



BT Cloud Work

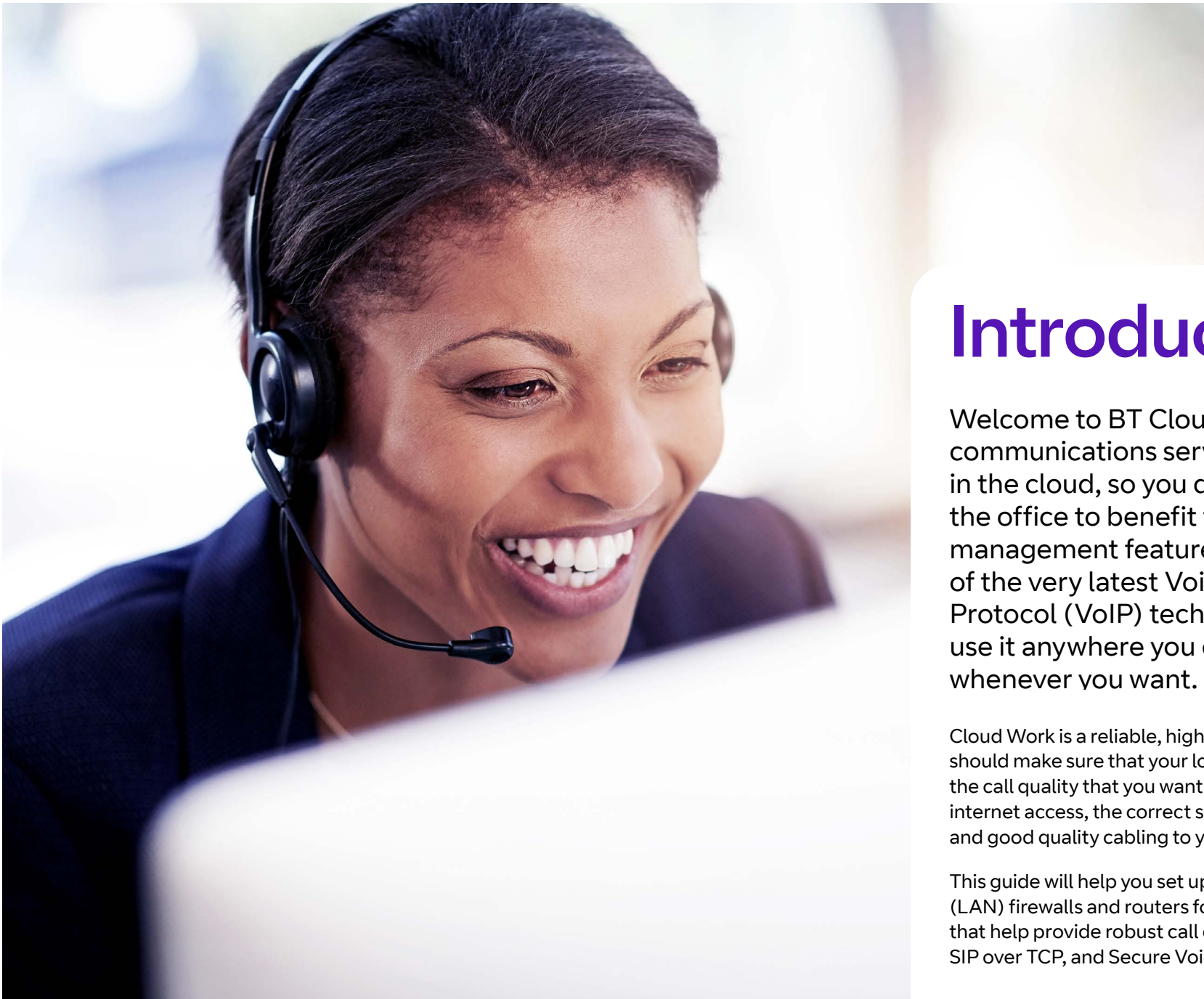
Preparing your network for SIP over
TCP and Secure Voice



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Introduction

Welcome to BT Cloud Work – a unified communications service that’s hosted in the cloud, so you don’t need to be in the office to benefit from the latest call management features. It takes advantage of the very latest Voice over Internet Protocol (VoIP) technology, so you can use it anywhere you can get online, whenever you want.

Cloud Work is a reliable, high quality voice service, so you should make sure that your local network can also deliver the call quality that you want. You’ll need high speed internet access, the correct set-up of network components, and good quality cabling to your phones.

