TeleWorker Brief

A TeleWorker phone is any IP phone operating without a MegaPath Voice certified network device managing traffic for the network the phone is attached to. The most common network device MegaPath uses is the EdgeMarc 4552, which can perform the duties of a Voice Application Layer Gateway (ALG), Session Initiation Protocol (SIP) proxy and even a firewall, if needed. MegaPath also uses the network device to ensure Quality of Service (QoS) by prioritizing voice traffic over data traffic, which is important when bandwidth needs are high.

The following phones are certified for use as TeleWorker:

Polycom Phones	Linksys / Cisco Phones
- SoundPoint IP 321 - SoundPoint IP 330 - SoundPoint IP 335 - SoundPoint IP 550 - SoundPoint IP 560 - SoundPoint IP 650 - SoundPoint IP 670 - SoundStation IP 4000 (Conference) - SoundStation IP 6000 (Conference) - VVX 300 - VVX 410 - VVX 500 - VVX 600 - VVX 1500	- Linksys SPA 942 - Linksys SPA 962 - Linksys SPA 2102 (Telephone Adapter) - Linksys SPA 8000 (Integrated Access Device) - Cisco SPA 122 (Telephone Adapter) - Cisco SPA 232 (DECT Base Station) - Cisco SPA 303G - Cisco SPA 504G - Cisco SPA 509G - Cisco SPA 525G **Panasonic Phones** - KX-TGP500

TeleWorker Requirements

All TeleWorker phones require dynamic IP address assignment via DHCP. This service is most often handled by your Local Area Network (LAN) router, but may be supplied elsewhere in advanced networks. In addition, your network components (such as router, firewall, etc.) must not interfere with SIP or Real-time Transport Protocol (RTP) traffic which can be blocked by default on some network routers. If you are connecting your phone to a non-MegaPath broadband connection, you will need to verify that your Internet Service Provider (ISP) does not interfere with SIP or RTP traffic.

One option to quickly test the capability of your network and ISP to support a TeleWorker phone is to test it via the following website:

> Speed Test Plus: www.megapath.com/speedtestplus

If this test fails, you will need to verify the following:

For all phones:

- **UDP** traffic on ports **5050** through **5070** must be allowed, by both your network hardware and your ISP.
- **TCP** traffic on port **443** must also be allowed, by both your network hardware and your ISP.

Traffic must also be allowed by your network and ISP on the following additional phone specific ports:
- Linksys / Cisco phones: **UDP** on ports **16384** through **16482**
- Polycom phones: **UDP** on ports **2224** through **2268**
- CounterPath softphones (Bria, EyeBeam, or X-Lite): **UDP** on ports **8000** through **8005**

Troubleshooting

Should call quality issues occur, the most common cause is limitations with either the network hardware or your ISP. In these situations, MegaPath is limited in our ability to troubleshoot, however we can offer some general tips.

Common Issues

Conflicting VoIP Settings: Some ISPs also offer VoIP. If they do, they may have their own VoIP settings that may conflict with ours. If you are having issues after opening the above ports, look for any settings in your LAN equipment labeled "VoIP ALG" or "SIP" and disable them (or have your ISP disable them for you if you cannot access the configuration of the equipment).

Stateful Packet Inspection (SPI): Some firewall routers perform stateful packet inspection (SPI). If the SPI is acting overzealously, it might interpret the steady traffic stream from our server as an attack and block it. You may be able to resolve issues like this by adding the IP addresses of our SIP servers to a trusted hosts list:

- 64.81.79.159
- 64.81.79.162
- 67.102.144.49
- 67.102.144.52
- 67.102.144.79
- 67.102.144.82
- 67.103.60.52
- 72.244.189.49
- 64.81.79.173
- 216.254.95.173

If this doesn't help, you may also try turning SPI off.

Intrusion Detection Systems (IDS): Some firewalls come with an intrusion detection system (IDS), and this can interfere with VoIP calls. If your firewall has an IDS, you may need to move it in your LAN such that only your computers are behind it.

Conflicting applications or port forwarding rules: Make sure that none of the port forwarding rules that you have set up are using the same ports as our phones or are otherwise conflicting.

Network Address Translation (NAT) Issues: Some consumer-grade routers don't do a good job of handling NAT and tracking connections. This can potentially cause issues. Enabling port triggering or setting up port forwarding (in the case of a site with just a single phone) can sometimes help resolve these issues.

Some internet providers use their own DNS servers which may not always resolve the MegaPath Voice servers, preventing registration of your MegaPath provided phone. Should this happen, you will need to update the DNS server in your router or modem to point to an alternate DNS that does not block our servers, such as MegaPath's:

Region	Northeast	Mid-Atlantic	South	Midwest	Southwest	West
Primary	**216.254.95.2**	**66.92.159.2**	**66.92.159.2**	**64.81.159.2**	**64.81.127.2**	**64.81.45.2**
Secondary	**66.92.159.2**	**216.254.95.2**	**64.81.127.2**	**216.27.175.2**	**64.81.45.2**	**64.81.79.2**
	Connecticut	Delaware	Alabama	Illinois	Arizona	Alaska
	Maine	Maryland	Arkansas	Indiana	New Mexico	California
	Massachusetts	New Jersey	Florida	Iowa	Oklahoma	Colorado
	New Hampshire	New York	Georgia	Kansas	Texas	Hawaii
	Rhode Island	Pennsylvania	Kentucky	Michigan		Idaho
	Vermont	Virginia	Louisiana	Minnesota		Montana
		Washington DC	Mississippi	Nebraska		Nevada
			Missouri	North Dakota		Oregon
			North Carolina	Ohio		Utah
			South Carolina	South Dakota		Washington
			Tennessee	Wisconsin		Wyoming

The final responsibility for ensuring compatibility with UDP, SIP, and RTP traffic, however, belongs with the ISP and/or the provider of the network hardware (Linksys, Netgear, D-Link, etc.).

In the event that service issues continue after verifying network and ISP settings, MegaPath will verify that the TeleWorker device is able to register and will replace any defective hardware that MegaPath provided, at no cost if under warranty, or at current list rates if the warranty has expired. For hardware not provided by MegaPath, MegaPath may be able to recommend alternate hardware or hardware upgrades that are known to work for other installations, however it will be your responsibility to purchase, install, manage, and cover all associated costs, should you decide to change such hardware.

TeleWorker functionality is provided on a "Best Effort" basis and carries no SLA or Quality of Service guarantee.