



UC&C TROUBLESHOOTING GUIDE

Expert Tips to Keep Your Unified Communications Communicating

Unified Communications and Collaboration (UC&C) is complex, and even the best implementations run into issues. Be ready to solve your end users' problems quickly and efficiently.

NETSCOUT®

Impaired, degraded or unavailable UC&C services can grind a business to a painful halt and impact the ability to effectively engage with customers, clients, prospects, partners, vendors, and employees.

Since UC&C services and business data services are often utilizing a converged infrastructure with endless inter-dependencies, complete and pervasive visibility is a must-have capability.

IT needs to see what is really going on in the environment and take the right corrective action in real-time to keep the services available and at the highest performance and quality levels.



**NETSCOUT understands
the complexity of UC&C.**

Check out this guide for some quick tips to help you prepare for your next UC project or quickly fix a performance problem.

United
Communication
+ Collaboration

Complaints

COMPLAINT 1

“The quality of
that phone call
was so bad.”

EXPLORE >

COMPLAINT 2

“My calls
keep dropping.”

EXPLORE >

COMPLAINT 3

“Someone on
the conference
call caused a
real problem.”

EXPLORE >

COMPLAINT 4

“I can’t hear
anyone on
the other end.”

EXPLORE >

COMPLAINT 5

“My video on
conference calls
is grainy.”

EXPLORE >

COMPLAINT 6

“I can’t dial out.”

EXPLORE >

COMPLAINT 7

“It’s slow to
dial out.”

EXPLORE >

“The quality of that phone call was so bad.”

Check these possible causes:

Network

- ✓ There's not enough bandwidth
- ✓ Quality-of-Service (QoS) is misconfigured
- ✓ A rogue application or device is eating into the bandwidth

Call Server

- ✓ A misconfigured or wrong codec is selected on call set up

Gateway

- ✓ Echo cancelers aren't working effectively

Session Border Controllers (SBCs)

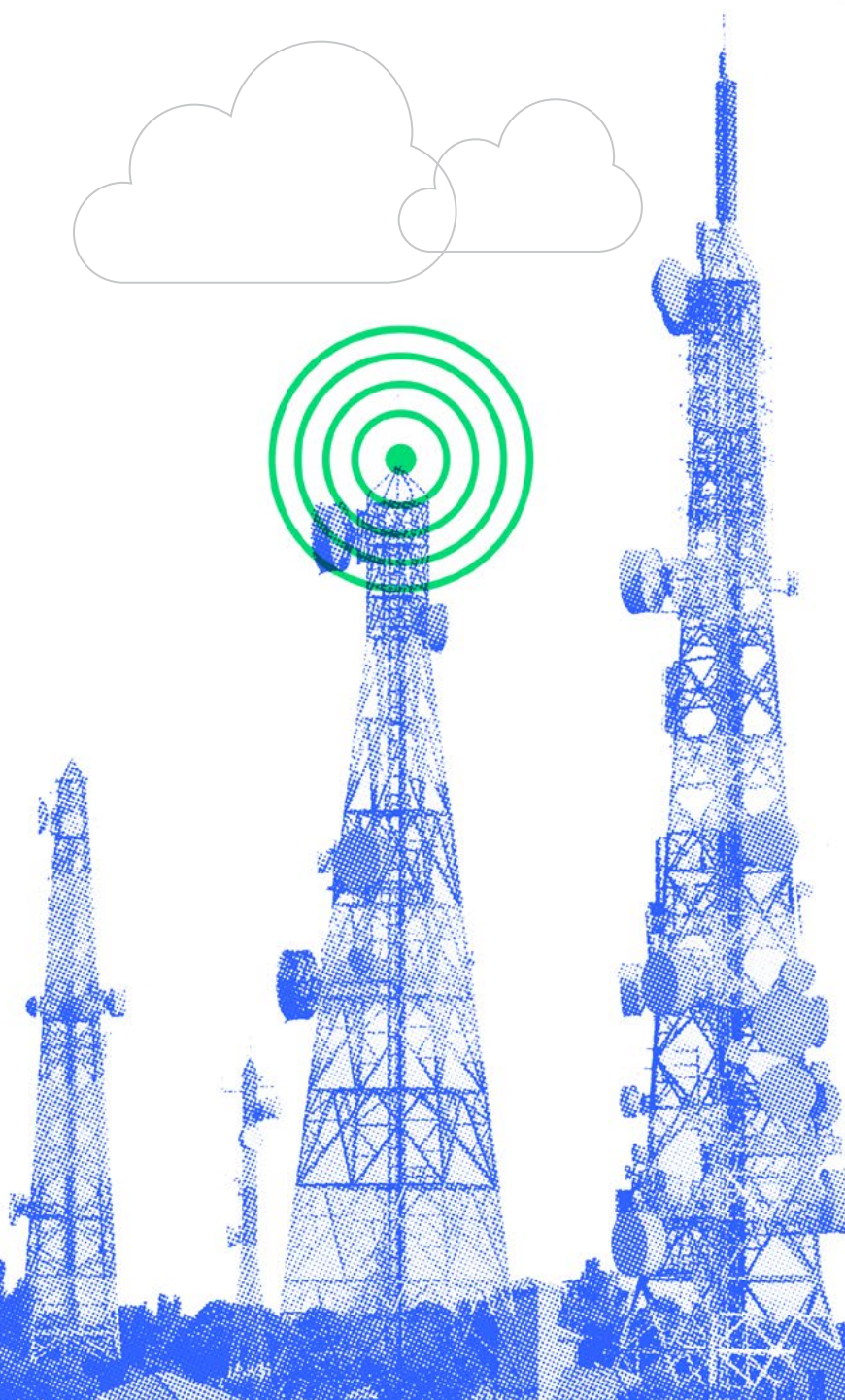
- ✓ Configuration issues are negotiating the wrong codec on call setup
- ✓ QoS reclassification is incorrect

Endpoint Devices

- ✓ Echo and noise cancelers aren't working effectively
- ✓ Soft-client performance is causing a problem
- ✓ Packet-loss concealment or jitter-buffer configuration maybe the issue
- ✓ There may be a bad or incorrectly positioned microphone
- ✓ Speakerphone is in a noisy location

If You're Using Skype

- ✓ End-user devices may not be optimized for Skype



“The quality of that phone call was so bad.”

