Replace your telephone and make calls via the internet!

Try one of these Linux systems and discover the real benefits behind the hype of VoIP.

VOICE OVER Internet Protocol, or VoIP, is a term that sounds far too business–oriented; something you'd perhaps find being used down some dark corridor at IBM or Microsoft. And it's true that companies have invested a lot of money into the technology, with many attempting to replace their expensive PBX exchanges with telephones that plug directly into their computer networks transmitting voice and video over the internet: it offers businesses substantial savings over traditional telephony.

But the technology could prove just as revolutionary for home users. With VoIP, there's nothing to stop you calling the other side of the world, without it costing you a penny.

There are dozens of individual protocols and applications that attempt to harness some of the potential offered by VoIP, but currently there are only two serious contenders for Linux. One is an open–source application that's seen many years of development, the other is the brainchild of two entrepreneurs hoping to provide free internet calls and make money from connecting people to traditional telephones from the same software.

INSIDE EKIGA

The first, *Ekiga*, has for several years been the telephony application of choice for many Linux distributions (it was formerly known as *GnomeMeeting*). In truth, there wasn't really any choice in it, as *Ekiga* is pretty much the only free application of its kind.

It was written as a way of communicating with Microsoft's *NetMeeting*, which offers a broadly similar feature set and as such uses the same protocol, called H.323. *Ekiga* uses an open implementation of the protocol (OpenH323), which allows you to connect to other *Ekiga* users as well as those of *NetMeeting*. First you'll need to set it up. When you first start *Ekiga*, you're presented with a series of requesters (the First Time Configuration System) used to configure the software.
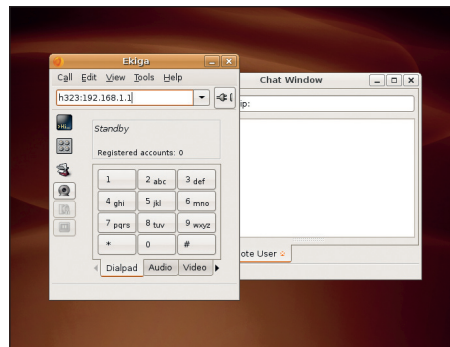
■ **Page 1** Just click on Next in this one.

■ **Page 2** The second page requires your full name, which will be used as your online directory name for other users to see your status (at your discretion).
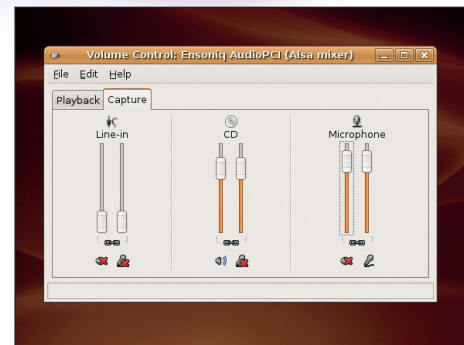
■ **Page 3** This page requires a username and password, and they'll be used to register an account at **www.ekiga.net**. Just click on Get An Ekiga.net SIP Account. Alternatively, if you already use the SIP protocol with another provider, click on the I Do Not Want To Sign Up check box at the bottom of the window.

■ **Page 4** The fourth page is for you to specify the speed of your connection. Using a faster connection obviously improves the video and audio quality of your calls, which is why it needs to be defined. After this, *Ekiga* asks for the NAT type, which is a standard that defines how connections are made to individuals on local area networks. *Ekiga* can usually work out the right parameters itself if you click on the Detection button; or if you're directly connected to the internet (rather than through a local area network) you can safely ignore this page.

■ **Pages 5 and 6** The last couple of pages in the Configuration System are for setting up your hardware. For voice calls you need a working


Make sure your microphone input is selected, and that the volume is turned up in the *Alsa Mixer* soundcard mixer program.

microphone attached to your computer. The audio device settings are usually correct, but you may need to change your audio mixer settings (using *Alsa Mixer* for example) to increase the volume on the microphone. The same is true for the video device, which can usually be left as default. The only exception would be if you had a television card installed, in which case you would need to select the second device, as the first one would be for television input (using Linux's system-wide video-for-Linux drivers). This should complete the setup.

MAKING A CALL

Now you're ready to use *Ekiga*. If you know either the IP address or the call URL of the person you'd like to contact, you can enter it directly into the location bar (see *Howto... Talk To Windows Users* box, above right, for a hint on how to get the IP address). If you don't know it, you can browse the server

***Ekiga* dubs itself a "window on the world", and that's a pretty good description.**
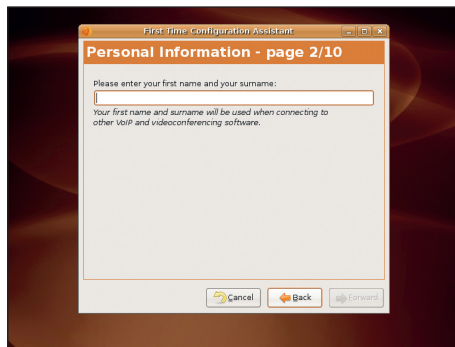
Ekiga's settings can easily be changed from the Preferences menu.

directory by selecting Tools > Address Book from the menu. This is the same address book as used with *Evolution*, the personal information manager, and also lists your own contacts. To search the server, click on Seconix ILS under the Remote Contacts tab. This lists all the people currently connected to the *Ekiga* server in the panel to the right. You can refine the search by entering their name in the Name Contains box.

