

## Defining telepresence

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# Quocirca Comment

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It would have been difficult to miss one term that hit the videoconferencing market in recent years; 'telepresence'. While there is no doubt that it leads to really impressive demos, one thing is elusive. Just exactly what is the true definition of 'telepresence'?

There is of course a definition on the ever-present [Wikipedia](#). There are marketing definitions involving large, high definition video [screens](#), dedicated networks, multi-dimensional audio microphones, neutral decor and the sound characteristics of rooms. These all come together to create the illusion of either end of the video conversation being in the same room. However ultimately the definition of telepresence for many is 'it's gonna cost you BIG time'!

This might not be a problem for the large and [multi-national](#) organisations that have so far caught the telepresence bug. If you are a hugely profitable (or bailed out) financial institution, splashing out some quarter of a million dollars, pounds or euro per room to add to the telepresence experience might seem like small change.

Given that the users of these telepresence systems are likely to be the more senior executive level staff – mirroring the way videoconferencing as a whole started its journey – then the investment can be justified. If not on productivity and travel savings, then at least on convenience and perhaps some ego massaging.

However the use of video has spread beyond the boardroom, and while 'official' videoconferencing deployments might still be lagging behind some of the industry's hype, the unofficial acceptance and use of video is growing. True, for many this will be a one-way experience of streaming or download, but it encompasses all ages – from YouTube to iPlayer – all networks, and all device families.

One particular family of devices looks set to cause the use of video to explode – [tablets](#). While tablets' little brothers, the smartphones, have not really kicked the video market into life, the emergence of cameras on the larger screens of tablets, which are also lightweight handheld devices with longer battery

lives than most laptops is a tipping point for video. In particular, this will affect the adoption of two-way video communications – no longer perhaps 'video calling', but a way of projecting presence in a more immersive way, and crucially available for the masses of users, not just a fortunate few.

True, unlike an opened laptop screen, a tablet must be held or at least supported, but it can be more casually used to point at other items of interest to the conversation or shared if several people need to be engaged, partly because it feels more like a piece of stationery and partly due to the automatic adjustment of the screen orientation. More people are also likely to have their tablet with them anywhere in the workplace, even when going for a coffee, whereas a laptop despite being portable will often be left on a desk, in many workplaces locked down too.

Is this perhaps a worthy definition of 'telepresence' – informal, mobile and easily accessible form of multimedia interaction? Not quite, there is still something missing, but it is not the huge hi-definition screens, expensive dedicated networks or three-dimensional hi-fidelity audio. These all offer a higher quality experience, which is valuable when provided, but for the sake of cost and ubiquity a lower fidelity experience will often do – as acceptance of telephony and digital music encoding readily shows.

No. The critical element, which to be fair is present in the expensive systems, is the absence of any significant latency, or delay. Communication relies on feedback and the immediacy of response, or lack of it, is glaringly obvious and frustrating as anyone who remembers making international calls via satellite networks will recognise.

Latency in two-way video communications is even more disturbing since visual imagery adds significant data that reinforces and enhances the audible content – if a picture is worth a thousand words, at twenty five frames per second that's over a million words per minute! Visual clues also provide a 'control plane' to the interaction so that people know when it is their turn to talk without saying 'roger', 'over' or 'out'. It is only in low latency visual communications that the participants can suspend the disbelief that

they are not in the same location as each other.

With pervasive networks and a spectrum of suitable devices – desktops, laptops and now tablets – many already capable of ‘high-enough’ definition, the benefits of telepresence need not be seen as something that is only affordable by a few. It starts with low latency, not big screens and big budgets.

For those looking to appear tele-present, it is better to look first to the provision of low latency visual interconnection, and then match the cameras, screens, microphones, networks and office décor to suit the needs of each particular video end point.

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Through researching perceptions, Quocirca uncovers the real hurdles to technology adoption – the personal and political aspects of an organisation's environment and the pressures of the need for demonstrable business value in any implementation. This capability to uncover and report back on the end-user perceptions in the market enables Quocirca to advise on the realities of technology adoption, not the promises.

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