Quick Tip

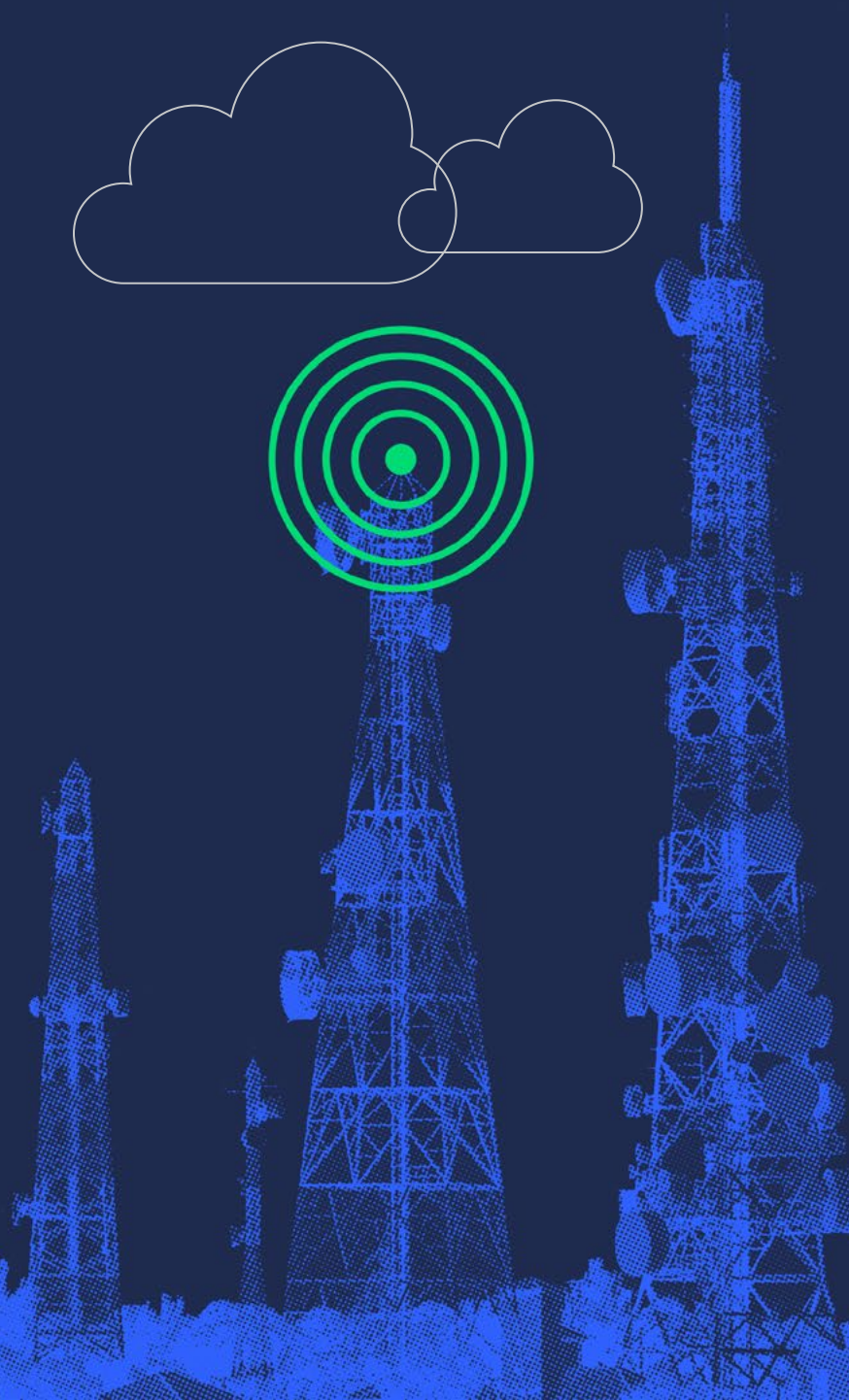
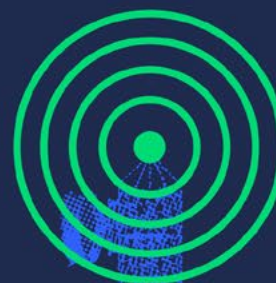
Whether the call occurred in the contact center or the CEO’s staff meeting — poor call quality impacts business.

Visibility into the VoIP system alongside network and application monitoring will enable you to identify root cause quickly so you can troubleshoot the correct problem.

Case Study

Learn how this company’s IT team pinpointed the cause of a QoS issue that had eluded them for weeks and how these insights have enabled them to proactively get ahead of VoIP issues — improving their call center’s experience.

[READ THE CASE STUDY >](#)



“My calls keep dropping.”

