

turnium

A Guide to Increasing UCaaS Sales

How Deploying Turnium SD-WAN Provides Better End-to-End Networking Performance for Struggling UCaaS Providers



Voice over IP (VoIP) services have been around since the 1990s. But the advent of remote working — especially during the pandemic — has created dramatic increase in customer interest. Along with this increased interest, the number of options has also increased.

This new demand has given Unified Communications as a Service (UCaaS) providers opportunities but it also creates challenges in retaining customers. Not only do you need to compete with traditional voice solutions and established hosted voice providers, but new market entrants are leveraging their large-scale hosted video platforms to enter the local voice market.

How do you compete? How do you retain customers? How do you minimize churn?

The answer lies in increasing customer experience, satisfaction, and loyalty by managing, or eliminating the challenges of using voice, UCaaS, and Contact Center applications over top of internet connections, while also integrating with existing Layer 2 services, when needed.



The Challenges of UCaaS

It can be tempting for service providers to rely on customers' own connectivity to reach their UCaaS — but if you don't pay close attention to client connections, you may find customer experience and satisfaction numbers starting to slump and churn increasing.

How do customers' networking issues affect you?



Video and communications are sensitive to congestion, jitter, latency spikes, link flapping, outages and a lack of QoS.



Sales, customer service and technical support teams can't work effectively when they experience communications quality issues or go offline due to Internet, telecom or ISP issues.



Customers who can't work effectively call you for networking issues out of your control, driving up your cost of day to day support.

In an increasingly cloud-focused world, it's critical for UCaaS providers to pay attention to end-customer connectivity and provide bundled or integrated solutions that deliver the reliability, performance and uptime that customers need and expect.

What's slowing UCaaS adoption?

According to Gartner, one of the top three challenges associated with UCaaS adoption is [networking requirements](#).

Gartner®

SD-WAN can mitigate many of the technical issues associated with UCaaS, by allowing service providers to manage a virtual network overlaid on top of the internet and provide control over quality and reliability.

How to Calculate Bandwidth Needs

The first step to ensuring the quality of a UCaaS solution is verifying your customer has sufficient bandwidth for voice and video calls — over and above other bandwidth requirements, including:

- Email
- Chat applications
- Video Surveillance
- Daily operations including email, CRM, banking/finance, file storage, remote access

It may seem like more bandwidth is always better, but loading up on bandwidth isn't always an option when it comes to the budget, site location or number of staff.

Did You Know?

[Experts suggest](#) round-trip latency should be less than 300ms, jitter less than 30ms and packet loss less than 1%.

Use these thresholds when calculating bandwidth needs for voice and video, in addition to calculations for other services. More bandwidth without QoS to mitigate latency, jitter and packet loss has no benefit for a customer experience.

Voice Calls

Aim for a ratio of one simultaneous inbound/outbound call per 8 employees (this ratio may increase in smaller offices). Alternatively, you can calculate based on the average percentage of time employees are on calls.

# employees	Method	B/w required	Calculation	Total
20	1:8 ratio	100 Kbps*	2.5×100	250 Kbps
20	50% of time	100 Kbps*	10×100	1000 Kbps
Estimated range of bandwidth required:			250 - 1000 Kbps	

**We recommend a conservative estimate of 100Kbps up and down per call, but actual bandwidth will vary based on encoding.*

Video Conferencing

Video conferencing is rapidly gaining popularity and should be included in bandwidth estimates. As above, plan for one video call for every 8 employees to be conducted at the same time - with the ratio somewhat higher in small offices.

