

CTI

COSTLY, BUT WORTH IT

The many benefits of CTI technology aren't always quantifiable

Proven techniques to set up a CTI-enabled call center

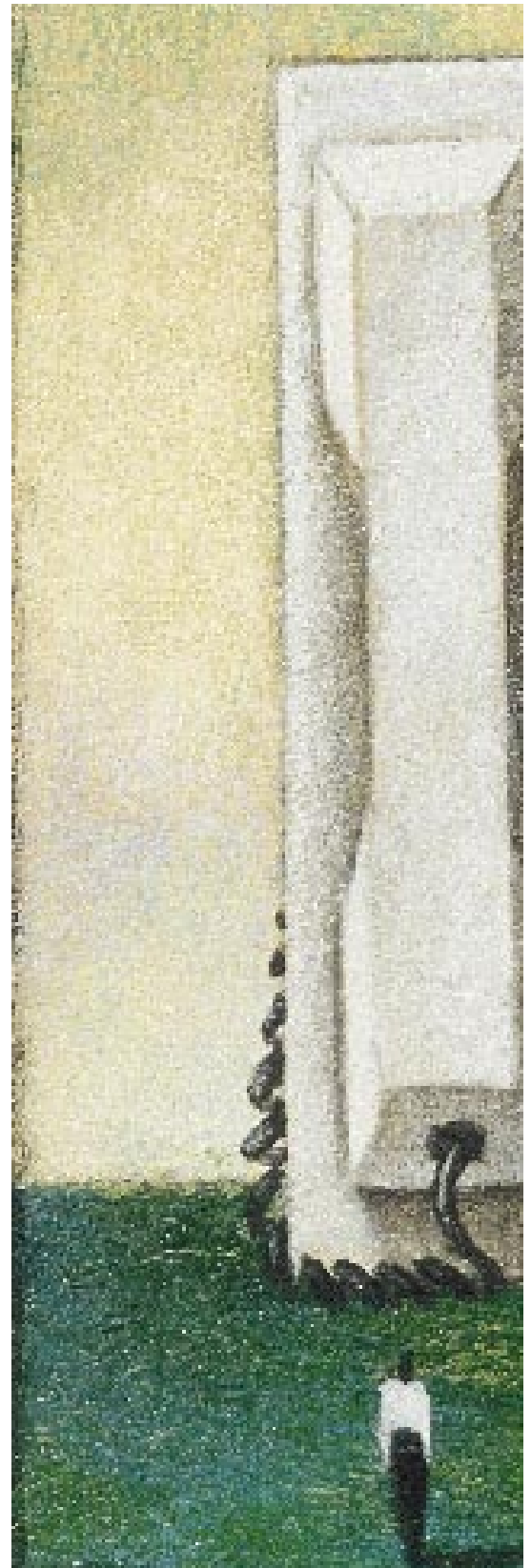
■ **By John Reynolds and Anthony Kascak**

Teaming telephones with computers and databases, or computer-telephony integration (CTI), is already common in call centers in such industries as banking and health care. But catalog call centers have been slow to adopt the technology because of its high cost and the complexity of its implementation.

Ironically, CTI is perhaps best suited to mail order operations. Through on-screen display of complete customer information, CTI allows personalized, one-to-one transactions with shoppers—a boon to catalog marketers, for whom the call center is typically the only vehicle for building profitable, long-lasting customer relationships. With the detailed knowledge of the customer that CTI affords, catalog firms can maintain these relationships effectively and maximize customer lifetime value. Business-to-business and consumer catalogers alike recognize the gains in service that this

powerful technology allows (see sidebar on page 28).

A CTI-enabled call center can improve customer retention, sales, and inventory management, as well as result in more efficient mailings and lower call center costs per sale. But the sheer num-





ber and variety of components that need to be made to work together—telephone systems, computer applications, networks, databases, and people—make for a demanding management challenge. Then there's the question of cost. While CTI's payoff is considerable, the price of

even a basic setup can often run into the hundreds of thousands of dollars.

