BY IAN GORDON

Rushing For integration GOLD

It's like the Klondike Gold Rush all over again as telecommunications and computer companies vie to capitalize on new media opportunities, such as those offered through Computer Telephony Integration (CTI). Everybody's prospecting, but only those using the best tools, picking the best spots, adopting the right standards and forging appropriate alliances will find that elusive pot of gold at the end of the rainbow.

Several telecommunications equipment companies possess the hardware, software and expertise to provide computer telephony integration solutions, and telcos certainly have the customer and application knowledge, as well as the capability, to do likewise. Nortel (formerly Northern Telecom), AT&T, and Mitel are just a few examples of equipment companies that have identified practical applications of CTI in the workplace and are working to implement their vision in one or both of the two main standards — Telephony Applications Programming Interface (TAPI) and Telephony Services Applications Programming Interface (TSAPI), respectively. Mitel, in particular, has articulated considerable vision in this area.

Many computer companies, such as Compaq, Hewlett Packard and Apple have also begun to respond to client demand for integrated computer and telephone services, primarily by providing telephone-enabled workstations. Software firms, such as Delrina, are also eyeing aspects of CTI. CTI workstations allow clients to receive and respond to multiple voice mails, e-mails and faxes in one step with just one software system. CTI capabilities, such as videoconferencing, information display on incoming calls, automated dialing, and simultaneous voice and data transmission, are also becoming increasingly

Telephone companies could be sitting on a gold mine with computer telephony integration. But can they stake their claim before the computer firms?

common in today's workplace.

Specialized companies are playing key roles in developing computer telephony integration. For example, MediaSoft Telecom, a Montreal-based company, provides development tools to enable computer integrated telephony to be implemented from scratch.

A key issue for suppliers will be whether the vendors of telecom equipment, their telco partners and related channels of distribution provide more compelling solutions and new business value for end users than do computer and software companies and their channels. Nowhere is the convergence challenge clearer than in this sector, where the technology coverage of the telecom companies is now substantially overlapping that of the computer and software firms. In addition, CTI standards are a component of the competitive challenge and alliance formation, as TAPI is being driven largely by "Wintel," Microsoft and Intel, and TSAPI was proposed by Novell and AT&T.

Whether your firm is a potential purchaser of CTI or a vendor historically associated with telecommunications, computers or content, the following suggestions may help you start your quest for success in CTI.

Market acceptance dictates the success of standards and so there may be an advantage if you are a latecomer into the CTI arena, since you may not run some of the same risks as the pioneers. Your challenge, though, remains, that of picking the right standard on which to work or to adopt in your enterprise.

Here are a few emerging standards to keep an eye on:

- TSAPI (Telephony Services Application Programming Interface). Developed by Novell Inc. and AT&T, TSAPI is a server-based API that integrates telephones and computers by using a network server.
- TAPI (Telephony Applications Programming Interface). This is a client-based API developed by Microsoft and Intel designed for applications developers who want to write telephone applications for Windows. It is slated for inclusion in the 1995 release of Windows.
- Geoport. Developed by Apple Computer Inc., this standard is an open communications interface designed to connect any PC, workstation or personal digital assistant to any analog or digital phone line. Apple reports that Geoport should be available from several switch vendors this year.
- MVIP (Multivendor Integration Protocol). This standard enables developers to integrate application boards from different vendors in a single PC and provides an interchassis connection for linking multiple PCs. Natural Microsystems Corp. originated the standards activity, which today is driven by the GO-MVIP organization with over 300 licensees, 50 vendors and 150 board-level products available.
- SCSA (Signal Computing System Architecture). This is another standard that enables developers to integrate application boards from different vendors into a single PC. SCSA was initiated by Dialogic Corp., and is supported by over 180 licensees, with over 50 board-level products announced to date.

Having picked the right standard, the challenge is to learn about the players and their current offerings, which will later help to ensure the right competitive positioning or alliance partners in the context of the standard.

Right now, at least three dozen software developers are writing applications for TSAPI and more than a dozen PBX manufacturers support the standard, including AT&T, Comdial Corp., Mitel Corporation, NEC Corp., Rockwell International, and Rolm/Siemens. Some of these same companies are also producing for the TAPI environment. Both standards are sufficiently well supported that both will likely see market adoption. Microsoft's power on the desktop makes TAPI a likely winner for the stand-alone machine on an individual's desktop. Novell's networking strength and the considerable alliance behind TSAPI may make this the enterprise solution, but Microsoft is obviously no laggard here either.

As the cost of connecting a private branch exchange (PBX) to a file server declines, CTI is becoming a more viable option for many companies. The market demand will likely be several billion dollars annually by the end of the decade (I will not repeat the CTI estimates of others, as the estimates of market demand I have been reading, when totaled for all products, exceed much of the world's GNP!). Market-demand opportunities can be identified in traditional ways, such as by industry sector, size of firm and application, and as computer-intensive, communications-intensive and customer-relationship-intensive. Whatever market holes are being pursued, business may first assess how customers may want to use CTI, and how they are currently employing embryonic versions.

For example, at the pizza chain Pizza Pizza, CTI is used not only for order management, but in other ways, including customer relationship management. Nowadays, when a customer calls Pizza Pizza, the customer's name, telephone number, home address, favorite pizza toppings and the customer's entire account history flash on a sales agent's computer screen before the agent even takes the customer's call. When the agent picks up the line, he can now greet the customer by name, and avoid wasting time asking the customer such basic information as address,

telephone number and the last time they called. All that information is already right at the agent's fingertips, leaving the agent free to concentrate on the transaction and move to the next one. That's better customer service, and enhanced productivity, and it's just one example of how CTI is changing the way companies do business.

Mitel talks of the potential for intelligence with CTI: how a stockbroker, for example, while on-line to a low-priority client, could be alerted on the screen that Mr. Big is waiting on the other line. Systems of this type can thus enable not only better productivity, but increased revenues, as well.

Along with digital convergence come new competitors. Not only in CTI, but more generally, communications equipment manufacturers find they are in the computing business, entertainment companies must compete with content providers, and vendors of consumer electronics games must be concerned about CATV companies providing similar services.

Competition in the age of New Media will increasingly be for access — access to the distribution channel and access to businesses, institutions and consumers. Clearly, already there are multiple points of access for potentially equivalent services and so the competitive challenge already is there for companies in the CATV industry, as cables and wires of various types, and cellular and satellite compete for transmission opportunities.

For CTI firms, distribution channels will be a key competitive battleground, as the systems integrators, telcos and telecom dealers will be competing to work on the customer's desktop and network, and the equipment vendors will be working with all three types and independently going direct to market with their solution. The more highly packaged the CTI solution for implementation for the intermediary, including parameterization, configuration, data conversion and internetworking, and the easier it is to use for the end user, the more likely the solution will be widely adopted. Companies focused on highly customized solutions may find their market adoption depends on motivating a cadre of independent zealots, a significant challenge.

Canada is blessed with tremendous development of its telecommunications industry, relative to the size of our economy. The potential exists for domestic and international firms to lever this industry development to research, develop and implement tests in Canada, not unlike the tests for information highway applications, which lever our telecom's industry.

For equipment companies, not only is Canada a great place to do CTI business, but it also serves as a springboard into the U.S. For users, here is an opportunity to test solutions for subsequent roll-out in the multinational enterprise, or to define CTI needs that can provide improved productivity, relationships, financial performance and competitive advantage. **CT**

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