# employees	Method	B/w required	Calculation	Total
20	1:8 ratio	0.5 - 1.5 Mbps	$2.5 \times 0.5 - 1.5$	1.25 - 3.75 Mbps
20	50% of time	0.5 - 1.5 Mbps	$10 \times 0.5 - 1.5$	5 - 15 Mbps
Estimated range of bandwidth required:			1.25 - 15 Mbps	

** We recommend an estimate of between 0.5 and 1.5 Mbps for video conferencing calls and suggest erring on the higher end of the range.*



Modifiers and Considerations

Most customers will use a blend of video and voice, with a bias toward video. But there are exceptions to every rule. It's important to consider the specific needs of your customer when calculating bandwidth requirements. For example:

- Sales offices and contact centers are focused on communications and will require a higher available bandwidth because they'll have more simultaneous calls
- Small offices may use more voice communication to maintain contact with customers, other branches or their head office
- Businesses heavily focused on fulfilment will be less focused on communications and may not need as much available bandwidth
- Large organizations with many support staff will likely have fewer calls per employee

There are also many tools available to help plan bandwidth capacity. We recommend the [Nojitter](#) and [Erlang](#) calculator web pages.

If known, the required bandwidth can be calculated by **multiplying the maximum number of simultaneous calls inbound and outbound at site simultaneously.**

It's important to use the maximum number of simultaneous calls unless a certain threshold of "blocked" calls is tolerated.



Improve UCaaS Quality with SD-WAN

Users will often jump to conclusions when they hear about reliable online connectivity for their calling and contact center:

“Will it be better than Skype?”
“What if my internet connection drops?”

With SD-WAN, voice, UCaaS, and CCaaS providers can connect to customer sites or homes using any available, last-mile broadband circuits. SD-WAN gives you the ability to manage these connections, combine multiple connections into a single, “virtual connection”, and provide Quality of Service. This:

- Helps ensure consistent voice and video quality
- Allows you to existing circuits that a customer has in place and augment them with new additional circuits that are “aggregated” or “bonded” together - including wireless connections for failover!
- Offers reliable, redundant multi-path and multi-carrier connectivity to keep calls going even if an Internet circuit flaps or experiences mysterious spikes in latency, jitter, or packet loss
- Provides business continuity for customer calls with sub-second failover across the multiple physical circuits deployed at each site. Customer’s won’t even know they’ve had an outage!
- Facilitates delivery of end-to-end Quality of Service (QoS) over any broadband connection
- Offers quality connections that are more affordable than dedicated fibre or MPLS circuits
- Allocates bandwidth and priority to real-time packets via customizable QoS profiles

SD-WAN's Key Benefits For Voice, UCaaS, and CCaaS

Interest in SD-WAN [increased dramatically](#) in 2020, in part because of the COVID-19 pandemic. Some of the top reasons for choosing SD-WAN include availability, reliability and cost reduction.

High Availability

Link or circuit aggregation allows multiple circuits from multiple carriers to be treated as a single virtual Internet link with bandwidth stacked or bonded into one large data “pipe”.

- Provides greater bandwidth and redundancy
- Allows critical applications to be survivable as failed links are removed seamlessly from the tunnel and session IP addresses are preserved, so calls and session based connections are maintained

Reach more customers than ever with link aggregation.

By aggregating bandwidth from any broadband provider and providing your own IP Addressing, together with the customer premise hardware (CPE), you have a more extensive, ubiquitous managed network and can reach any customer location and bring formerly “off-net” customers “on-net.”

Reliability

Delivering quality voice and video services using packet prioritization techniques is not a new concept. Traditional telecoms companies use bandwidth reservation in their networks to set aside bandwidth for prioritized packets coming from customer LAN.

How SD-WAN does it better:

SD-WAN platforms can mark voice and video packets as a priority and respect these markings, even across Internet circuits, by creating a virtual network that connects all nodes in the network and can control prioritization.

This is a significant improvement on solutions that use the Internet for voice but in doing so ignore all QoS markings and, even if they are respected, are only marked on outbound traffic, leaving inbound traffic unprioritized..

Packet loss detection over multiple circuits allows a SD-WAN platform to provide error-free transmission by actively managing traffic over each circuit, which avoids sending a packet multiple times because it avoids circuits that are dropping packets.

