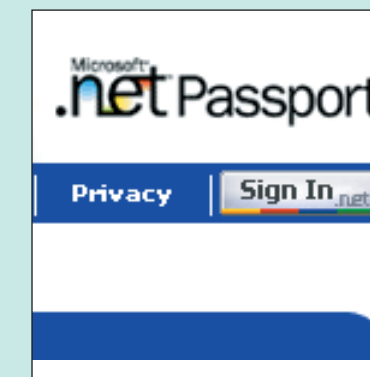# xp workshop

Getting a .Net Passport

1 Before setting up Windows Messenger, you have to register for a .Net Passport. This is a Microsoft internet service that provides a means of identification within many websites, but also enables connections between different people wanting to link for voice or video calls across the internet. Log on to www.passport.com and at the bottom of the screen you will see a link to create a new passport

2 The registration process isn't onerous – just give Microsoft your email address and a password. This information is stored in your .Net Passport and passed to any site that supports the identification system. The idea is that you register just once and then have easy access to any participating site. It's a requirement for setting up Windows Messenger, as it identifies you to the Messenger server

3 Once you've registered, look for the Sign In button, usually on the home page of a participating site. Click on that and your .Net Passport information is transferred to the site so you don't have to undergo a separate logging-in process. It can be quite a handy tool, though as yet there aren't a huge number of UK sites supporting it

Conference call

Add a webcam to your Windows XP-based system and you have all the necessary hardware and software to make video phone calls through your PC. Simon Williams puts a face to the voice with affordable video-conferencing

E ver since Jeff Tracey's image was transmitted from Thunderbird 1 to the lounge wall on Tracey Island, video-conferencing has seemed a good idea.

Making a video phone call (one that includes moving pictures of both people involved) has been possible for a while but, until recently, only over a dedicated phoneline and at the cost of many thousands of pounds. With the current popularity of webcams and the software built into Windows XP, the cost has now dropped to £100 or so. But are the results worth having and how easy is it to set up and use?

What is video-conferencing?

At its simplest level, video-conferencing involves two people, each with desktop PCs or notebooks, webcams and modems. With the right software, one can phone the other and establish a connection between their computers. Each can then pass the video stream from their camera across to the screen of the other PC. This was the first type of video-conferencing to be established and was mainly run by firms on dedicated landlines between sites in one country or internationally. The advantage of this type of connection is that it's relatively high speed and good quality, but it also costs.

Running video calls over the internet is more convenient and a lot easier to set up. The two parties simply log on to the web and establish a connection. It's the same as for making an internet phone call, except it passes video streams as well as audio. The only catch is that both people involved in the call have to be online at the same time – you can't call them up in the conventional way. However, this problem will recede as more and more people switch to always-on connections.

The internet link can be made using a 56Kbps (kilobits per second) dialup modem, but faster and smoother connections can be established with broadband. The main qualitative difference will depend on the number of frames of video available per second.

Anybody with Windows XP can use the new Windows Messenger application to handle a video link, along with the ability to share a whiteboard – like a simple

→ Cameras in Creative's PC-Cam range (there are three models) can be used as webcams and as self-contained digital cameras for still shots

version of Paint – and many other common applications. Messenger even detects when anybody in your contact list is online at the same time you are, so you can request a text, voice or video conversation with them.

What's it like?

With a broadband connection and using Windows Messenger, expect refresh rates of around 15fps (frames per second) at resolutions of up to 320x240. This isn't fast enough to lip-sync and movement may be a bit jerky, but it's much better than on a dialup connection. Indeed, a 56Kbps modem gives you a refresh rate of no more than 1 or 2fps and isn't much more than a series of stills, even at the default Messenger resolution of 176x144. You only have to think of how long it takes to download a picture via a 56K modem to realise that you'll need to keep the picture small to achieve even a moderate frame rate.

With frame-by-frame compression, so only the changes in your image are updated between frames, you'll still be lucky to see a moving picture.

