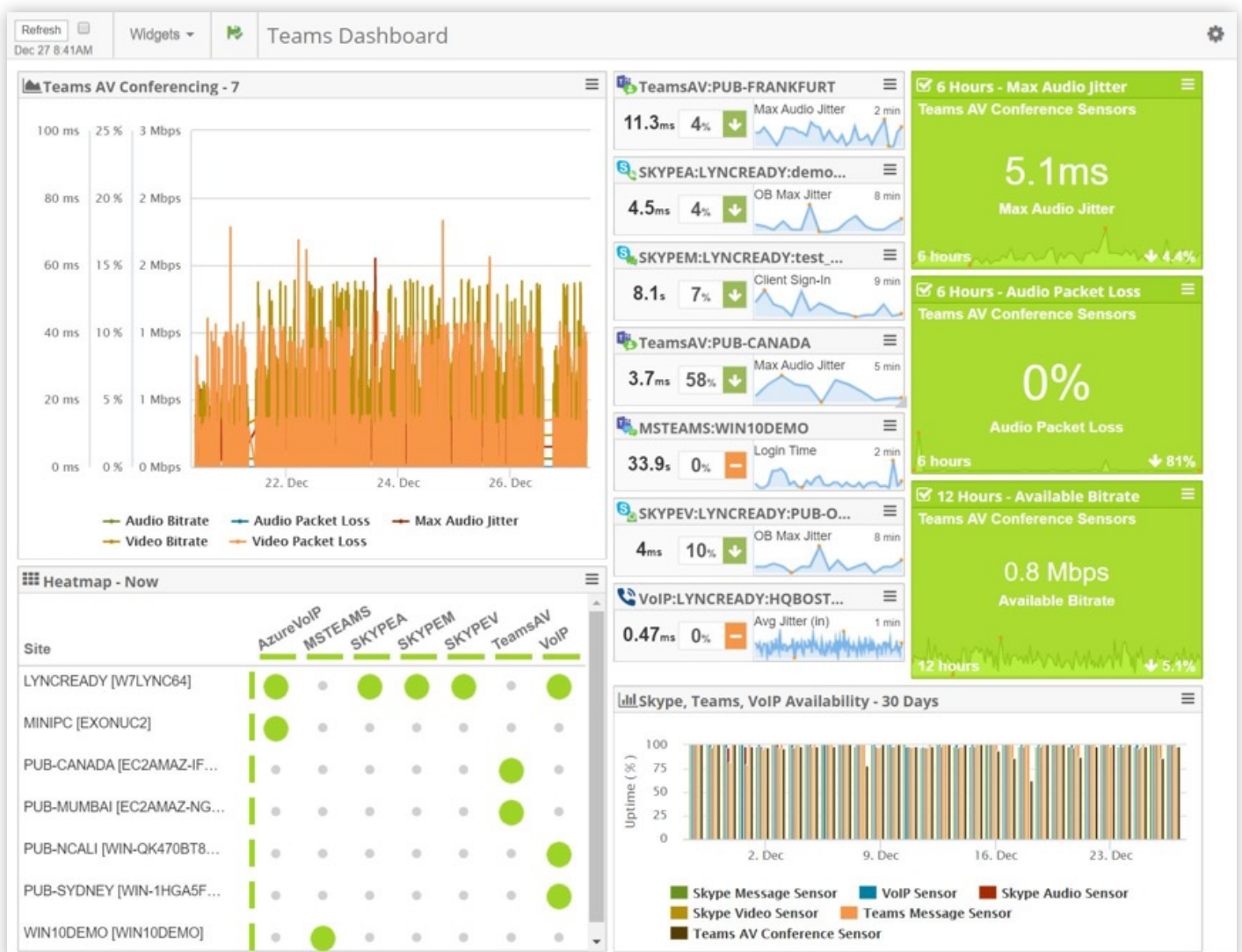


Figure 14 Teams Health Dashboard (Custom)