While TCP protocol will natively detect packet loss too and request the packet be sent again, this simply slows down overall data rates. By managing packet distribution in the SD-WAN tunnel, packet loss can be avoided. Of course packet loss can not be helped as even the best quality fiber connections have packet loss, but managing and mitigating packet loss provides the end-user with a better experience and increases overall usable bandwidth.



Cost Reduction

SD-WAN ensures end-users' experience is not affected by potentially unreliable circuits. Bandwidth adaptation automatically adjusts link characteristics to overcome the impacts of jitter, latency and packet loss. Maximum link speeds can also be managed through link (or leg) tuning to eliminate degradation due to link saturation.

But a quality end-user experience isn't just about bandwidth and failover. Effective network and Internet circuit management helps increase customer acquisition and retention due to a more consistent, higher quality service leading to a reduction in the number of trouble tickets opened related to Internet issues such as time-of-day congestion, latency, or jitter.

Technical Benefits

SD-WAN also offers multiple technical benefits for UCaaS providers:

- Provides built-in QoS to mitigate quality issues and virtually guarantee optimal voice and video quality
- Offers security via network segmentation, increased visibility, data encryption and centralized provisioning. (Customer premise and core network nodes are also foundational elements of secure access service edge, or SASE.)
- Supports multiple connection types, including (but not limited to) cable, DSL, fiber and wireless LTE/4G/5G
- Offers an easier way to increase bandwidth as business locations and models change

Cloud Consumption Is Driving UCaaS and SD-WAN

In addition to hosted UCaaS, many organizations are also embracing cloud-based services and applications for:

- Customer relationship management (CRM)
- Banking and accounting
- Voice, video and contact center solutions

This trend is driving Cloud Service Providers to rethink traditional wide area networking, internet connectivity and how to deliver and manage a better end-user application experience without needing to engage network providers in the process.

SD-WAN helps resolve these customer questions by providing a platform that offers multi-site wide area networks that:



Are easy to deploy



Support flexible configurations



Can be managed from end-to-end

SD-WAN separates the underlying network transport from the application layer and presents you with a network and application-aware overlay that is managed through a centralized management server, allowing service providers to coordinate and manage a multi-site WAN effectively and deploy policies across the WAN or even across multiple customer WANs.

Change the Way You Network

The management of a network infrastructure used to be an ongoing and challenging process for sensitive video and voice applications. But SD-WAN deployment helps simplify network monitoring and management and adapts it to the needs of the company, ensuring optimal access to bandwidth and networks for systems that are critical during times of network congestion.

SD-WAN benefits everyone.

End Customers	Service Providers
<ul style="list-style-type: none">• Improved experience• Better application and network performance• Higher ROI	<ul style="list-style-type: none">• Automated service provisioning• Simplified management and troubleshooting• Greater agility and productivity

When voice, UCaaS, and CCaaS providers deploy Turnium, they get all the tools required to deliver clear, reliable voice and video services anywhere. Broader reach, more flexible networks and better ability to deliver managed voice, UC, and Contact Center enables you to expand your customer base and increase customer satisfaction.

With SD-WAN, you'll be able to:

- Deliver and sell UCaaS in a more effective manner
- Reach more customers
- Bring more "off-net" customers into your pipeline

Make the Switch to Turnium

Turnium is a white label, white box business platform. We enable service providers to own the customer relationship, elevate the delivery of network and cloud-based services, and maximize revenues and profits. We also provide a fully Turnium-hosted managed service that you can deploy and start selling quickly. Hybrid models are also available, allowing you to host some components of Turnium's managed service right next to your hosted voice platform, in your own network!



About Turnium

Turnium Technology Group, Inc. delivers its software-defined wide area networking (SD-WAN) solution as a white label, containerized, disaggregated software platform that channel partners host, manage, brand, and price and as a managed cloud-native service. Turnium SD-WAN is available through a channel partner program designed for Telecommunications Service Providers, Internet and Managed Service Providers, System Integrators, and Value-Added Resellers.

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