Still, it's possible to justify the investment and implement CTI successfully if you think through the entire project—on paper and ahead of time. Your first step should be to put together

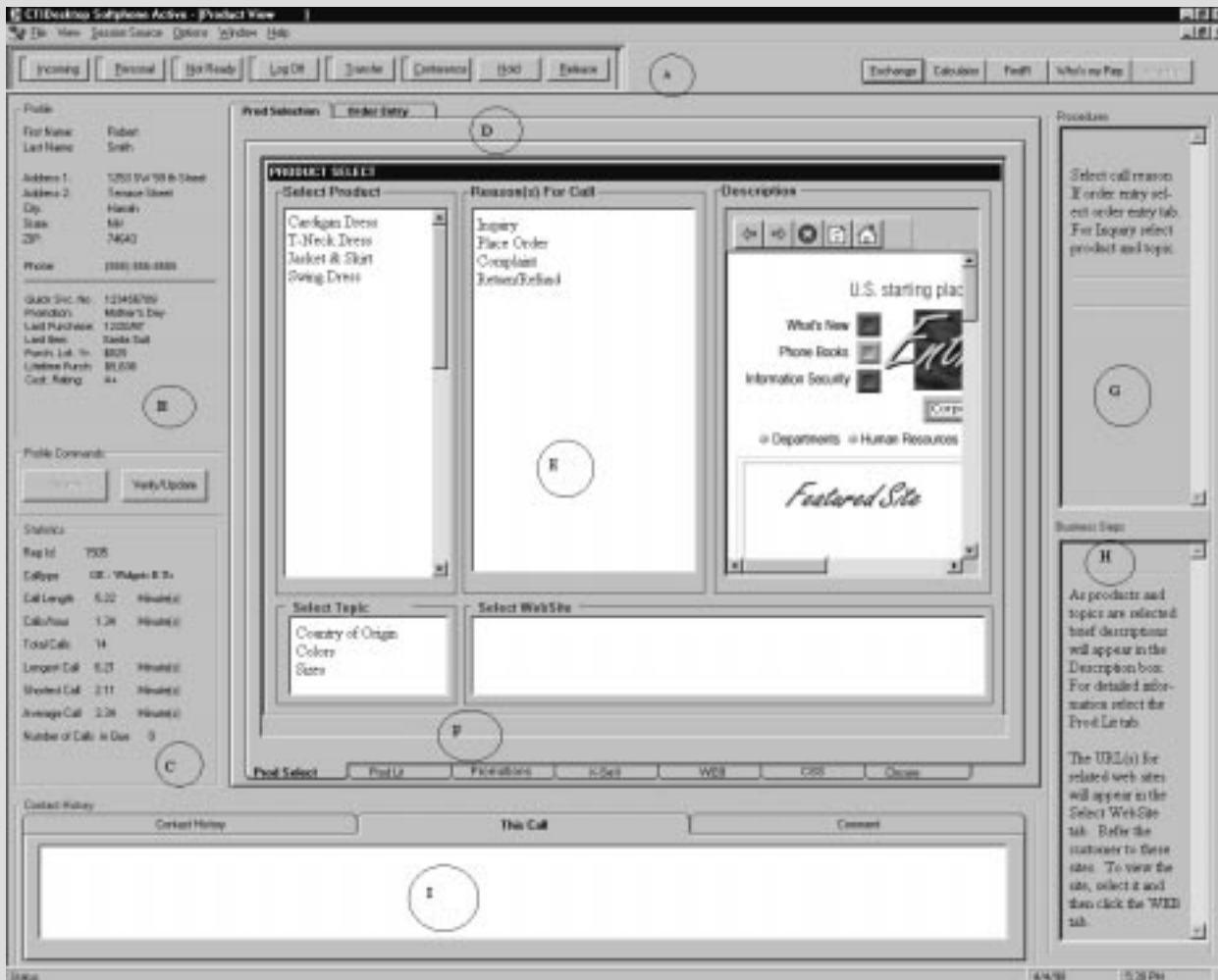
a business plan that demonstrates the technology's benefits:

Effective use of segmentation.

Not all customers have equal value to your company. CTI can be used to ensure that high-value customers are routed to the most experienced agents

Illustration by Greg Hally/SIS

What a CTI-Enabled Screen Looks Like



Here's an example of a screen display in a call center with CTI capabilities. A: Basic telephone control functions. B: Customer information, including purchasing history. C: Call statistics. D: Tab defining business process or transaction. E: Displays the application embedded in the active step tab. F: Tabs defining the steps in the active process. G: Process instructions, presented here through a Web browser. H: Instructions for using the active application. I: Session history display.—JR/AK

or that customers who are most likely to make a purchase receive the highest priority. Similarly, customers with low profitability potential can be routed to lower-cost resources.

