



## Changing How People Work: The Time-to-End-User Value

The hardest thing to do, I think, is to get people to change the way they work. The example that always comes to my mind is how many people in businesses today with fax modems in their PCs fax things by loading up the document, printing it, taking it off the printer, walking over to the fax machine and faxing it. I'll bet you that probably 80% of the people that have fax modems still do that because they don't know how to print to fax. It's the same thing just getting someone to understand collaborative computing. For most people in the world the idea that you can collaborate [electronically] with someone is a pretty foreign concept. That's a significant impediment and it's just going to take time.

—Scott Darling, General Manager of Intel's Business Communications Products Operation.

<sup>1</sup> To my knowledge, Carmen Egido, Intel Corporation, is the first to use the phrase “time to end-user value.”

Time management may be the most significant practical challenge to establishing computer-supported collaborative tools. It's not the management of one's own resources or time to market or development time, but “time-to-end-user value”—the time from product conception to the time end-users are deriving real value from it.<sup>1</sup> Interestingly, the time-to-end-user value is primarily under the control of customers and end users, and they probably don't even know it. In my opinion, one major challenge to widespread establishment of computer-supported collaborative tools is the conscious management of the time required to establish end-user value.

Contrary to the ideal, the time-to-end-user value is not instantaneous. Sure, for simple products, such as pet rocks, there is immediate value, but for relatively complex products with high-productivity potential that purport to change the way people work, realizing that value is a collaboration among manufacturers, their representatives, the customer, and the end user. Understanding and establishing these relationships are at least as critical as the technical challenges, if not more so.

For Intel's Business Video Conferencing with ProShare® technology it meant the establishment of a whole product category, and for the new Intel TeamStation System™, it means expanding an already established, albeit niche, market. One of the most significant—and surprising—challenges in the months following the ProShare product launch in 1994 was simply telling people what the product did. Mike Witteman, who was at the launch in 1994 and is now Director of Product Management for Intel's Business Communication Products Operation, puts it this way:

*We thought we'd launch in '94 and that it [ProShare] would be a broadly accepted, horizontal product. We thought just the audio and video communications aspect would be enough. We thought everyone would want one on their desk. Then, quickly in '94 we figured out that we needed to sell specific applications, for exam-*

*ple, loan transactions, kiosks, distance learnings, etc. The only way the customer was going to buy ProShare was if they had an application in mind [i.e., a specific use].*

In fact, desktop video/data conferencing was a new category of product. Regular people in regular jobs in regular companies not only had not heard of it, but had not even really thought about these capabilities before. It takes time not only to understand the product but also to begin to understand how it can be used effectively in their work. To try to shorten the time-to-end-user value, we had to basically tell the customer why this product, with capabilities previously not considered, was valuable. Witteman said the following:

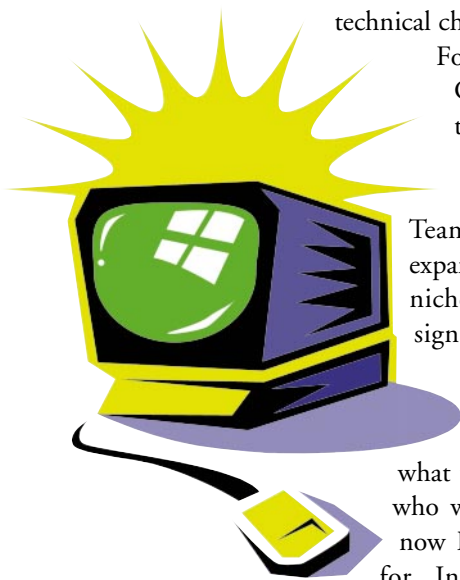
*It was less about customizing the product and more about positioning it. We used literature; we worked with partners to create specific applications with our PDK [product development kit]. It was a category of products that people didn't know they needed, and we had to tell them what they could do with it; we had to describe the value proposition.*

As if the problem were not challenging enough, customers, even if they “saw the light,” simply did not have the budget allocation to make a purchase. It might seem inconsequential, but the budget process in large corporations does not occur spontaneously; that too takes time, especially when one considers the total budget for information technology and the relevant trade-offs within each company. It's more often a slow and ponderous process requiring many people to be “on board.”