→ A simple webcam is all you need to make a video-conferencing call. Logitech sells a number of different models, like the QuickCam Web

Video links will run at the speed of the slowest connection, so a broadband caller contacting somebody with an analogue modem will only receive video at the dialup frame rate. There's nothing you can do about this as both the video streams have to run through the slow, 56Kbps section of the link.
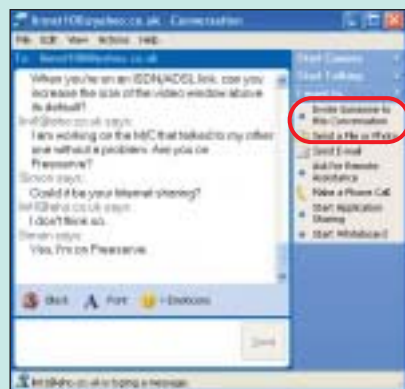
Although the picture in a Windows Messenger-driven video call is small, there are still considerable benefits over a regular phone conversation. Being able to see a caller's face when you're talking to them adds an extra dimension to the conversation. Part of it's practical – you can hold an object under discussion up to the camera or pan the camera round to show where you're calling from – but a bigger part is the extra, intangible information that comes from talking face to face.

We all know how easy it is to be misunderstood when emailing – one reason for the smiley faces of emoticons

ILLUSTRATION: NATALIE WINTER

A first chat through Messenger

1 Call up Windows Messenger by clicking on the small person icon in the Windows XP utility tray. This dialog opens and shows you which of your contacts is available. Trouble is, as you can see, there's little you can do if none of your contacts is online. You'd have to phone them and tell them you want a video chat

2 Once you've found somebody online, you can request a chat with them and a pop-up on their screen shows you want to chat. If they accept, you can start typing messages to each other in real-time. You can add emoticons to your text for extra emphasis or to flag jokes and irony. The next step is speech or video. Just click on Start Camera or Start Talking

3 The first time you start using your camera, Windows XP's Audio and Video Wizard will run, giving you the chance to position the camera for the best picture and to adjust your microphone for good sound. Once that's done, you should be able to see your caller and include an inset of your own picture in the bottom righthand corner
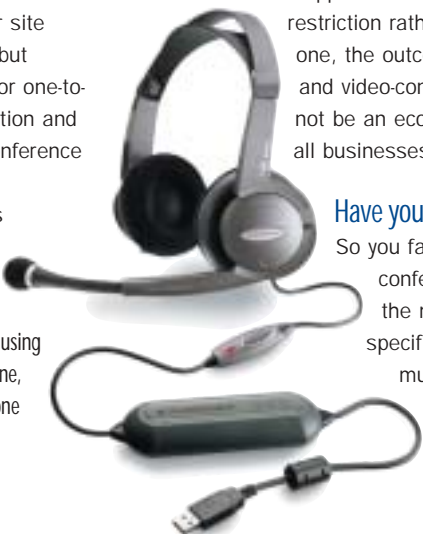
is to help show when you're joking. It's easier with a phone call as you can convey a lot with your tone of voice, but facial expression is still missing. With a video phone call, you get vocal and facial expression – it takes a lot of the guesswork out of telecommunication.

Does it do the business?

With a Windows-based video-conferencing system setup in your home, you can keep in touch with relations in this country or abroad, but is the system also suitable for business use? It depends largely on what you want to do with it. Having a chat with a co-worker in another department or at another site is comparatively simple, but the system is designed for one-to-one personal communication and isn't really suited to a conference call, for instance.

As it stands, Windows Messenger can only

➔ For top sound quality in both directions you're better off using a headset, like this Plantronics one, rather than a separate microphone and speakers

handle video calls between two PCs and, although they can share resources such as whiteboards and pictures, the size of the video window makes it impractical for a group to be able to see the person at the other end of the line.

There's also the problem of firewalls, covered in more detail later on. Simply put, some firewalls don't take kindly to the sort of data traffic involved in video-conferencing. The extra overhead of video streams running through a company network may also make unacceptable demands on the network infrastructure and prove too costly to support. While this is a financial restriction rather than a technical one, the outcome is the same and video-conferencing may not be an economical tool in all businesses.

Have you got what it takes?

So you fancy giving video-conferencing a go? Well, the minimum system specification is pretty much that of a Windows XP-based machine. You'll

need a 500MHz processor, from Celeron or Duron up, 128MB of memory and an SVGA (800x600) monitor. Most PCs bought in the last couple of years should be perfectly capable, though you might have to check the memory complement to make sure.