Check these possible causes:

Network

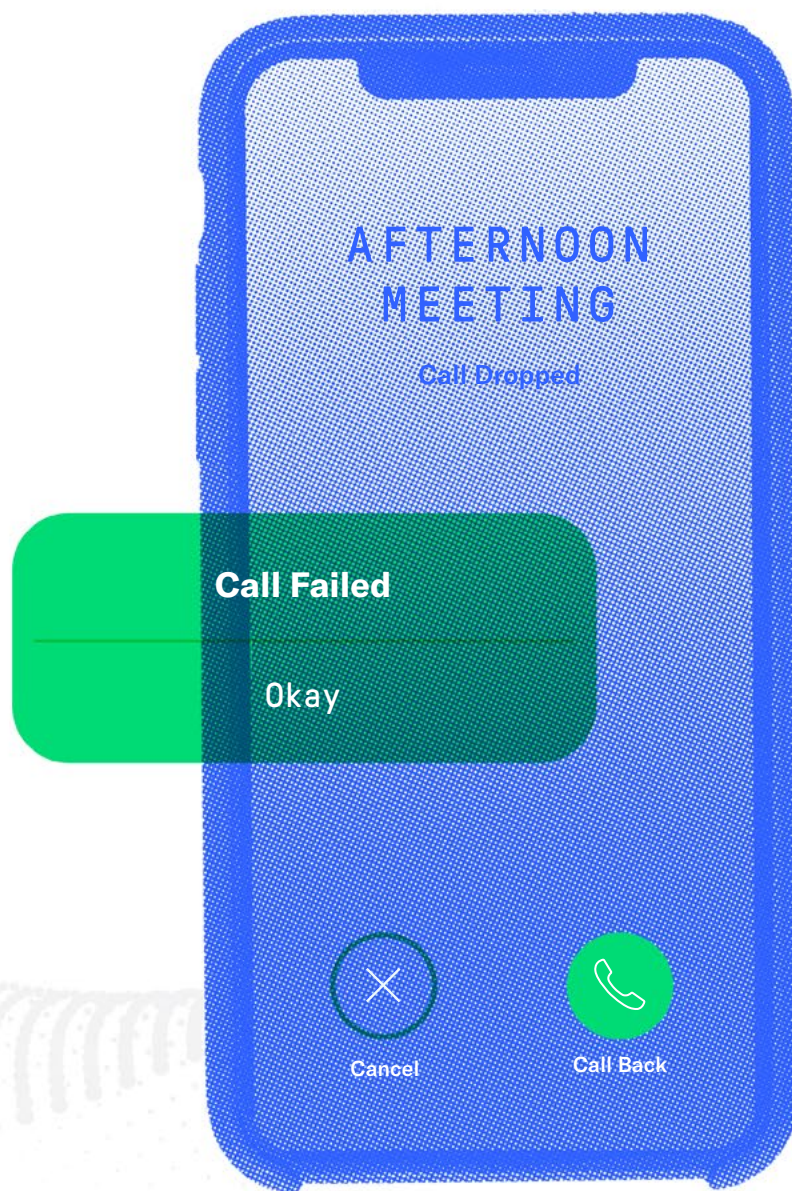
- ✓ The firewall or routers may be periodically blocking or not routing signaling and voice traffic correctly
- ✓ WAN issues at a remote site may be causing a slow response to call servers
- ✓ Network prioritization for signaling protocols is incorrectly set up
- ✓ Routing issues are making it difficult for media streams to reach destination (like a one-way call)
- ✓ Endpoints may be having trouble communicating with the call server

Call Server

- ✓ Configurations such as error session timeout and keep-alive signal maybe not be set correctly

Session Border Controllers (SBCs)

- ✓ Configurations such as error session timeout and keep-alive signal maybe not be set correctly
- ✓ Traffic may be blocked because of a failure or misconfiguration
- ✓ There could be performance issues between the call server and the SIP trunk



“My calls keep dropping.”

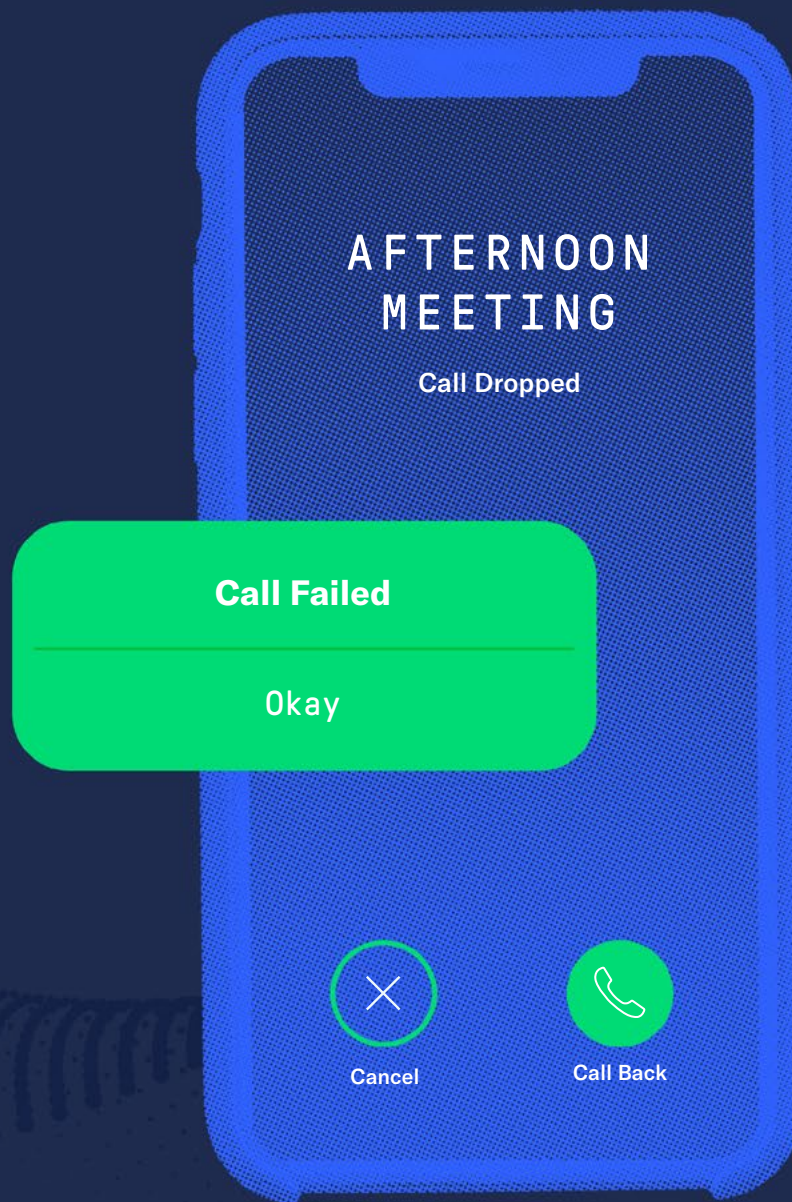
Quick Tip

Third party tools can come up short — lacking views into call flow architecture needed for successful troubleshooting.

