

# DAVE VoIP System Requirements

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## DAVE VoIP System

DAVE is a Hosted VoIP service that is intended for use over Broadband Internet connections, such as those provided by AT&T, Comcast, Cox, Charter Business, Spectrum and others. These providers provide general access through the Internet through a modem that they supply directly to the end-customer. This modem is generally acceptable for home use, but it is not considered a business-class device and it is not considered to be an acceptable solution for Hosted VoIP connections such as those provided by DAVE. Consequently, it is our position that the customer should provide their own routing solution in order to use the service provided by DAVE. You will need to consult with IT consultant to determine which modem would best suit your needs with your Internet Service Provider (ISP).

Hosted Voice service is an application that rides on your Internet connection and internal data network, the quality of your telephone and CRM experience is directly related to the quality of your internal data connection. Normally, with a high-quality broadband connection and the right router and firewall, you can expect very high quality voice service. Unfortunately, voice service is dependent on many factors and it is classified as a “best-effort” service. Selecting the right ISP, IT Specialist and router/firewall combination will minimize most problems you will experience with voice quality. DAVE maintains a list of compatible routers for your IT Specialist, including tips and suggestions for provisioning these devices later in this document.

**PLEASE NOTE:** We *highly* recommend consulting an IT firm or network professional when configuring advanced network settings or devices.

## Internet Connection

### Broadband

#### Cable or Fiber lines

DSL, Satellite, Cellular, Hotspot are not recommended

Minimum Bandwidth is dependent upon number of users

5Mbps Down / 2Mbps Up per active user is recommended  
(significantly higher values required for video)

#### Maximum Latency

<3ms to your router

<10ms to your modem

<100ms total to DAVE

#### Packet Loss

1% or less

# Router Information

## VoIP Compatible Routers

NOTE: The routers listed here are known to work reliably with our services. **However...** given the constantly updated firmware and physical changes made by manufacturers and the nature of cloud-based services, The Redcliffe Group cannot control the final configuration of the hardware or your computer systems/network, or promise that any given router will work with your system. While we regularly update our information, we cannot guarantee that our information is 100% up to date.

- Ubiquiti
- Sonicwall
- Meraki
- WatchGuard
- Fortigate
- Adtran
- Cisco ASA
- EdgeMarc

## Routers with Possible Issues

- Modem/Gateway Combo's from any cable provider
- Cisco RV and lower series
- Netgear
- Linksys
- D-Link
- TP-Link
- ASUS
- Google
- Apple
- MediaLink
- PfSense
- Untangle
- ZyXEL
- DD-WRT
- Tomato
- Off-Brand

## General Router Configuration

Ports to open for voice traffic:

- **TCP: 10001, 5060-5069**
- **UDP: 4000-4999, 5060-5069, 10000-20000**

DOs:

- Enable Consistent NAT
- Unblock TCP and UDP Outbound
- Ensure you have sufficient bandwidth
- Set TCP/UDP timeouts to at least 300
- Routinely check for latency spikes and other issues
- Routinely check for packet loss

DON'Ts:

- Enable SIP-ALG
- DPI SIP Traffic
- Use SIP Normalization
- Use Static NAT's for phones
- Double NAT
- Use SPI

## Desktop Information

### Minimum Computer Requirements

Windows 10 or higher

64bit operating system recommended in order to use the latest DAVE software

2.5 GHz Dual Core Intel Core i3 and higher CPU

4GB RAM (16 GB RAM recommended for video use)

100Mb free disk space

CPU: <50% average

Memory: <50% average

Disk space: >20% free

Disk utilization: <5% average

Google Chrome or Microsoft Edge Browser recommended

Network Interface - 1Gbps NIC preferred

If USB to Ethernet adapter used – USB 3.0 adaptor & port required

### Headsets

We do not sell or recommend any particular headset or brand of headset. We do not load or use proprietary headset drivers so our softphone will utilize active windows audio devices therefore it is

compatible with most headset manufacturers. Consult your agency IT resource before purchasing a headset.

Our service department will ensure that the softphone shows your headset selected and that the volume settings are correctly set. We will not make changes to your computer settings under any circumstances. Consult your agency IT resource for further trouble shooting. We highly recommend that you install and keep up to date the manufacturers desktop software for your headset.

## **Desk phones**

The Redcliffe Group does not use proprietary firmware with desk phones to utilize the DAVE system. Any desk phone that uses proprietary carrier firmware will not be compatible with the DAVE system. While we regularly update our information, we cannot guarantee that our information is 100% up to date and therefore cannot promise that any given phone will work with the DAVE system.

### *Supported Compatible VoIP Desk phones*

- Yealink T4 series and above