Definity-G(x) Demystified:
By Walt Medak

We've received a number of questions lately about setting up the newer S Class switches. Many of the questions have revolved around getting the file servers set up that are required for the phone configuration files. I'll see if I can make some sense of that here. Let's start with the basics. When an IP telephone is plugged in, it will search for a DHCP server. The DHCP server will assign a number of settings to the phone. One of which is the address of the TFTP or HTTP server that the phone will use to download firmware and settings files.

The first generation of IP telephones included the 4606, 4612 and 4624 sets. These phones were only capable of downloading files from a TFTP server. The next generation included the 4620, 4621 and 4625 among others. This generation of phones was capable of downloading files from either a TFTP or HTTP server. The most recent generation of IP telephones, the 96XX series, are only capable of downloading files from an HTTP server.

There are a number of file server applications available. In our classroom, we use a TFTP application called TFTPServer2000 that is a free download from Avaya's website. To find this download, go to their main support web page. Under the section called "Resource Library", click on the "Downloads" link. Once there, click on the link to the 4600 Series IP Telephones. Then just find the link to the latest IP telephone release and TFTP server and follow the instructions to download the files.

Once the program has been downloaded and installed, there are a couple of settings that need to be changed. In the program's setup screen, there is an option to turn off incoming files. As a security measure, this option would normally be checked. The TFTP server can be used for incoming files if you want, but the IP telephones do not need that capability. In the outbound menu, you would need to enter the directory where you will be placing the IP telephone files, for example, C:\tftp\. The last option would be to remove the name of the log file. This will prevent the program from building a very large log file that you would probably never look at anyway.

Once that is done, you will need to download the appropriate firmware and settings files from the same area of Avaya's website where you found the TFTP server. Those files would be saved to the outbound directory you specified while setting up the TFTP server. There are a number of HTTP server applications available; including those built in to some of the Windows operating systems. Any of those would work for this application. The setup of the HTTP server would depend on the application being used. The IP telephone firmware and settings files would have to be downloaded to the HTTP server in a similar manner to that described above for the TFTP server.

One of the benefits of the S8300 Media Server is that it provides both TFTP and HTTP server functionality without the need for additional hardware.

There were also a number of questions about the files that the IP phones actually download from the TFTP/HTTP server, specifically the 46xxsettings.txt file. This file contains a large number of options that are used to configure the IP telephones. The file, as downloaded from Avaya, has none of the options set. Since it is a plain text file, there are a variety of editing programs that can be used to make any necessary changes.

One of the sections of this file that will usually be altered is the section that covers the local dialing rules. These rules can affect certain calls such as calling a number in the phone's incoming call log. Some of these options are the length of your internal extension numbers, the long distance access code and the code for dialing an outside call. Another commonly modified section of the settings file is the section regarding audio settings. Automatic gain control can be enabled or disabled separately for the handset, headset and speaker. There is also a setting that controls the telephone's audio performance, including dynamic range and transmit gain. There is a table of roughly 200 different combinations of office and background noise level settings to pick from.

There are numerous other options including display language, the length of time the backlight stays on, screensaver, etc… Far too many options to cover in any kind of detail here.

As this is being written, we are putting the finishing touches on a new class we will be offering that will cover the basics of setting up VoIP on the Definity and S-Class servers. And, as always, if you have questions pertaining to any of the above feel free to give us a call at 800-452-6477.