Consolidating QoS tools with a single solution for voice signaling, call quality, and data call services gives you a complete picture.

Case Study

This company's very business relied on high performance and availability of UC services — read how their voice team was able to find a misconfiguration lurking in their vendor's SIP-based network.

[READ THE CASE STUDY >](#)

“Someone on the conference call caused a real problem.”

Check these possible causes:

Network

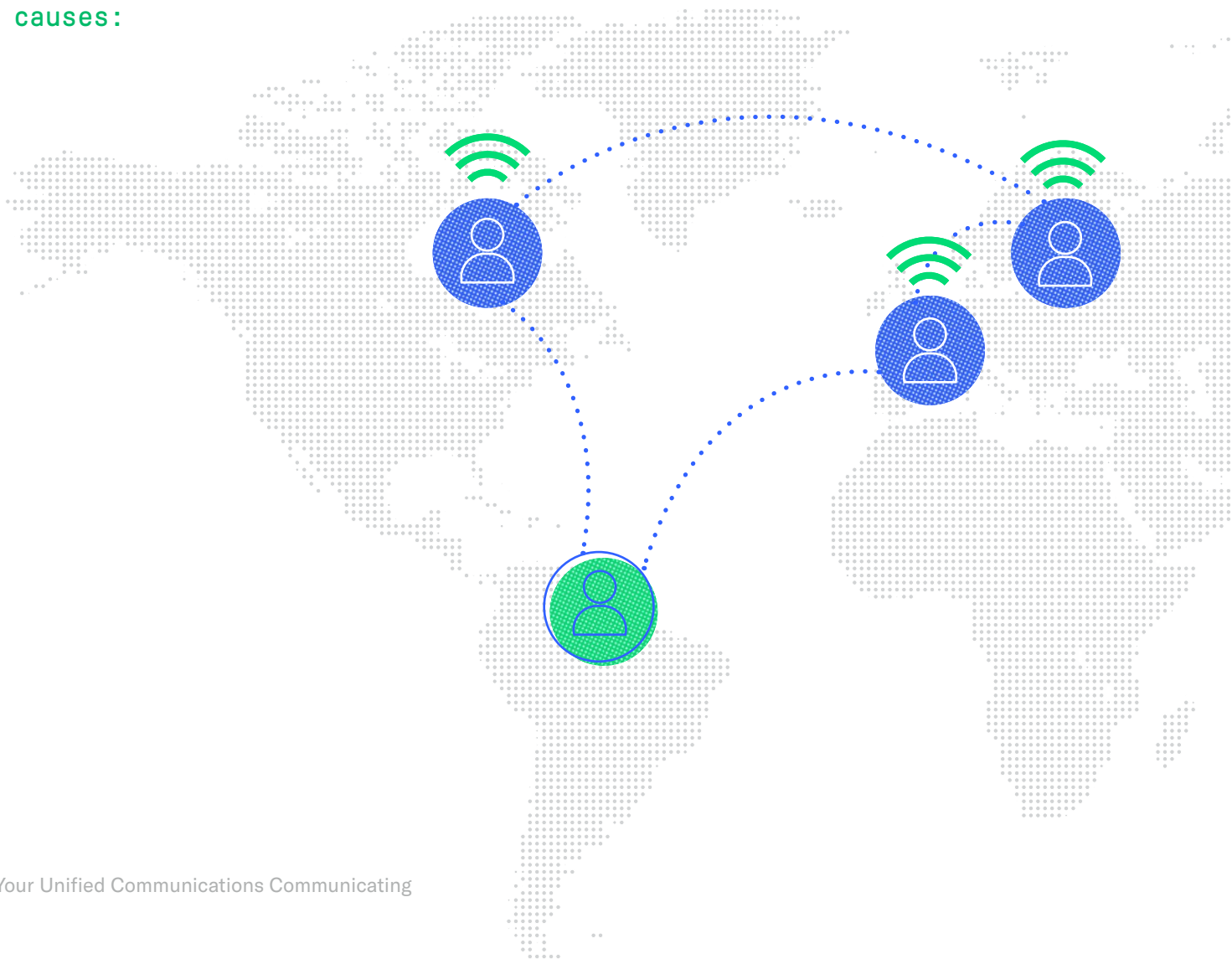
- ✓ Congestion may be the problem because of bad link (firewall, internet, QoS, etc.) with one participant

Conference Bridge

- ✓ It may not be servicing calls effectively

Endpoints

- ✓ One user's connection or equipment could be causing a problem for all



“Someone on the conference call caused a real problem.”

