

EBOOK

MANAGING MICROSOFT TEAMS

Ensuring Critical Collaboration
for a Hybrid Office Future



 **AppNeta**[®]
by Broadcom Software

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Introduction

While it's hard to nail down exactly how many people reverted to work-from-home (WFH) in immediate response to the pandemic in 2020, one thing that's clear is that we're likely riding this rollercoaster of events for the long haul.

This calls for knowledge workers, executives, IT and every other role in the enterprise to adopt new habits and workflows to stay connected as workers begin adopting more fluid schedules, calling for access to the enterprise network from virtually any location.



Enabling Work from Anywhere

While Delivering this “anytime, anywhere” synchronicity between teams requires a greater reliance than ever on cloud-delivered enterprise collaboration tools.

Microsoft Teams in particular has become an asset for enterprises.

For starters, Teams is a component of Microsoft Office 365, which is used by more than 600,000 businesses in the U.S. As a result, Teams is used by 91 percent of “large US companies” **according to Microsoft**.

But managing Teams can be tricky, as you likely know all-too-well if you’re in enterprise IT; especially as when and where your users access their critical apps remains inconsistent over the coming months.

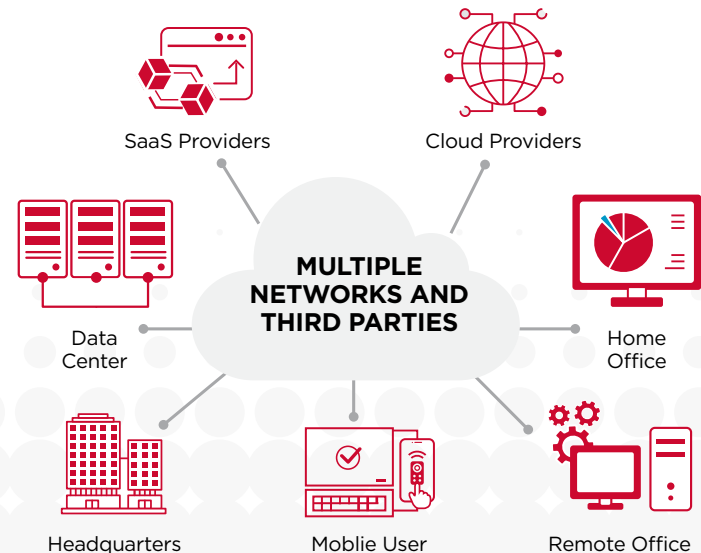


NEW BUZZWORD: ANYWHERE OPERATIONS

According to **Gartner**, “Anywhere Operations refers to an IT operating model designed to support customers everywhere, enable employees everywhere and manage the deployment of business services across distributed infrastructures.”

OLD BUZZWORD REBORN

While exact definitions vary, **IBM began implementing** a “Hybrid Office” model back in the 80s, where workers split their time equitably between WFH and the office. Today, employers are revisiting this model, but with even more flexibility (ie. 2 days WFH some weeks, 3 days others, and all-office when it makes sense).



Your Network vs. Teams

The Kicker: Microsoft Teams architecture is, by design, a black box.

Microsoft has taken a number of steps that limit your ability to directly monitor the performance and availability of Teams from your employee's perspective.



First, how the architecture works:

There are roughly 40 regions around the globe that host Teams calls, and the one geographically closest to the Organizer of a given call will be the Host Region.