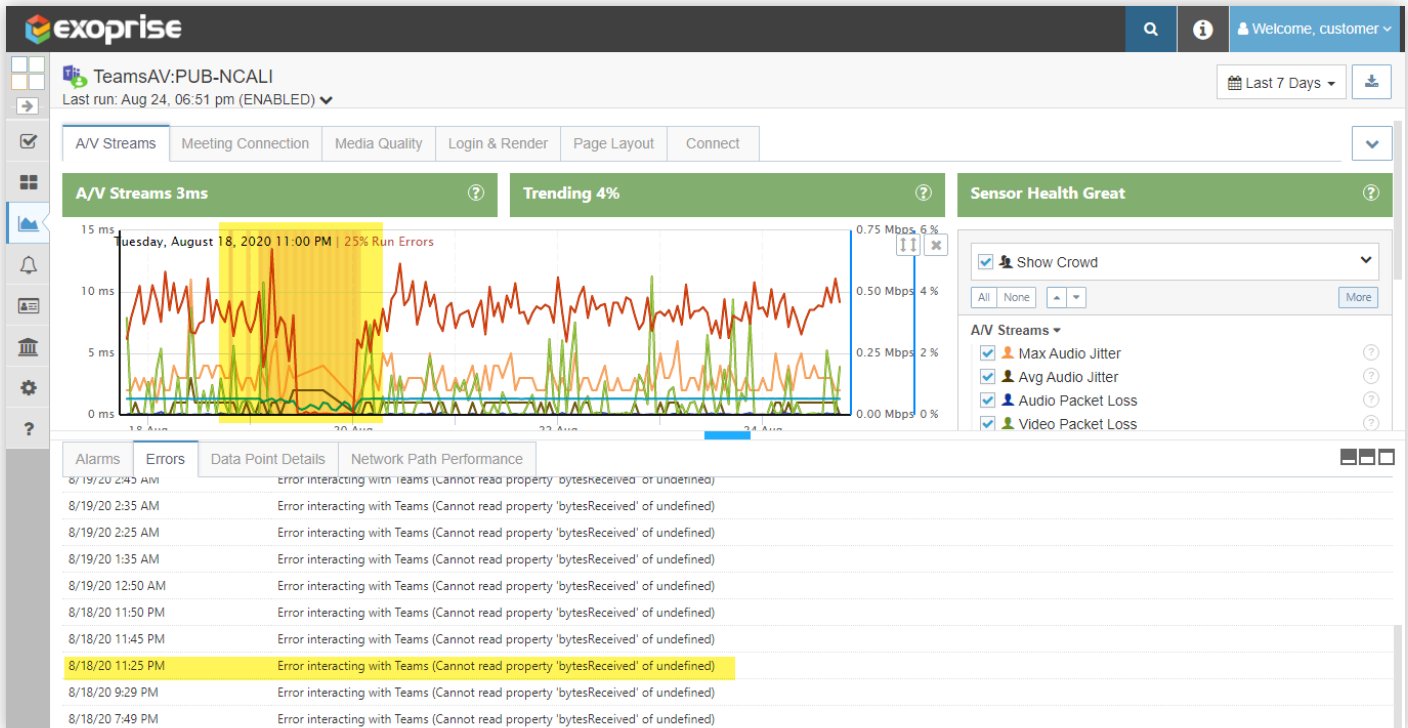


Figure 15 Early Teams Outage Detection with Synthetic Monitoring

## Learn More



# REQUEST A DEMO

[Learn how](#) Exoprise helps deliver optimal end-user experiences with real-time visibility and crowd-powered analytics.

We will demonstrate our synthetic and real-user monitoring solutions, answer questions, and help with additional insight.



## Get Started With Exoprise Today

# FREE TRIAL


Get the best of both worlds in one digital experience monitoring platform and start a free [15-day trial](#).




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