



The Value of PC Based Collaborative Technologies

A White Paper by

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Introduction

With the advent of new videoconferencing and collaborative technology products, a discussion has begun to revolve around the value of a PC architecture.

The proliferation of bandwidth, the flexibility of the Internet protocol, increased PC reliability, the capability for PCs to handle video related tasks, and an awareness of contemporary conferencing requirements, the videoconferencing industry has now changed its tune regarding an open and flexible collaboration platform based on the personal computer. The purpose of this paper is to understand the value of the PC in today's collaborative tools.

Meeting Customer Needs

The strongest message received from long-term videoconferencing users is that the videoconferencing 'talking-heads' experience is not a sufficiently compelling reason to justify installation of videoconferencing equipment in substantially more than a few select conference rooms. Users state that the value in meetings has as much, or more, to do with the information handled in the meetings as it has to do with seeing people. That information might be in the form of PowerPoint presentations, paper handouts, or notes on a whiteboard. While vendors have offered peripheral equipment to meet these applications, users feel these needs are not peripheral to their business, but an integral part of their business. As a result, new videoconferencing systems have been developed embracing the sharing of meeting content as an equal partner with the transmission of audio and video. But why develop these new systems on a PC platform?

The PC Solution

Historically, PCs have been quite lame with respect to handling motion video. It is only in the last couple of years that PC graphics circuitry and CPU processing power has approached the level of sophistication and power to do justice to TV quality images, an evolution that has recently been driven by the emergence of DVD playback on the PC.

The PC is not new to videoconferencing. In 1989, VTEL offered the first PC-based videoconferencing system. In 1993, PictureTel introduced the System 1000, based on a PC architecture. In parallel with the PC's maturing as a motion-video platform, the Web has grown to become an indispensable source of information for business. By merging PC functionality with videoconferencing functionality, and opening the PC to the conference-room use, the rich source of information, and also the resources on a company's local area network, are accessible in the conference room as when sitting at one's desk. The result is a much better integrated solution than simply attaching a PC as an afterthought to a 'talking heads' videoconferencing system.

Web access, access to networked files and databases, and the use of attached devices such as whiteboards connected with a local or networked printer, provide end users with value from the collaboration system, even for single-room, non-video meetings. When a system is designed with all these aspects in mind, use of these valuable meeting tools in video calls is a seamless and natural extension of their everyday use in a regular meeting room. Apart from the sheer value of getting more use out of the equipment, this has the added benefit of acclimatizing users to the equipment in conditions other than during a video call, since for some novice or occasional users a video call may be a 'special event' viewed with some trepidation.

Also, when it is an industry-standard open-PC platform and operating system, the types of files that can be manipulated by the system are not limited to those associated with some restricted set of business applications a vendor might ship with the system. If a customer has specialized business applications, these too can be installed on the collaboration system. Then files associated with these applications can be shared in a fully interactive

manner rather than, for instance, being reduced to electronic 'printout' as may occur when files are saved in an alternate format (such as Adobe Portable Document Format [PDF] or HTML).

Another benefit of an industry-standard platform is that its Web browser can access all available rich-media types, and as new types appear, support for them will be readily available. Proprietary browsers in some products may not be able to view some types of Web content because the plug-in vendors simply don't develop versions for these niche browsers.

The Case For NOT Using A Separate PC

The external PC configuration has several drawbacks which have resulted in it meeting with limited acceptance. First, the PC has its own display, which is in addition to whatever display devices are attached to the videoconferencing system. Many traditional videoconferencing systems support dual monitors where the role of one of the monitors is to display 'video-graphics', a form of still-frame video-based data-sharing. The presence of a standalone PC adds yet another monitor which, to do justice to say a PowerPoint presentation, wants to be presented on a large-screen display or even a projection screen. Yet the same case for large-screen display is equally valid for the content transmitted as video-graphics. A solution using two large screen displays (in addition to a people display), or two LCD projectors in the room would be both unwieldy and costly, not to mention confusing, since in all likelihood only one content screen at a time will be the focus of attention. An alternative solution might involve a switch, to select between the different forms of content for display. In essence that is what exists inside new collaboration systems, but in order to make a sensible determination what to display, the switch needs to be aware of what source of content is the current focus of attention. The *integrated* collaboration system can make the right determination what to display because it is *aware of all content sources* – both local and remote.