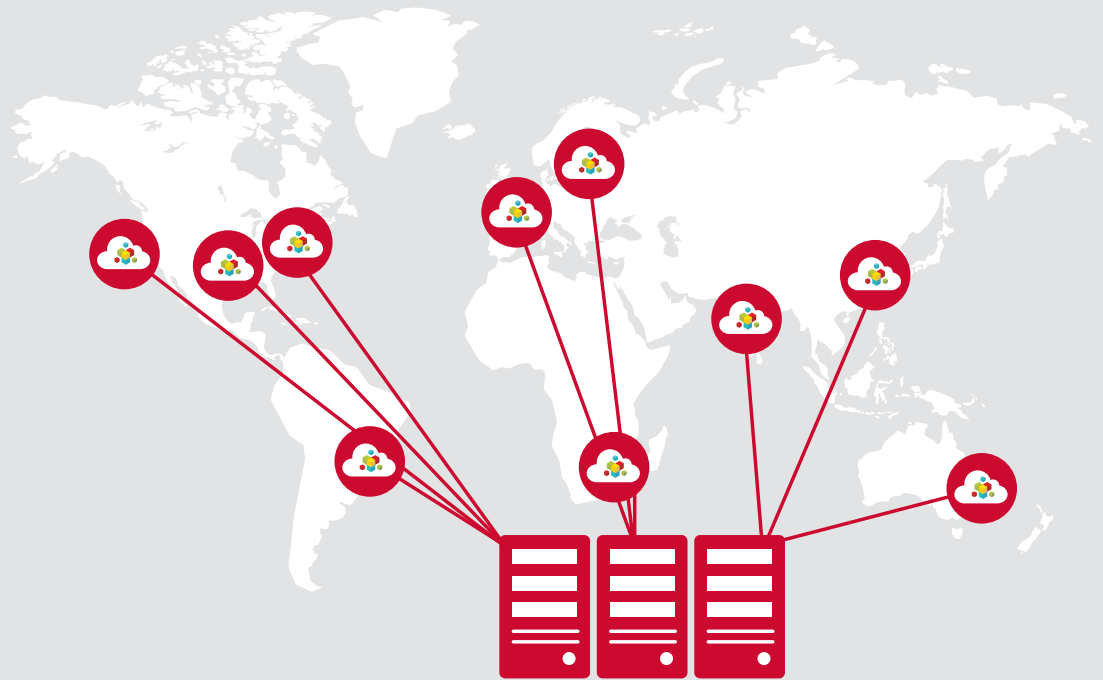
100% of users on that call will connect to the Azure region geographically closest to the Host.

That means that users in Vancouver joining a call hosted by a user in Paris will need to connect to the Host's nearest European Azure Relay. Once connected to the PoP, Teams traffic will transit over the Azure backbone to the Host region throughout the duration of the call.

External Monitoring

Easily monitor public access to your company's website or customer-facing apps from geographic locations representing its customer base.

Customers can use external, outside-in monitoring from locations outside the enterprise to assess end-user experience to targets that the organization typically owns or controls.



The determination of which region each user connects to is handled by a global network of Anycast DNS systems. Microsoft also provides a specific anycast address to customers for monitoring and “testing” Teams performance and availability.

The catch here is that they give customers just a single (yup, just one) Global Anycast Address to monitor, which will only target the PoP physically closest to you, and is not necessarily where your decentralized users’ Teams calls are hosted.

AppNeta has planned for this and has a global network of targets in **Microsoft Azure Regions that host Teams**. This enables you to specifically target the region or regions that are hosting calls based on your company’s locations,

And as our target is running our Monitoring Point software, it provides complete performance visibility in both the upload and download legs of the connection.

With a globally distributed service like Teams, not every user’s experience is going to be the same.

Rapidly Isolate the Scope of the Problem

Leverage your known variables to gain a baseline understanding of what users expect for performance and measure your “unknowns” against this baseline.

OFFICE-TO-CLOUD

Instrument your office and measure office-to-cloud performance

This path is the most under your control, with well-known networks and/or providers

Represents performance standards that previously office-based users are accustomed to

Use thresholds that will flag problems worse-than-average office statistics (capacity loss, latency, jitter)



USERS-TO-CLOUD USERS-TO-CLOUD

Measure WFH user paths to the cloud, using the “office-to-cloud” performance metrics as a benchmark

Alert thresholds show which users are getting good and/or poor performance

User challenges can be debugged using hop-by-hop statistics or finding commonalities across paths.