Quick Tip

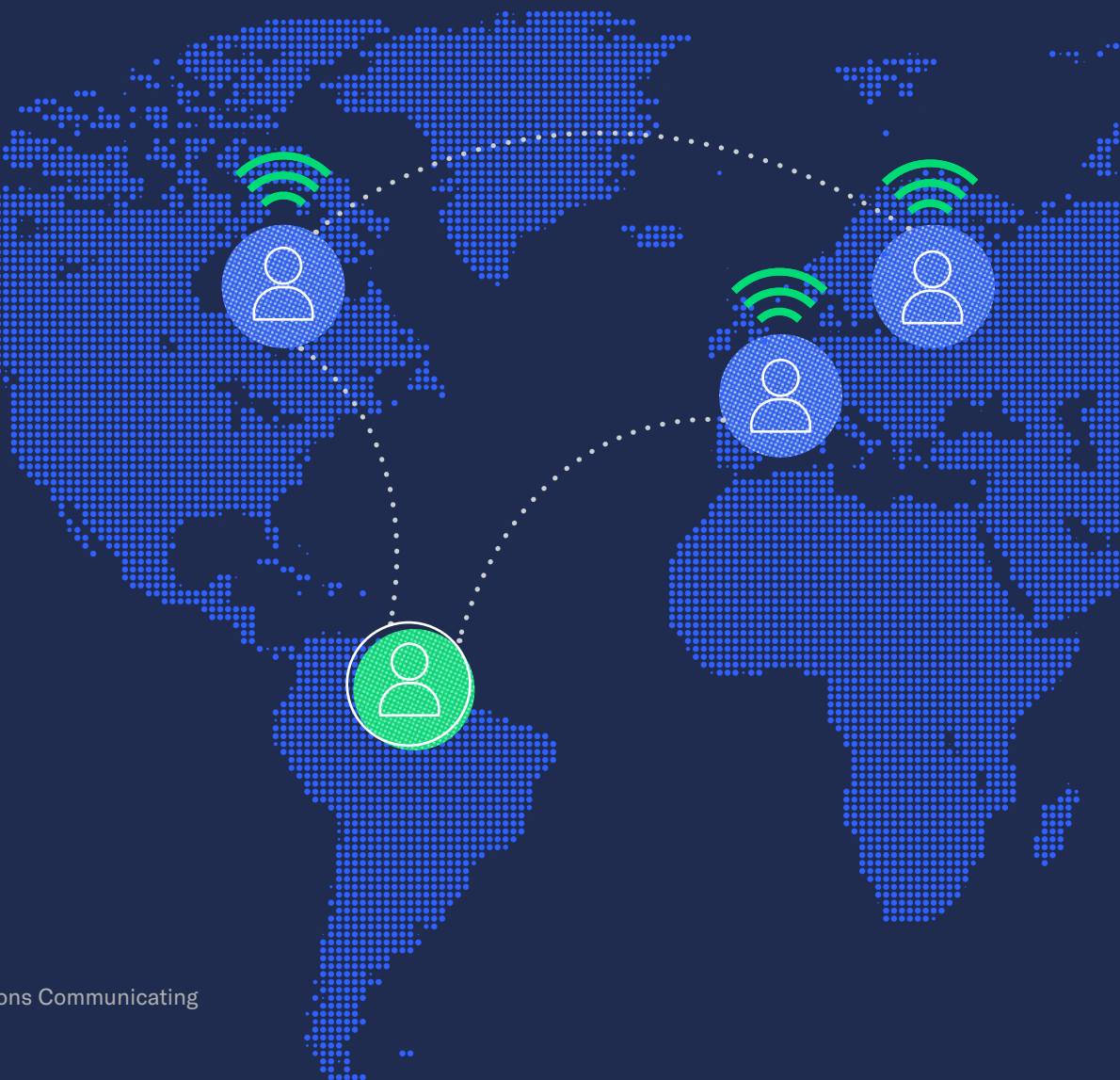
Adopting solutions that only “rule out” parts of the network wastes valuable time in getting to root-cause.

Metrics can be viewed by a range of keys, such as locations, community of users, servers, users, and applications — providing a complete picture by which to diagnose and fix.

Case Study

This IT org moved beyond reactive troubleshooting to proactive Contact Center technology management with a single solution for always-on monitoring.

[READ THE CASE STUDY >](#)



“I can’t hear anyone on the other end of the call.”

Check these possible causes:

