

SIP over 802.11 the right way

If your organization is considering the deployment of a wireless phone system, then you should give SIP (Session Initiated Protocol) some thought. If you deploy a standard 802.11 infrastructure, then your employees are limited to the broadcast range of your access points. But adding SIP into the equation opens up a wide range of offsite communication possibilities. Let's look at some of the challenges SIP over 802.11 presents, and then we'll examine what this technology can help you accomplish.

When deploying a wireless infrastructure with SIP capability, here's what you need to keep in mind:

Call Handoff-As a mobile user walks through your building, the transfer time between wireless access points (WAPs), should not exceed 100-150ms. Your SIP handsets need to be capable of quick transfers, or you risk the call being dropped. And you need to be sure you have enough WAPs to provide proper coverage within your corporate location.


Feature set-Traditionally, SIP technology has provided a very limited set of calling features. But there are vendors now offering a SIP telephony infrastructure that will enable handsets to have every feature you have come to expect from a traditional landline network-such as inter-office paging, transfer, hold and more. Be sure to ask your SIP/wireless vendor what calling features they are prepared to offer.

WAP Bandwidth-Currently, most wireless access points can only handle 4-5 simultaneous calls at one time. Any more, and you will begin to experience call degradation as the WAP struggles to load balance the bandwidth requirements for all calls. But there are new products coming into the market that can enable up to 20 simultaneous calls on one access point. Your vendor should be able to provide more information on this.

Security-There are always security concerns with voice/data information being sent over a wireless network. Data packets can be encrypted just like any other network traffic. But encryption technology is expensive. It's best to perform a usage analysis to determine the type of information your employees are sharing over the phone, and whether secure wireless voice communications are in your best interest.

Wireless SIP: The Advantages

SIP holds big promise for enabling true go-anywhere mobility for a business phone. With the new interoperability built into SIP equipment, a handset can operate wirelessly over your LAN while in the corporate office. Once an employee leaves the building, SIP will unrenegotiate from your network and renegotiate with any system it finds. And this can happen automatically, with the user making and receiving calls through their normal desk extension. It's a great way to cut down on cellular minutes and long distance charges.



And there is a new type of handset on the market. It is a "dual mode" phone that can switch between cellular coverage and your internal wireless network automatically. This means that no matter where your employees go, they are connected. When a user is in the office, the handset detects your wireless network and calls are routed through your VPN. When the user is on the road, the handset switches over to cellular. All you need to do is add a SIM card from your local cellular provider. This makes for the most cost effective use of your network and eliminates the need to pay for a separate landline PBX, wireless network and cell phone for your key team members. And the economies of scope are that much greater if you already plan to use a wireless network for your data traffic anyway.

Finally, if you factor in a unified communications platform, you can ensure that no calls are ever missed. There are several new technologies on the market that can forward voicemail messages to another number, or to email in the form of audio attachments. If an employee's phone is operating in cellular mode, and a call comes into the office network, this backup ensures important messages are still being delivered.

The industry is moving toward full mobility communications, and your company can reap the rewards. Just be sure to understand the limitations and capabilities of SIP and 802.11 before beginning your vendor selection process so you know the right questions to ask.