- Common geography: Azure or application problem
- Common DC: Azure, ISP, or backbone problem
- Common last-mile provider: cable provider issue
- Individual: home wifi or LAN problem

Once all of these routes are measured and these variables are accounted for...

- Size of the group affected (or rank in the organization) can determine priority for support attention
- Hop-by-hop analysis can help convince service providers that the problem is in their component of the solution (mean-time-to-innocence)

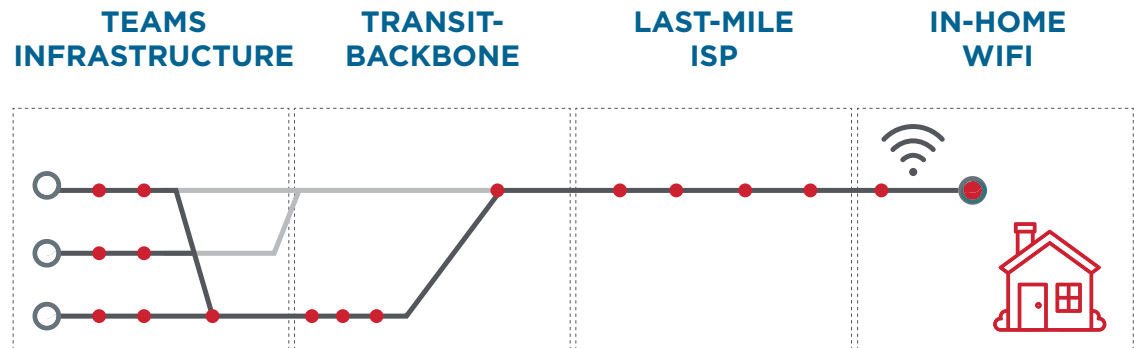
KEY TAKEAWAY:

Getting the right service provider focused on solving the problem rather than trying to blame others is the fastest way to get to a resolution.

Zero in on 4 WFH Error Domains

So now we understand the scope of a problem and determined that it's location specific, a valuable approach is to attempt to isolate the issue into a specific "Problem Domain."

If you can identify the area where the issue is originating, troubleshooting will be much simpler, and the actual steps used in resolution will vary dramatically based on the level of access and control you have over the area where the problem is occurring.



In the case of WFH users there are 4 Problem Domains:

- 1. Application hosting infrastructure:** An issue with the service or common infrastructure would be observed from many locations concurrently.
- 2. Mid-path network:** This is where correlating the performance with the route in use is key: do issues only occur when specific AS Networks are in use?
- 3. User's ISP:** Are they getting what they pay for in their residential internet connection, and is that sufficient for the applications needs?
- 4. Home environment:** Are they on wireless or wired? What else is sharing that Wifi, or did the users backup kickoff and bring the host to a screeching halt?

This end-to-end visibility is dependent on a **Active Testing Methodology**.

Zero in on 4 WFH Error Domains (cont'd)

That's because the route in use is dynamic and outside of your control, ie. you have to measure it to know not only the end-to-end performance, but what route is in use at any given time.

And finally do this taking a low-overhead approach. Having the instrumentation is irrelevant if the measurement approach floods the network to get the data.

Common tools like iPerf, SpeedTest and even other commercial Application Performance testing products measure performance through flooding, which will disrupt the critical applications you are trying to ensure the performance of, and is not acceptable.

The patented technology used by AppNeta by Broadcom Software has **extremely low overhead** to not impact the user experience in any environment.

That is why AppNeta performs what we call 4-Dimensional monitoring, measuring application performance at layer 3 & 4 to ensure the underlying network is healthy, measuring end user experience at layer 7 for applications like Web, API, Voice or Video, and performing Usage analysis with DPI and Packet Capture, all of which ensures you have the right data to solve issues when they do occur in any critical application.

TO LEARN MORE ABOUT
HOW APPNETA CAN HELP
YOUR TEAM TAKE CONTROL
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