Once in a call, you can change the size of the video window, as well as see your own video stream from the View menu. If you open the *Ekiga* control panel, you can also change certain settings for your connection, such as brighten your image from the video panel, or mute your microphone from the audio one. There's also a useful text input window for when all else fails and you need to reschedule the call!

SCOPE OUT SKYPE

The second technology we're looking at here, *Skype*, has received a lot of press coverage recently, mainly because it is marketed as the self-appointed replacement of the traditional telephone. You can even buy telephones that are *Skype*-compatible; seamlessly connecting to your internet connection, ringing when someone calls, and allowing you to call other *Skype* users for free.

It's the latest project from Niklas Zennström and Janus Friis, the creators of the infamous *Kazaa* file-sharing software, and it uses a similar technology for transporting your calls. Rather than use a central server for connecting users with one another and act as a go-between for all their conversations, *Skype* uses peer-to-peer technology, making each

HOWTO... TALK TO WINDOWS USERS

It's all very well making the leap to VoIP with Linux, but you're going to find yourself terribly isolated if you refuse to speak to Windows users. Luckily, both the systems we're looking at here, *Ekiga* and *Skype*, are capable of bridging the great divide. *Skype* is the easier option, as there's a version available for Windows that's almost identical to the Linux version.

For conversations using *Ekiga*, you need to get your Windows friend to use *NetMeeting* – an application that's been bundled with Windows for a number of years. *NetMeeting* is hidden away though, and the easiest way to run it is to select Run... from the Windows Start menu and type Conf into the empty field. This should load *NetMeeting*. If it's being run for the first time, they'll need to enter the usual information such as name and email address, although they can safely ignore the opportunity to register on Microsoft's servers.
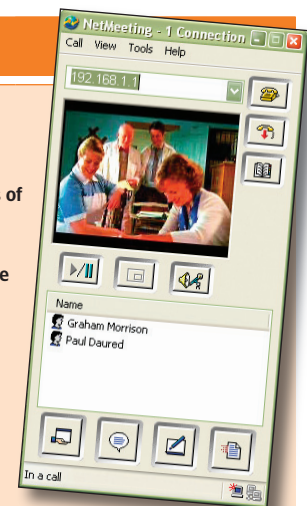
To make a connection between *Ekiga* and *NetMeeting*, you need the IP address of either your machine or that of your contact's. An IP address is a little like a telephone number, and it's different for

every machine connected to the internet. There are many different ways of determining your IP address, but the easiest is to open the following website in your browser: **www.whatismyip.com**. You need to enter this address directly into the location field of either *Ekiga* or *NetMeeting*. If you use *Ekiga*, you need to make sure you leave the 'H323:' prefix well alone –

Microsoft's *NetMeeting* is bundled with nearly all versions of Windows.

that's there by default, because it's the protocol that both applications use for communication.

user an equal part of the network. This means that part of the burden for the network is taken on by your connection (and every other user of the network), drastically reducing costs for *Skype* and decentralising any weakness or bottleneck between thousands of users.

In use, *Skype* is actually very similar to many other messaging services – *MSN Messenger* in particular. The main window lists your online status, along with any calling credit you may have for the extra services. To use these extra services, you need to subscribe to SkypeOut, which is responsible for

"Making a call with Skype is as easy as selecting your contact and clicking on the big green Call button..."

Skype is a commercial competitor to *Ekiga*, with the emphasis on transparent and easy operation. While it's commercial, it's important to note that you can still use it to call other *Skype* users for free; the only cost involved is for extra services, such as voicemail or calling a physical telephone line. Because of its commercial status, *Skype* is seldom included as part of a typical Linux distribution, and you'll need to download it directly from the main website *(see Howto... Set Up Skype box, below)*.

making the physical connection between the internet and the destination telephone network. Unlike *Ekiga*, there are now millions of *Skype* users, and it can be quite tricky finding the correct people to add to your contact list. You can search the *Skype* equivalent of the telephone directory by either selecting Tools > Search For Skype Users or by clicking on the Add Contact button if you know the registered *Skype* name of your contact.

Once you've populated your contacts list, making a call is as easy as selecting your contact and clicking on the big green Call button. It's worth noting that you can select up to four other people to include in a conference call. At the time of writing, sending a video signal along with voice is in the early testing stages for the Linux version, which makes *Ekiga* the only real option if you or your business need video conferencing capabilities.

VoIP is still in its infancy, but people are picking the technology up quickly. This is especially true when it comes to international calls – the savings can be huge. Hopefully, more users can only bring greater interest, which is obviously going to have a knock-on effect. Only when the number of users reaches a critical mass will we be able to finally dump our dated telephone equipment. ●

HOWTO... SET UP SKYPE

Skype needs to be downloaded from its homepage, and installed on to your system manually. Firstly, download the package for your distribution from **www.skype.com/download/skype/linux**. There are instructions on this page on how to install it once it's downloaded. For RPM files, you need to change to your super-user account and run the *rpm* command:

`$ rpm -Uvh skype-version.rpm`

After this you should find *Skype* listed in your start menu, filed under Internet > Instant Messaging. When you first start *Skype*, you

need to create a user account, which just involves entering your desired username and a password. If the username has already been taken *Skype* offers you a selection of alternatives.

Calls are free between Skype users.