It should also be noted that the younger generation grew up with MTV, which developed a new audio and visual language vastly different from the old style traditional language of movies and TV the older generations understand. The new production techniques with screen displays like Bloomberg, CNN, FNN, etc. with multiple videos, graphics, banners and audio displayed simultaneously are quite different from the now boring fades, cuts, and dissolves of just a few years ago.

A second drawback of not having the PC integrated with the videoconferencing system is that in a group environment there will often be no person to drive the personal computer. This is particularly the case when the PC is acting as a receiving device for content sourced remotely. By integrating the two pieces together, a unified user interface can both operate the videoconferencing system and access the PC's data-sharing capabilities. Integration of the two parts also allows the videoconferencing software application to recognize and compensate for the lack of a local 'drive' of the PC when necessary.

Lastly, the standalone PC model suffers from the mindset problem referred to earlier – sharing information is not peripheral to a meeting. Until the PC becomes integral to the solution being offered, its capabilities cannot be relied upon being present at all of the other meeting sites. Additionally, many users find the need to hook up a separate PC and then initiate a call to be a complex and, often annoying, process.

The Conference Room PC versus Individual Laptops

Many people bring a laptop PC to the conference room. These people may already have access to all the files they need, and for those lucky enough to also have wireless access to their local area network while in the conference room, the ability to access remote files and

Web pages may be nothing new. So what does a PC integrated into the collaboration system do for them?

The ability to receive T.120 data in every system provides the guarantee that all other meeting locations will be able to receive and collaborate on applications shared from your laptop via NetMeeting, without the need for at least one participant at every other location to bring a laptop computer to the meeting. Imagine how restricted laptop use would be in regular meetings if it couldn't be used until everyone else in the room had a laptop.

While NetMeeting has found favor with many users, there is also a substantial number of PC-users to whom it is completely foreign. If you need to bring computer data into a meeting the preferred way to do it is to use the method you already know. For many people this method is to bring a laptop to the meeting and attach it to an LCD projector. The VGA capture and transmission capability of new collaboration systems follows this already familiar model.

There are many meeting participants who's work is computer based, yet who do not own a laptop. For these people the built-in PC lets them bring their computer-generated work to the meeting. Additionally, since much of the information needing to be shared comes from PC documents (e.g. Excel spreadsheets, PowerPoint presentations, Word documents) there is little sense in having to convert the information for use in a videoconferencing system. Using a PC platform preserves the integrity of the information and eliminates the need for scan converters.

The goal is not trying to invent new and different ways of sharing data, rather it is letting people's existing familiar behaviors extend naturally to meetings where the participants are not all present locally.

The flexibility and open-architecture of new, standards-based collaboration systems holds the prospect of continuing advances, since it can rapidly adopt the fruits of the PC works, such as handling new rich-media types.

Most people in the work place do not want to be inconvenienced by having to walk down a hall to a conference facility. It's unproductive time to leave your office, be seated, wait for others to arrive, hope a call will go up, pray the PCs, whiteboards, etc. are connected properly, have to deal with the introductions and pleasantries, be concerned with dress codes, put up with late arrivals, etc. Using a PC architecture allows the two dimensions of traditional videoconferencing systems – audio and video – to be added by a third dimension – data, as an integral component to make a well-rounded whole. When you compare three dimensional, integrated products to what was known in the past, the old way of communicating seems flat by comparison. The new group collaboration systems are about making a better conference, not just a better videoconference. The value of the built-in PC functionality can provide dividends both in and out of a call.