Network

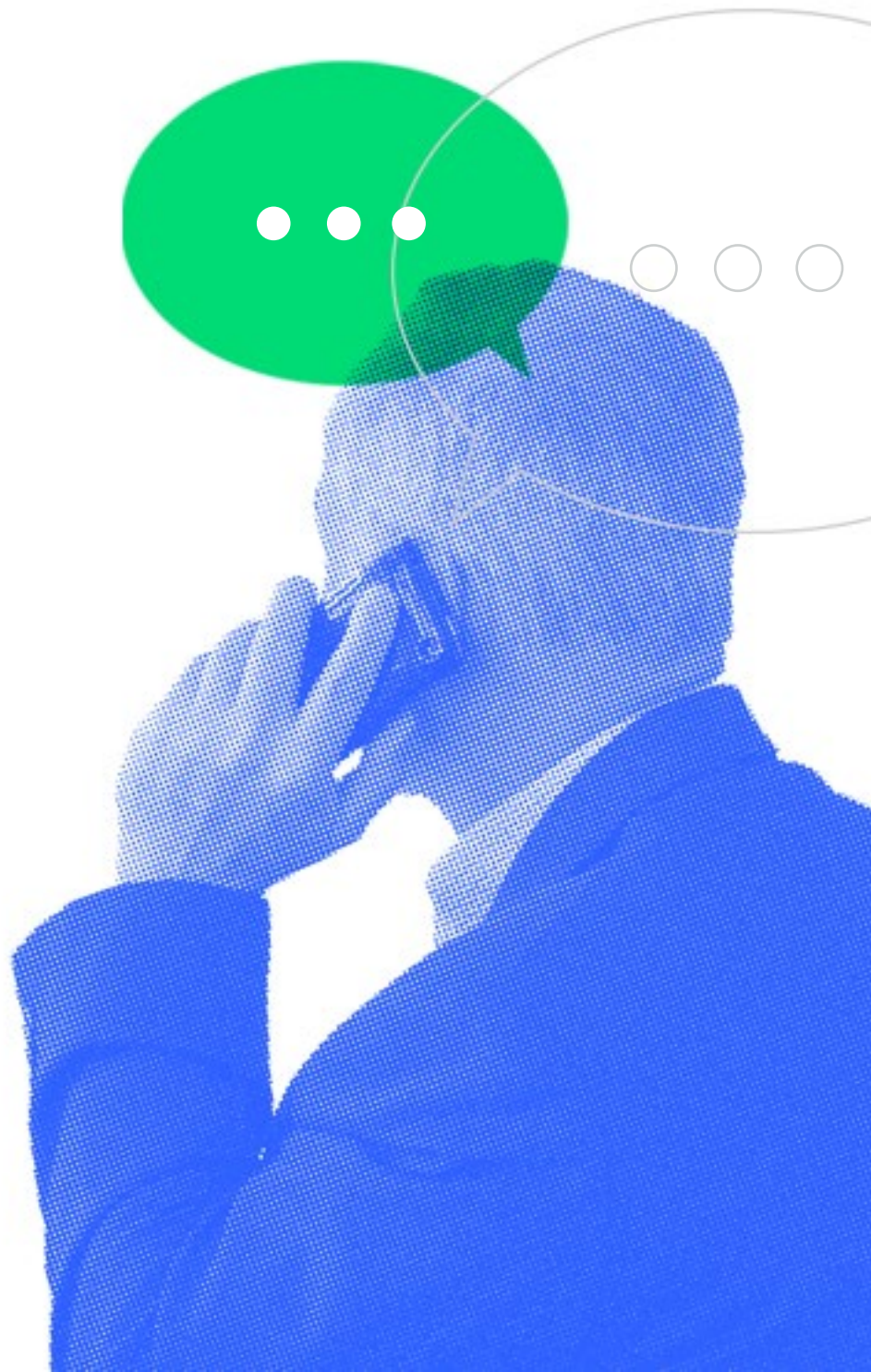
- ✓ The firewall or the routers may be blocking voice traffic
- ✓ There may be diverse routing in the network with no return path
- ✓ Edge devices could be blocking traffic for external peering traffic
- ✓ Routing issues are making it difficult for media streams to reach the destination
- ✓ Endpoints are having trouble communicating with the call server

Call Server

- ✓ There may be an issue affecting call transmission

Session Border Controllers (SBCs)

- ✓ Traffic could be blocked because of a failure or misconfiguration
- ✓ There may be performance issues between call server and the SIP trunk



“I can’t hear anyone on the other end of the call.”

Quick Tip

Digging into call details with a seamless drilldown allows you to analyze specific traffic and Session Analysis.

This includes the SIP call signaling, RTP audio sessions and MOS scores giving you the information needed to delineate issues within complex multi-vendor environments.

Case Study

This cloud services provider sought to deliver quality customer service through uninterrupted service. IT cut their troubleshooting time down from 2 days to 1 hour.

[READ THE CASE STUDY >](#)



“My video on conference calls is grainy.”

Check these possible causes:

Network

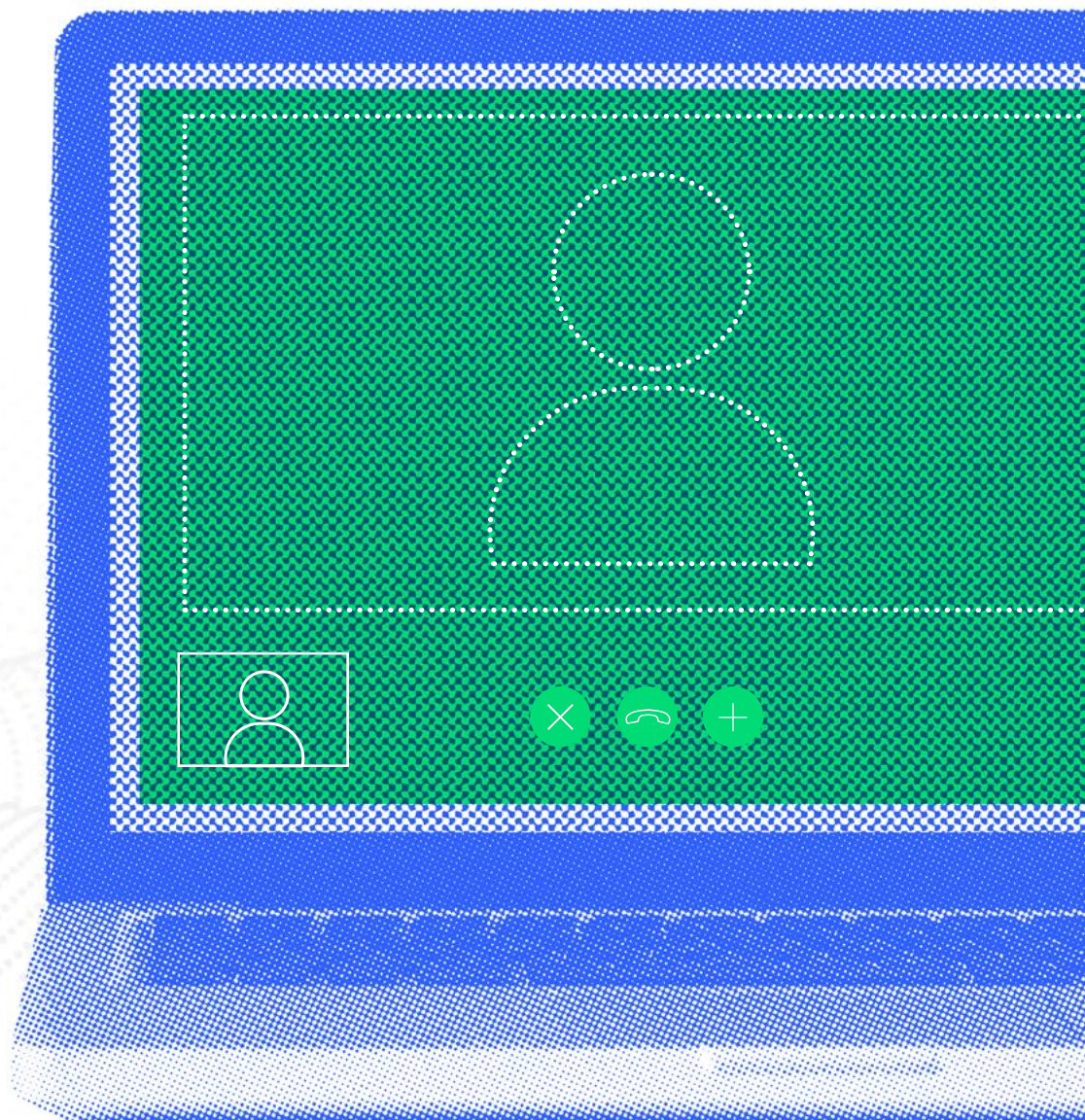
- ✓ Bandwidth or misconfigured QoS issue could be affecting call quality