This guide will help you set up your Local Area Network (LAN) firewalls and routers for two Cloud Work features that help provide robust call quality and security protocols: SIP over TCP, and Secure Voice.

What is SIP over TCP?

Cloud Work supports Session Initiation Protocol (SIP) signalling over the Transmission Control Protocol (TCP). SIP lets you run multiple communications applications over your IP network or internet connection – in other words, you can make voice calls over the internet.

The TCP protocol gives you reliable, ordered, and error-checked delivery of packet streams between supported endpoints and the Cloud Work servers. This means a better call signal and fewer dropped calls, a reduction in one-way audio issues, improved firewall compatibility, and improved call handling over wireless. It's generally better able to withstand packet loss in high traffic office environments, or while using mobile devices on bandwidth-limited wireless networks.



What is Secure Voice?

Secure Voice provides strong security protocols to both signalling and media for supported endpoints. It uses two business-grade security protocols to provide additional security for phone calls:

- Transport Layer Security (TLS) is a cryptographic protocol that provides encryption on the SIP signalling data in the application layer. It encrypts information from the sender, to the platform and on to the receiver, preventing any external interception.
- Secure Real-time Transport Protocol (sRTP) is a profile of the Real-time Transport Protocol (RTP) that provides encryption, message authentication and integrity. It also gives replay protection to the RTP packet stream from the sender, to the platform and on to the receiver.

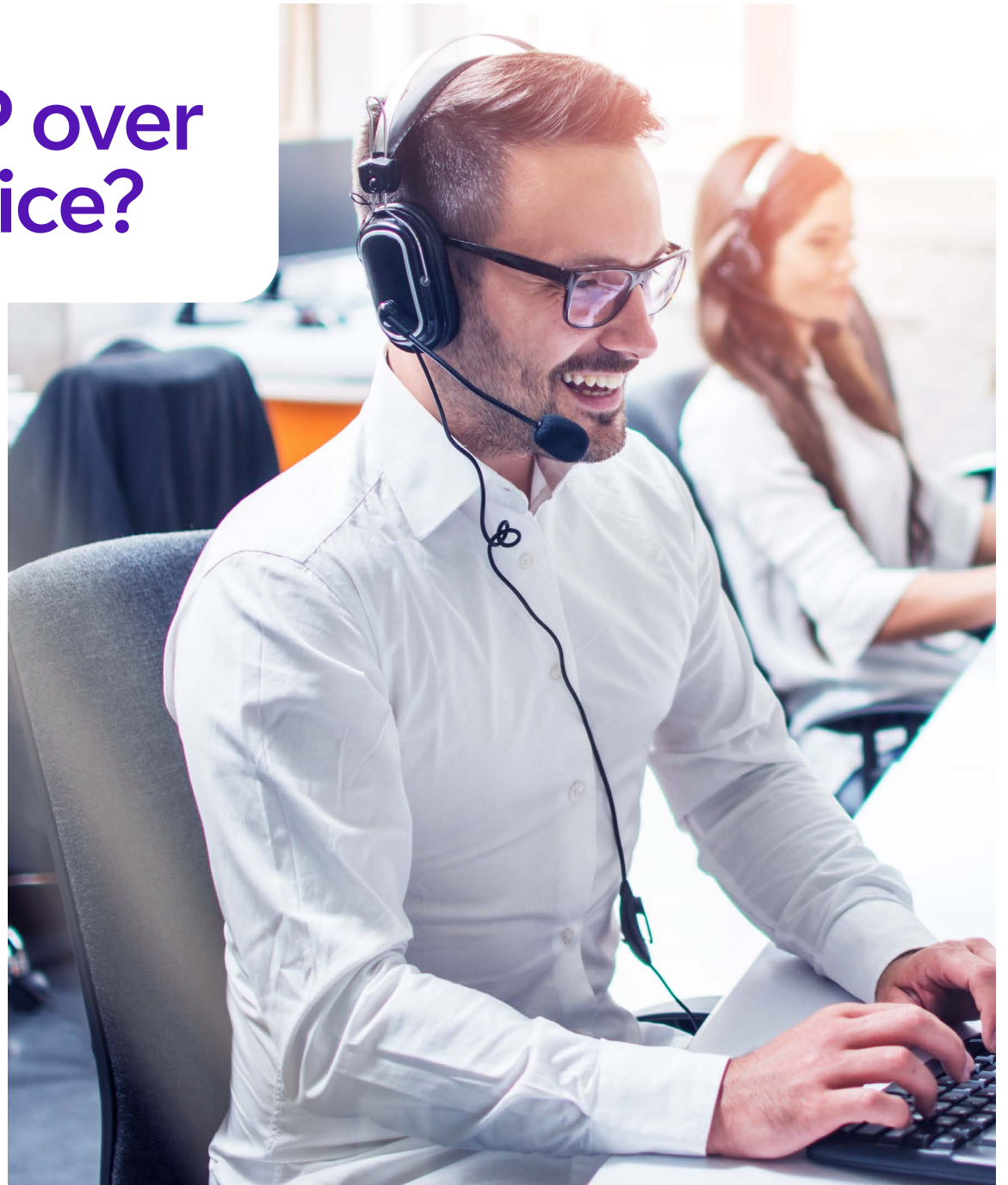
Which Cloud Work devices support SIP over TCP and Secure Voice?