The two elements that have the biggest effect on the quality of your video are the speed of your internet link and the quality of your camera. We'll consider the webcam in a minute, but first think about your web connection. There are three main possibilities for this: 56Kbps dialup modem, 64-128Kbps ISDN connection or 256Kbps-plus ADSL (asymmetric digital subscriber line) link.

A 56K modem connection will limit your use of video-conferencing considerably as there just isn't the bandwidth to support sufficient frame rates. An ISDN link at 64Kbps will offer a 50 percent improvement over a modem, but this still may not be enough to give workable speeds. Using both ISDN channels together to increase the bitrate to 128K will certainly improve things, but it's when you introduce ADSL speeds of 256K and above that online video really comes into its own.

On camera

The quality of your video is directly related to the camera you use. From the very cheapest devices, which have low resolution and poor lenses, to those which are digital cameras in their own right and can be used away from a PC as well as linked to it by a USB cable, the choice of camera is very important. Video cameras like those from Videologic can double up for security and surveillance purposes, though they have to be linked to a PC by their USB cables. The price is very competitive, though, at well under £100.

For slightly more you can buy a webcam that can take digital stills too. Cameras such as Creative's PC Cam-300 can be disconnected from their USB umbilicals and, fitted with batteries, can take shots independently of the PC to which they're normally attached. With viewfinder and flash lamps, they are capable of capturing reasonable still images, as well as the video required for video-conferencing.

At the top end of the market you can turn digital still cameras into webcams by using the same USB connection required for downloading captured images. Most digicams come supplied with software to use them as video capture devices when linked through a USB port to your PC.

The main difference you'll notice between webcam-only devices and their more expensive counterparts is the quality of image. The resolution increases but, more importantly, better lenses and the CCD (charged couple device) capture more light, making your video pictures brighter and easier to transmit from low-light environments such as a home office. If you can afford it, a £100 Olympus or HP digicam will produce better results than a cheap webcam.

Hitting the wall

If you hit problems with your video-conferencing, check that your firewall isn't causing the difficulty. Firewalls are designed to forestall illicit access to your PC. In other words, they should stop hackers trying to look at your files or place Trojans in your PC. Firewalls include a protocol called NAT (network address translation) which prevents certain connections being established. The kind of traffic that a video link generates can confuse firewalls and make them think such an attack is underway on your PC, so some will try and prevent a connection being established through them.

The Microsoft article *Windows Messenger in Windows XP: Working with Firewalls and Network Address Translation Devices,* available at www.microsoft.com/windowsxp/pro/techinfo/deployment, explains exactly which configurations of firewall will work with Windows Messenger and which won't. If you haven't got any firewall software on your PC, it might make it easier to create a video call with another person, but it leaves your PC vulnerable to attack. Hackers may target your PC directly or, more likely, use it as part of a denial of service attack on another system. Once your firewall is operational you should still be able to establish working video links, though you will have to set some of the parameters manually.

Video-conferencing is a useful tool for communicating over a long distance, but it's still in its infancy. When we all have always-on broadband links and you can make internet calls open-ended, it will become more convenient and popular. ■

NetMeeting: the non-XP alternative

1 If you are using an operating system that predates Windows XP, you can still try video-conferencing using the alternative application NetMeeting. This has most of the same facilities as Windows Messenger and you still have to set up your camera and microphone before starting to use the software. If you have one, use a headset for microphone and earpiece – you'll get better reception

2 In the same way you do with Windows Messenger, you need to build up a list of contacts for your voice or video calls. As long as these contacts have you on their lists too, you should be able to contact them when you're both online. By default, you'll use the Microsoft Internet Directory to find contacts, but this redirects to the .Net Messenger service

3 Once you've established a connection you can use voice, video, whiteboard and shared applications, as with Windows Messenger. Microsoft is actively encouraging people using Windows 9x, NT and 2000 to switch to MSN Messenger for these operating systems, but it doesn't support whiteboard or video-conferencing. It's not clear how long Microsoft will continue to support NetMeeting

Contacts

- Creative **http://uk.europe.creative.com**
- HP **www.hp.co.uk**
- Plantronics **www.plantronics.com**
- Logitech **www.logitech.com**
- Microsoft **www.microsoft.com/uk**
- Olympus **www.olympus.co.uk**
- Videologic **www.videologic.co.uk**