Conference Bridge

- ✓ There may be interoperability or codec selection issues

Equipment

- ✓ Check that codec is set up to cope with network issues



“My video on conference calls is grainy.”

Quick Tip

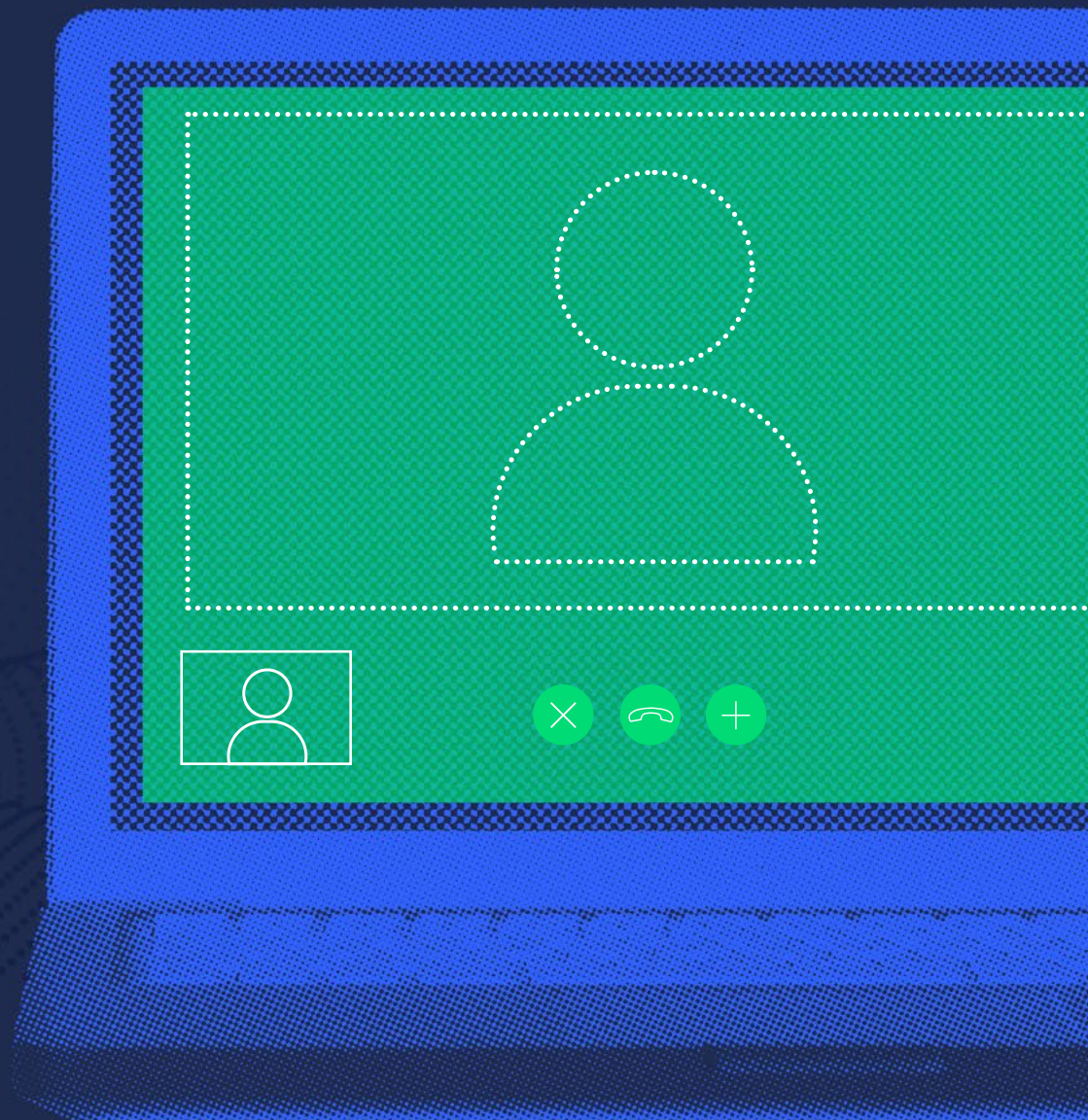
Voice and video are sensitive to network performance issues such as packet loss, jitter and latency — all which can lead to frozen or poor quality video sessions.

Video-compression degradation can be an early indicator of issues in the underlying network infrastructure, so understanding its source is vital. Additionally, Quality-of-Service (QoS) needs to be set up correctly on congested networks.

Expert Video

Using nGeniusONE, learn how to triage voice and video services being impacted by QoS issues as demonstrated in this brief video.

[WATCH THE VIDEO >](#)



“I can’t dial out.”

