USER GUIDE

FusionWorks
Self-Install Guide

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Note: This document explains the Self-Installation process. If you have opted to have a Professional Installation, your Voice Project Manager will contact you to discuss your installation.

Thank you for choosing FusionWorks. Several factors come into play to ensure the quality of your voice service, including your network and your underlying broadband service. This guide explains how these factors come into play and the steps necessary to ensure a successful self-installation. Please make special note of the "Action" items listed within this guide.

Step 1: Ensure Network Readiness.

Your Local Area Network (LAN) is a term used to describe all the equipment that is behind your modem that connects your network to the Internet. The specific equipment you need will depend on the number of IP phones at your location, and the number of devices on your network such as computers, servers and network printers. The equipment below is typically used in a LAN.

Fusion Connect provides high quality voice service; however, your LAN plays a big part in call quality.

Typical LAN Equipment:

Modem: A device that connects to the data connection provided by your Internet Service Provider (ISP). Other network devices such as a router are connected behind the modem. Please do not use a combo modem/router. These devices can cause audio issues**.**

Action: If you have a combo unit, please contact your ISP to request a standalone modem.

Router: A router is a device that routes or splits your Internet connection among multiple devices. A router is an "intelligent" device. It can divide your connection differently depending on how it is configured. Routers commonly have four ports to allow up to 4 separate device connections. If more than 4 ports are needed, a Switch is recommended.

Action: Do not use a combo modem/router unit or you may experience audio issues. We recommend you use a router with Quality of Service (QoS) settings that can be set to prioritize voice traffic over data traffic.

Switch: A pass through device that splits your Internet connection among multiple devices. Switches are capable of extending your network to accommodate an additional 4 to 48 devices.

Phones or Adapters: IP Phones or analog phone adapters (ATAs) purchased from Fusion Connect. IP phones use the Internet to make and complete calls. An ATA is used to connect a standard (analog) phone or fax machine to Fusion Connect service through your Internet connection.

Other devices: Other connecting devices such as computers, servers and network printers.

Step 2: Ensure Your Internet Connection Has the Appropriate Bandwidth.

Your internet connection must have enough bandwidth to support your Voice service. You will need at least 96 Kb for each concurrent call to support high quality voice calls.

You can determine the bandwidth needed based on your number of concurrent calls (one-third the number of phones for typical installations) multiplied by 96kb.

Example: A typical implementation with 21 phones would plan for capacity to support 7 concurrent calls or 7 x 96 Kb = 672 KB. Note, this is only a guideline. Your concurrent call number may vary based on your calling patterns. If you anticipate more concurrent calls, you should increase the number accordingly.

Action: Calcualate the bandwidth needed based on your number of concurrent calls using the following equation:

$$[(\text{number of phones}) \times (1/3)] \times 96Kb = \text{Upstream and Downstream Capacity in kb}$$

Action: Once you determine your bandwith, test your Internet connection using Fusion's Speed Test.
(In addition to determining your Upload and Download speeds, the speed test will also show you Packet Loss, Latency and Jitter.)
Note: You may need to update your Java version to run the speed test.

To run the speed test, go to www.fusionconnect.com/speed-test-plus

Upon running the test successfully, in addition to individual scores for upload speed, download speed, packet loss, latency and jitter, you will also receive your MOS. **Example Speed Test results:**


You will see a simple meter so that you can easily assess your connection quality.
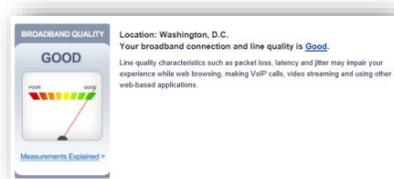
Note: If your MOS score is in the poor range, it can be an indication of poor throughput of packets. This can be attributed to either an issue on your LAN or with your ISP. Fusion Connect advises running the test several times to see if the poor scores are consistent. If the scores are consistently poor, please work with your IT personnel and ISP to resolve the matter.

Step 3: Setting Up Your Network for Your Voice Service.