The possibilities in this area are nearly endless. In its simplest form, CTI software takes information (such as the caller's phone number or an identification number requested by an interactive voice response system) from a phone network and plugs it into a computer. The computer then identifies the caller and routes the call accordingly. For instance, if the customer's file says that French is the caller's preferred lan-

guage, CTI can hook up the caller with a French-speaking rep. Or it can switch a caller to an agent with whom the customer has previously done business. Or it can send a high-volume customer to the front of the queue. For example, a seller of plants and seeds could match high-value customers known to be rose fanciers with agents who have received special training in the care of roses.

Customized service. Customers are measurably better served when they are uniquely recognized and can get effortlessly to the right resource on their own terms. The CTI-enabled call center can draw on caller data from anywhere in

the organization as the basis for access to service (see sample screen display above). For instance, a seemingly insignificant caller may represent a division of a much larger company currently considering a major purchase from your catalog. Do you now have any way of knowing that this person deserves the red carpet instead of music on hold? CTI features such as priority queuing, screen pop, and synchronized call-screen transfer can enable you to take better care of this special customer.

More productive staff. CTI-based tools empower your staff to do more meaningful work with less effort. This

has significant psychological benefits for agents, as it reduces the time spent on customer transactions and improves their accuracy.

Access to information. CTI makes available key customer information that enables sales and support staff to exploit opportunities. Call center agents can see on their computer screens the caller's previous and planned purchases, merchandise preferences, account information, and just about everything else needed to interact with the customer on a personal level.

The technology also provides an unprecedented, integrated picture of call center activities. Not just a "traffic cop" but also a universal information clearinghouse, the CTI application tracks all data associated with a call, combining events in the ACD, IVR, agent workstation, and enterprise applications into a comprehensive, real-time historical report.

THE PRICE IS RIGHT

The crucial part of your business plan will be justifying the cost of CTI, so ensure that you spend enough time and effort on this section. Senior management usually looks for costs avoided or revenue generated, so if you can demonstrate a significant return on investment, you'll gain top-level support for implementing the technology.

A good rule of thumb: Assuming your infrastructure is otherwise up to date, figure on spending \$100,000–\$250,000 per center plus \$2,000–\$5,000 per seat for a basic client-server CTI setup—data-driven routing, screen pop, soft phone (on-screen display of telephone functions), Web integration, reporting, application development tools, and custom system integration (see sidebar on page 24).

Despite these relatively high start-up costs, properly implemented CTI projects should earn back their original outlay in well under 18 months. While this configuration and estimated returns apply to centers with 30 agents or more, the smallest call centers can benefit from CTI as well. Those smaller than, say, 20 agents may want to consider client-based

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What Is Computer-Telephony Integration?

In the broadest sense, CTI is technology that lends computer intelligence and processing power to the business of making, taking, and monitoring phone calls. A telephone device (network, switch, or phone) is directly integrated with an external computer application to coordinate and enhance call handling.

Standards, most often in the form of published computer-to-PBX application programming interfaces (APIs), afford a common language that enables systems as divergent as computer networks and telephone switches to communicate closely, in real time. Switch-to-LAN-based computer standards include the CSTA (Computer Supported Telephony Applications) specifications, TSAPI (Telephony Services API), and JTAPI (Java Telephony API). PC-based standards include TAPI (Windows 95) and XTL (Sun's "teleservices" architecture and foundation library for Solaris). The ECTF (Enterprise Computer Telephony Forum) has developed specifications for defining interoperability among various computer-telephony and CTI applications.

THE DIFFERENCE BETWEEN CT AND CTI If CTI has to do with making computers talk to telephones, computer telephony is about computer-based, telephone-related applications. Thus, your automated attendant, interactive voice response (IVR) unit, or predictive dialer are computer-telephony platforms. With its on-board computer processing capability, your automatic call distributor (ACD) is also arguably a computer-telephony platform. Computer-telephony platforms closely interact with CTI applications in most call centers.

Computer-telephony applications include media processing, such as voice, fax, and e-mail messaging; interactive voice response; and automated fax, such as fax on demand.

Automatic speech recognition translates the spoken word into

computer-readable data. Text-to-speech technology generates synthetic speech from text-based files. It could be used, for instance, to allow callers to receive a spoken update on an ongoing sale.

The concept of call control is central to CTI. First-party call control refers to those features normally accessible from an individual telephone set. Thus, a first-party CTI application would run on an agent's (client) PC, a telephone set surrogate providing point-and-click, drag-and-drop functions such as answering, transferring, and holding. Third-party call control refers to an application that is not a party to the call (e.g., a network server) that communicates directly with a telephone PBX or ACD.