Check these possible causes:

Network

- ✓ Endpoints may be having trouble communicating with the call server
- ✓ The call server could be having problems communicating with external peers (for example, firewall, permission and configuration errors)

Session Border Controllers (SBCs)

- ✓ There may be interoperability issues between the call server and the SIP trunk



“I can’t dial out.”

Quick Tip

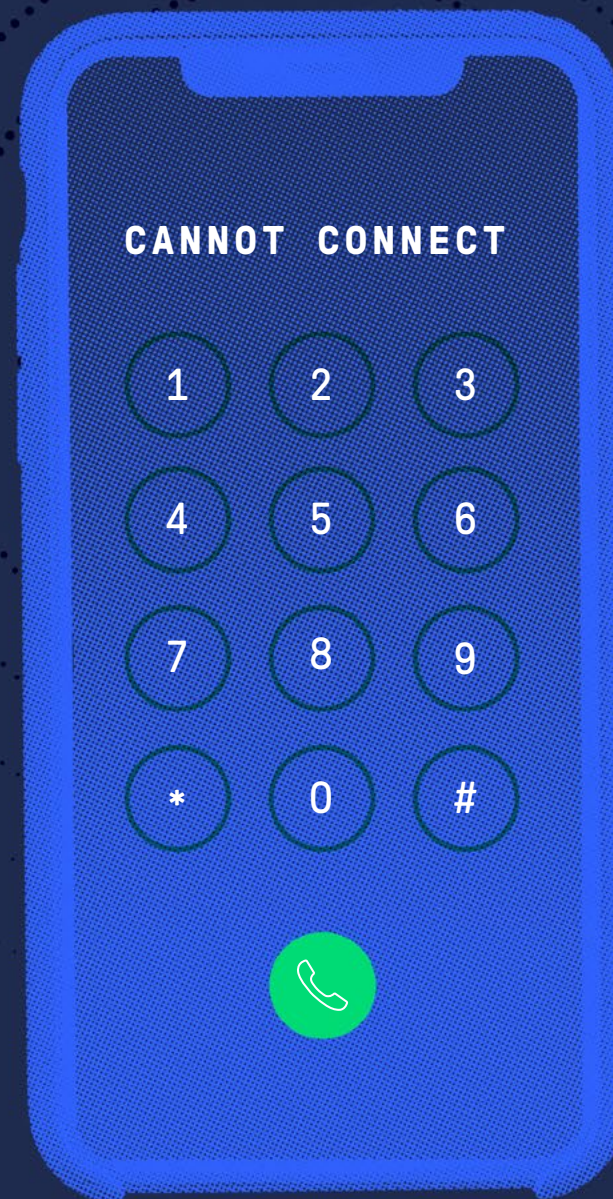
Once a network slows down or becomes congested, quality can suffer unless this traffic is suitably prioritized over the network.

Correct network prioritization is needed for media and signaling protocols throughout a calls journey through the network and SBCs. Bandwidth and QoS need to be configured so as not to affect call quality.

Expert Video

In this brief video, see how to identify and solve single direction and one-way call problems.

[WATCH THE VIDEO >](#)



“It’s slow to dial out.”

Check these possible causes:

Network

- ✓ WAN issues at a remote site are causing the slow response to call servers
- ✓ Network prioritization for signaling protocols is incorrect

Server

- ✓ Call servers are congested or badly balanced
- ✓ There may be SBC vendor interoperability or codec issues

MORNING
MEETING

Connecting...

“It’s slow to dial out.”

Quick Tip

Wide Area Networks are susceptible to bandwidth congestion and require correct QoS configuration and IT needs visibility into link performance to pinpoint root cause.

Information on the traffic over your links for each QoS queue lets you see what other traffic is contending with the voice traffic and what the priority should be.

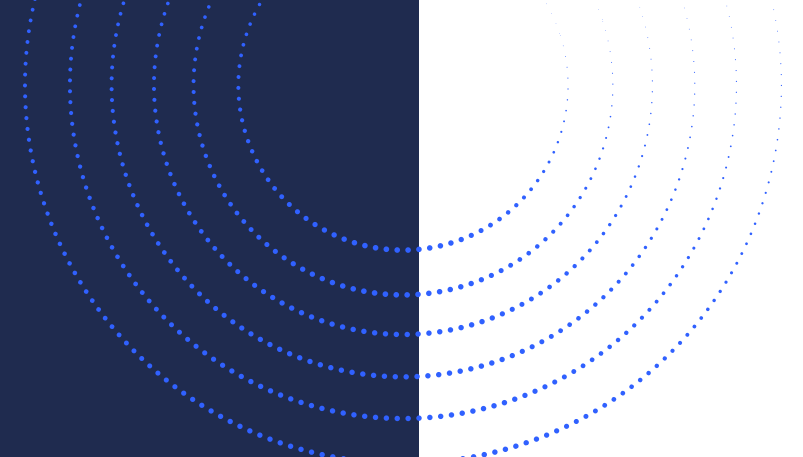
Expert Video

This brief demo video will discuss how to analyze WAN congestion in UC & converged environments.

[WATCH THE VIDEO >](#)

MORNING
MEETING

Connecting...



Manually correlating data from all these disparate sources with component-specific tools makes it difficult and time-consuming to identify the root cause. You need visibility across your entire network and UC&C infrastructure.

To learn more about how
NETSCOUT can help you with
your challenging IT initiatives

CONTACT US

NETSCOUT®

NETSCOUT SYSTEMS, INC.® (NASDAQ: NTCT) delivers multi-purpose, real-time visibility, troubleshooting and protection wherever your technology infrastructure and business applications reside. NETSCOUT Smart Data gives technology and business teams the next-generation level of visibility to see the full range of performance, availability and security risks, earlier and with more precision, to resolve problems faster. That's why the world's most demanding government, enterprise and service provider organizations rely on NETSCOUT solutions to assure and protect the digital services which advance our connected world.

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