All Cloud Work devices, including desktop IP phones and conferencing phones, will use these protocols to communicate with Cloud Work servers.

Other desk phones certified for use with VoIP are:

Brand	Model
Polycom	VVX 150
Polycom	VVX 250
Polycom	VVX 350
Polycom	VVX 450
Polycom	VVX 601
Polycom	IP 6000
Yealink	W60P

These phones are already set up to use the protocols – you don't need to configure them yourself.





Troubleshooting

How do I enable the Secure Voice feature on my account?

We provide Secure Voice for all Cloud Work licence types. It's automatically enabled, so you don't need to do anything more.

How can I tell if my call is encrypted?

Once Secure Voice is enabled, your active call screen will show an indicator in both desktop and mobile apps.

What do I need to do to prepare my firewall and network?

If you actively manage your Internet access firewall ports and restrict certain protocols or ports, you may need to adjust your firewall settings. You'll need administrator rights to your firewall to make changes to its protocol and port settings. Check your user manual for details on how to do this.

If you don't actively manage your firewall settings or restrict certain protocol or port settings, changes to your firewall may not be necessary. Please review the information below to make sure that your firewall won't block connectivity.

List of firewall protocol and port settings for Cloud Work services:

Device Type	Protocols	(Source Port) Customer Side	(Destination Port) BT Cloud Phone Side
Desk phone signalling	SIP/UDP	5060 to 5090	5090
Desk phone signalling	SIP/TCP	5060	5090
Desk phone media	RTP/UDP	16384 to 16482	20000 to 39999
Desk phones signalling Secure Voice	SIP/TLS/TCP	5060	5096
Desk phones media Secure Voice	SRTP/UDP	16384 to 16482	40000 to 49999
Desk phone provisioning	HTTPS/TCP/IP	80, 443	80, 443
Desk phone clock sync	NTP/UDP	123	123
Desk phone BLA/Presence	SIP/UDP	5060	5099
Desk phone BLA/Presence	SIP/TCP	5060	5090
Softphone data sync with BT Cloud Phone backend	HTTPS	443	443
BT Cloud Phone Meetings signalling	SIP/TCP	N/A	8801, 8802
BT Cloud Phone Meetings signalling	SIP/TLS/TCP	N/A	443
BT Cloud Phone Meetings signalling	RTP/UDP	N/A	8801
BT Cloud Phone Meetings signalling	TLS/TCP	N/A	443
Mobile app signalling	SIP/UDP	5060	5090 to 5091
Mobile app signalling	SIP/TCP	N/A	5090 to 5091
Mobile app media	RTP/UDP	4000 to 5000	
		20000 to 60000	50000 to 59999
Mobile app signalling Secure Voice	SIP/TLS/SRTP	N/A	5097
Mobile app media Secure Voice	SRTP/UDP	4000 to 5000	
		20000 to 60000	60000 to 64999
Mobile app BLA/Presence	SIP/TCP	N/A	5091
Mobile app BLA/Presence	SIP/UDP	N/A	5099

What happens after I make these changes?

Once you've changed your firewall protocol and port settings, and your Cloud Work service is active, your network is ready to use the signalling protocols and security features. You won't need to make any more changes to your settings.

Where can I get further information or help?

There's more information or troubleshooting tips to help you in the Cloud Work knowledge base. Look for the article called [Updated Firewall Settings](#).

Or you can contact our support team on **0800 389 0321** (Monday to Friday, 8am to 6pm; 24 hours a day, 7 days a week for Connect and Collaborate customers). Choose the relevant menu option to speak to us.



Offices worldwide

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July 2020