Since a third-party CTI application resides on your local area network, its potential strategic value to your call center is considerable. That's because, instead of being limited to predefined, static ACD algorithms to route calls, it can route each call by incorporating company-wide information, like product configuration, customer demographics, lifetime value, service access preference, and agent qualifications. It can also query a database and "pop" the appropriate screen(s) to the person receiving the call.

Most first-party screen pop applications use incoming call data from automated number identification (ANI) or IVR input to drive the keystroke sequence that pulls up the usual initial screen. While it automates database access, this approach is limiting because the information used to pop the screen—usually caller identification or case number—is insufficient to support truly personalized service. In general, the earlier you can capture and use information to route the call, the better. Call control functions can and do reside in the public switched telephone network, LAN, and/or desktop.—JR/AK

Use CTI to ensure that high-value customers are routed to the most experienced agents

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(as opposed to server-based) soft phones and first-party screen pop applications.

To spell out your particular case in hard numbers, use financial performance measures such as the following:

- *Payback period*—This is simply

the amount of time it will take to recover the original investment from cost savings or revenues generated. Thus, a \$250,000 investment that returns a \$200,000 annual net savings has a payback of 15 months.

- *Return on investment (ROI)*—Calculate the annual percentage return

on your investment. The above project would have an ROI of 80%.

- *Net present value (NPV)*—This equals the sum of income (savings/revenue) and outflow (acquisition cost/upkeep) over the life of the project, converted to current dollars. Although infrequently used, NPV is more useful than payback or ROI in that it captures, in a single number, the relative size of the investment as well as its overall performance (savings/revenues generated over time).

- *Margin leverage*—This formula measures the additional profit generated by additional expenditures on a particular activity. It is net contribution (profit before fixed overhead and taxes) divided by annual support expenditures (labor + telecom + annualized equipment cost). It provides a way to prioritize projects in terms of impact on profitability.

Lower costs come from offloading lower-value tasks to less costly resources—or eliminating them altogether. Depending on the dynamics of your call center, your biggest CTI-based cost-saving opportunities will be through such features as synchronized call-screen transfer (reduces handoff inefficiencies); soft phone (consolidates information and control on the agent's screen); Web-integrated features, such as "call-me" and shadowing (offloads routine tasks); simplifying and streamlining resulting from a well-planned implementation (reduces training expenses); and reporting (allows more efficient use of resources).

PUTTING CTI TO WORK

Implementation should start early, with a prototype, since that's the best way to learn what works and what doesn't. The prototype is a working CTI system model that will let you test the business rules, work flow, application logic, data integrity and physical connections that underlie all the communications. Invite failure: Test vigorously for what you don't want to have happen. (Do callers have an easy "out" to a live operator at every point in the call flow, or are they prisoners of your system?) Next, set up a pilot program—a working

model of your solution that can be tested in a low-risk, controlled environment with real users. Employees are good pilot participants, as are selected customers and suppliers. Test, adjust, and test some more. Allow one month of testing for each month of development. When you're ready, roll it out. And continue to test; you'll find that improvement opportunities are endless.

But don't tackle everything at once; it's essential that you select for your initial project one that is easy to implement and can show a quick, tangible return. For example, a fax-on-demand system set up for 24-hour self-retrieval of documents is easy to set up, relatively inexpensive, and can return your initial investment in a matter of weeks, based on agent time saved.

BUILDING OR BUYING?

There are several implementation alternatives you should consider: build, buy, or rent. Building makes sense only if you already have most of the pieces in place. The "building" part applies mainly to integrating the pieces—ACD, CTI server, IVR, databases, LANs, applications, and so forth.

If you choose to buy, consider contracting an experienced system integrator who has the resources and experience to assume full accountability for the entire project, from concept to delivery. The right partner will help you realize the full project benefits, quickly and at a predetermined cost, and you'll have a single source to turn to when something goes wrong.

A good number of the capabilities you need can also be outsourced (or leased or rented). You "rent" telephone trunks and toll-free services such as ANI from the public network, for example. Many of the other capabilities you may need, like IVR or call routing, can be rented from your long-distance company. You can even rent a whole call center; there are literally hundreds of companies to which you might outsource your first-level support, for example. As for equipment, most of it can be leased.

If the first key to problem-solving is

precise problem definition, the second is knowing your tools. Most failed CTI implementations can be traced to poor planning and preparation.

One common mistake results from failing to first examine processes for relevance and effectiveness. Don't view CTI as an end in itself. Linking your phone systems and computers is just the beginning. The technology's real value comes from developing underlying resource relationships, business rules, and databases. In making screen pop the

sole focus of a CTI project, a high-tech product cataloger missed far bigger opportunities. In the end, its \$200,000 investment bought it a 20-second saving on relatively few 20-minute calls. The company would have realized far higher strategic value by using CTI to build customer loyalty and competitiveness through relationship routing and cradle-to-grave reporting.