Network Setup Option 1: One Ethernet drop per desk
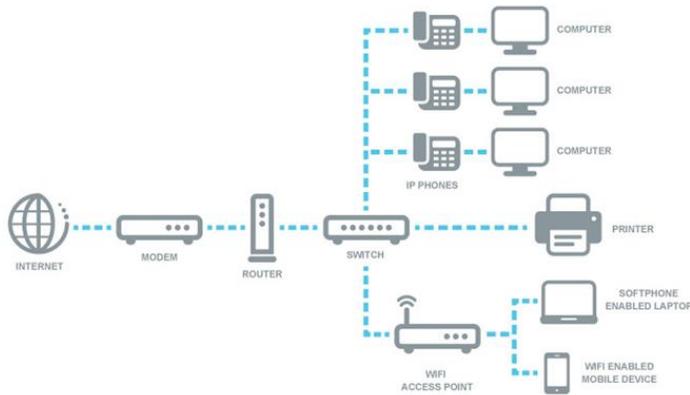
Action: Power up your equipment and connect your router, your LAN and your phones as follows:

- Connect your router directly to the modem that provides your Internet access.
- Connect your LAN switch directly to your router.
- Connect your Fusion Connect phones to the LAN switch.
- Connect your Fusion Connect phones to the computer.

Note: Always connect your LAN devices (local printers, file servers, etc.) to your LAN switch rather than directly to your router.

Once your phone is plugged in and powered up, your phone will begin to initialize and pull its configuration; this may take up to five minutes.

- Once the phone has pulled its configuration; your extension will display on the line keys. If this is not the result, or if you receive an error, visit www.fusionconnect.com/support/fusionworks-ucone or troubleshooting tips.
- If your phone initialized successfully, your phone will be ready to make calls.

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Network Setup Option 2: Two Ethernet drops per desk
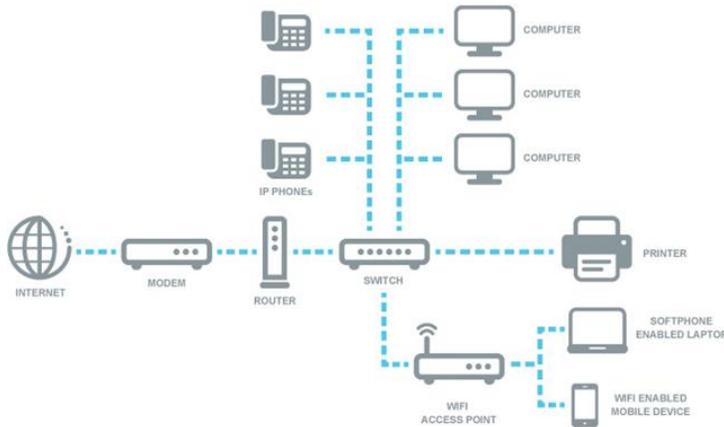
Action: Power up your equipment and connect your router, your LAN and your phones as follows:

- Connect your router directly to the modem that provides your Internet access.
- Connect your LAN switch directly to your router.
- Connect your Fusion Connect phones to the LAN switch.
- Connect your computers to the LAN switch.

Note: Always connect your LAN devices (local printers, file servers, etc.) to your LAN switch rather than directly to your router.

One your phone is plugged in and powered up, your phone will begin to initialize and pull its configuration; this may take up to five minutes.

- Once the phone has pulled its configuration; your extension will display on the line keys. If this is not the result, or if you receive an error, visit www.fusionconnect.com/support/fusionworks-ucone or troubleshooting tips.
- If your phone initialized successfully, your phone will be ready to make calls.

We're Here to Help.

Your satisfaction is Fusion Connect's top priority, which is why you can reach us 24 hours per day, 7 days per week. For assistance with billing, provisioning, or technical questions, you can conveniently contact us via our customer portal, or by phone or email. You can also access helpful guides and troubleshooting tips on our Voice Learning Center.

Manage Your Account Online: my.fusionconnect.com
Support: www.fusionconnect.com/support/fusionworks-ucone

By Phone: 1-888-301-1721
By Email: support@fusionconnect.com