Sales targets and projections were commensurate with great expectations, so the PC “value-added resellers” were enlisted to sell and service the product. The trouble was that they didn't know much more about the product than the customers, and it took time to align the resellers with the evolving value proposition of the product. Witteman:

*I worked on training the original channel—broad brushstroke training. There were tours, seminars, etc. It was a very costly, time-consuming effort.*

In fact, it was a huge series of events. Dozens of Intel employees were dispatched to



cities across the nation to present the product and its applications to resellers and customers alike. It was a huge effort that resulted in a large gain in the awareness of desktop video conferencing as a product category.

Finally, and not insignificantly, was the requirement for ISDN. Business customers repeatedly told us they wanted the highest quality transmissions possible with ISDN, but from a business perspective, the telephone companies had to bring their ISDN installation and support capabilities up to speed to support ProShare. The initial mismatch was more time spent aligning products to support the customer.

In short, although the technology was available at a reasonable price point, expectations of resellers, customers, and users and the associated requirements, such as ISDN and budget allocations, needed aligning and are really not under the direct control of the product manufacturer. Overcoming these hurdles through business partnerships, positioning, explanations, seminars, etc., is one of the main and ongoing ingredients to success and is one reason why desktop video conferencing continues to grow as a product category in the marketplace.

There is good reason to believe that there will be a much shorter time-to-end-user value for the Intel TeamStation System™. Scott Darling, General Manager, said this:

*When I'm in Europe, 6000 miles away, and I can be just as productive sitting in a hotel room as at my desk; I can video conference, email, lan connect, surf the Internet, whatever. But back in the office when I walk from my desktop into a conference room, I can't do anything—I have no ethernet connection, I have no Internet connection, I have no email connection, I have no lan connection.*

*I think we are in the business of making people as productive in the conference room as they are at their desks.*

There are several reasons why the time-to-end-user value may be less for TeamStation. First of all, the category already exists, although there is limited penetration compared with the number of existing conference rooms. Second, we know from ethnographic

work that the conference room is indeed a computing and connection desert just as Darling described: There is very limited information technology support in conference rooms compared with that at the desktop. Third, there is already a set of people, audio/video resellers, whose jobs are to sell products for the conference room. Fourth, companies already have human and fiscal resources dedicated to conference rooms. Fifth, as collaborations and hence meetings become increasingly “global,” individuals are looking for better ways than just a telephone bridge to hold their meetings and maintain their collaboration. Steve Hochman, TeamStation Product Manager, said the following:

*People are used to going to conference rooms for meetings. They aren't used to going to their cubes for meetings. You schedule an event and it happens in a room. The video does a better job of engaging people in that event.*

Moreover, it's more than just video that attracts people to room-conferencing systems. The relative ease of sharing presentations and other data in real time is enticing to audio/video professionals and their users. Hochman said the following:

*People are enamored of the idea that they can save time over traveling, and they do. But it's not because they replace travel with the video conference, that's an older view. It's much more a combination of spontaneity combined with trust. 'I've got this issue, can we brainstorm? Let's solve this now.' And their trust, implicit though it is, is higher simply because they can see each other. And it's better than hiding behind speaker phones. Our customers are telling us this after experience with the product.*


Challenges remain, however. First of all, some customers like the return on investment for putting a PC in a conference room. It offers far more potential than a single-purpose device. On the other hand, customers want a highly reliable system for the room that a single-purpose, appliancelike device can offer. The challenge for us is to provide a design and capability that permits either situation depending on the customer.

Another significant challenge is definition of the system design. Even more than with



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ProShare desktop conferencing, the balance between exposing features and providing an incredibly simple-to-use system is phenomenal—especially when one remembers that this is a product that costs money and is not an experiment. Think about it: An executive can use a TV remote control to do everything that he/she wants to do, which is not much as it turns out, but workers want a variety of features to handle the variety of meeting contexts in which they participate; a remote control may not be as useful as a keyboard. To expose too many features is to make the system complex; to expose too few is to render the system less useful.

For example, although windows user interfaces may be sufficient for individual users, conferencing room video and data conferences are simply not documents, certainly not the

type of documents that windows is best suited for. Furthermore, people are used to windows—their windows—on their desktop but not generic windows on large screen in rooms. As one conference room IT professional stated in this context: “When people walk into a conference room, it’s like watching the de-evolution of man [sic].” In the room, people are under pressure to make sure everything works right the first time—after all, everyone’s watching, and they are unfamiliar and thus intimidated by the environment.

In summary, of all the challenges to developing groupware, one very practical challenge is to manage the business actively through the time it takes customers and users to actualize the end-user value. Hochman said, “If they’ve never seen it before, they have to learn. Learning takes time.” ☺