Another caveat: Don't let technicians manage your project. CTI is a tool

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Catalogers Discuss CTI's Pros and Cons

The concept of CTI interests catalogers, but many are reluctant to take the plunge. Most acknowledge CTI's potential for improving customer service, and catalog companies that have researched the technology may consider using it—but not just yet.

Part of the industry's reluctance to invest in CTI stems from the significant costs associated with implementation: hundreds of thousands of dollars for call centers of 100+ agents. And CTI requires applications to render the server usable. "You have to invest in those as well," points out Paul LaValley, director of information systems for telephone productivity tools cataloger Hello Direct, which currently uses interactive voice response (IVR) and is reviewing CTI. "CTI picks up where IVR leaves off," says LaValley, because it "ties call information with transaction information."

Clothing and gifts cataloger Norm Thompson Outfitters doesn't use CTI, "but I can definitely see us heading in that direction in the future," says vice president of operations Rob Glockner. "When you compare the cost of CTI to that of expanding or using a remote call center, it is justifiable. And we spend a lot of time getting the customer's source code and ID number, so I can see the time savings as being a great benefit."

It certainly was for one women's intimate apparel catalog company, which justified CTI implementation costs on the expectation that it would reduce call-handling time significantly, according to a project manager. Handling time has in fact decreased by 10–15 seconds per call, and the cataloger is now projecting payback for the system within two years of implementation. However, since few of its customers call from home, the company opted not to use

automatic number identification (ANI), which makes service even faster and easier. "A lot of our customers call from their offices, so it's more convenient for them to key in their own phone numbers," says the project manager. But the greatest benefit of implementing CTI, he adds, "is better customer service overall."

Other catalogers have reviewed the options and decided against CTI. A case in point is home and garden products cataloger Plow & Hearth. Tom Freshwater, director of customer satisfaction, says, "There are other things that take priority for us—we haven't gotten anywhere near the excitement stage about using CTI." And as Freshwater points out, CTI loses some of its advantage when customers call from different locations on different occasions, since ANI identifies callers by their phone number. For that reason, "I always considered it a better b-to-b application," says Freshwater.

Freshwater's remark reflects a widespread perception that CTI is more appropriate for business-to-business catalogs because they have a high proportion of repeat purchasers calling from the same location. Hello Direct's LaValley agrees. "We're doing a lot more b-to-b, which is one of the reasons we're considering putting CTI in place," he says. Barbara Piepenbrink, director of sales and customer service for work clothing catalog WearGuard, cites industry speculation that ANI hit rates (the number of times the system identifies a specific phone number) are low for b-to-b. Still, WearGuard is investigating CTI. "The capacity to route the caller to a specific rep can enable you to provide much better service," Piepenbrink says. In her view, reduced talk time and the rep's ability to provide more order information to the customer are key CTI benefits.—*Barbara Arnn*

Building CTI systems makes sense only if you already have most of the pieces in place

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for solving business problems. And for all the knowledge technicians have about technology, if they don't understand how those tools can be used to forge meaningful relationships, their projects will fail. (We've all suffered through botched IVR menus.) Get customers and company stakeholders involved in the design process, and insist that senior management monitor a few support calls each week. Pick a generalist project leader who is comfortable with both your business environment and the technologies.

It's also important that you not forget to publicize your CTI project. Keep all interested parties informed and involved. Provide regular project status updates via memos, meetings, or other appropriate

means, with reminders of how the project will meet corporate and departmental needs. Create ownership by relating your initiative to things that are already "owned," like corporate objectives, departmental goals, and organizational values. Spread credit around; get project team members and other stakeholders involved in the presentation to executives of jointly created material.

WHY RISK IT?

Keep your technology knowledge up to date. If you don't know your tools, you can't possibly use them effectively. Throughout the process, familiarize yourself with the capabilities of all available support technology. Take advantage of seminars, conferences, peers, vendors, consultants, and trade publications.

Your call center is a strategic business asset that can drive significant growth and profitability. CTI is an essential, powerful tool for realizing that value. The potential rewards of CTI implementations are great, but the risks don't have to be. Be clear about what you want to do, know your resources, and test and improve your setup constantly. Stick with your business plan and get good help, and you'll go a long way toward enhancing the long-term value of your call center, to your customers and to your company. ■

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