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American Institute of Certified Public Accountants. Information Technology Section

Just-in-time Information

By Dermot McCutcheon

Dermot McCutcheon is a general manager with Dun & Bradstreet software in Chatswood, NSW, Australia. In this article, he explains how client/server computing can move paperwork around an organization more quickly. This article appeared in the winter 1994 issue of *IT Chapter News* and was reprinted with the permission of the Institute of Chartered Accountants in Australia.

The majority of the financial management systems available today serve as a very accurate scorecard, tracking the historical performance of the business rather than being a proactive means for managing the business on a day-to-day basis. However, with the advent of a new technology known as "workflow automation," this situation is likely to change.

The rapid adoption of client/server computing is creating the infrastructure to support automated workflow. System users are now being linked via a local area network (LAN) so that they can communicate freely. The client is now ordinarily a powerful personal computer with *Windows* as the user interface, making the system accessible to even the least computer-literate user. In this environment, most "users"

are on-line and can thus benefit from the introduction of automated workflow into their systems environment.

Workflow automation was defined by Forrester Research as "automating the transfer of information to support the flow of work." This is a somewhat wordy definition. I prefer the definition "just-in-time (JIT) information." JIT information prompts one to think of just-in-time inventory in a manufacturing sense where a worker, when he or she needs to execute a particular task, has immediate access to the materials and tools to complete that task—no more, no less. In the same way, JIT information can be applied to a business process.

Studies have shown that clerical workers spend up to 70 percent of their time looking for information. Think how much more efficient our businesses could become if we could do away with that redundant time. By the same token, research shows that on average, it takes at least one day for a document to move from one desk to another, even within the same building.

Case Study
If an accounts payable clerk enters an invoice into the computer system, it may need approval by a manager. An automated workflow application would immediately direct a message to the appropriate manager which would appear in his or her ToDo list on

screen. Simply by being activated by a double click of the mouse on that message (in a *Windows* environment), the application will retrieve from the database the specific invoice that needs to be approved and present it to the manager on-line.

This way, not only is information driven through the organization more efficiently, but managers are more accountable and cannot indiscriminately claim, "It was lost in the mail!"

The Benefits
The key to workflow automation is that it is event-driven. An event can be any task that a worker executes; such as receiving an order, checking credit, processing an invoice, or generating a report. For the flow of work to continue through the organization, a "next step"—whatever that may be—must be triggered.

When a worker initiates an event, the automated workflow system knows what the next step in the business process is and who is accountable for that next step in the

workflow chain.

A side benefit of automated workflow applications is their role in the process of re-engineering business process flows. Business Process Re-engineering (BPR) allows a company to optimize the workflow within its business to support its core business function. Workflow automation can significantly improve the efficiency of any workflow and thus substantially increase the benefits to be gained from BPR.

Conclusion

The bottom line is that workflow automation helps reduce or eliminate activities that merely add costs rather than value. The technology to achieve this, while it may not exist in your current applications, is available on the market today.

How much more efficient could you be if your financial management system delivered information to your desktop "just-in-time?"   **IT**

Available To IT Members

The AICPA Information Technology Division has announced the release of its latest technology bulletin, *Client/Server Computing and Cooperative Processing.*

This Technology Bulletin is designed to give members an overview of client/server computing, including the applications, benefits, and pitfalls. In addition, it contains a glossary of pertinent definitions.

Section members will automatically receive a gratis copy. Additional copies of this Bulletin are available through the AICPA Order Department by calling 1-800-TO-AICPA. (Product No.# 043006 $17.00.)

Personal Information Managers— An Overview (Part Two)

By Janis R. Monroe, CPA, and Richard Oppenheim, CPA

Janis R. Monroe is president and founder of MicroMash in Englewood, Colorado, and is a member of the AICPA Information Technology Research Subcommittee. Richard Oppenheim is an independent consultant in Thornwood, New York, and a frequent speaker on the subject of business information and computer technology use. In Part Two of this article (included here), the authors discuss some of the popular personal information manager (PIM) products available. Part One was published in the summer '94 issue.

Products

As this never-ending topic can fill volumes, the following descriptions provide only a brief overview of representative products in a number of personal information management categories. No short description of any single product can answer all of your questions; rather, the intent is to provide some awareness of features and products that you should consider.

Pick the product that fits your needs—a phone list, a calendar, an outline, or all of the above. What matters is to use the right product to fit your needs. It goes without saying that you don't use a sledgehammer to hang a picture on the wall, nor a flyswatter to stop an elephant! If you think your needs will be met by more advanced (i.e., higher-priced) programs, but you are unsure of volume, start with one of the "low-fat" versions to see whether the format and presentation fit your operating style. The products discussed here are quality software with good technical support. As mentioned before, there are other products within this category that are also worthy of your consideration.

Set priorities for how you are going to rely on a given software product as a personal productivity tool. If you are selling and need contact support, then your information needs more frequent updating. If you want to maintain a personal birthday list, consider word processing or spreadsheets. If you are just replacing your paper files, start small and work up. Do take the time to study and learn the product you are going to use, as there will be updated versions in the years ahead that might add some potentially useful features. Any of these products, either alone or in a combination, can help you be more productive and more profitable. Computer novices take note: Information management is a great way to start becoming a more proficient user.

Contact Managers
ECCO. This PIM combines a spreadsheet style with an outline format. Spreadsheets present data in a series of rows and columns. Each column is eas-

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ily customizable, with regard to width, content, location—and can be used for text, numbers, checkmarks, or dates. The formatting is easy to learn and for the most part intuitive. The Outline metaphor allows a volume of information to be entered as subheadings and sub-subheadings (indented paragraphs) under each topic or row. This method is used for information storage, calendars, and a phone list providing a consistent method of data management and presentation. Subtopics can be collapsed or expanded based on whether you need to see only the summary or require more detail.

Calendaring is available in a daily, weekly, or monthly format—you can switch quickly to whatever style is needed. A nice feature is that entries can be easily made in any of the formats. The printing options range from 8 ½ x 11 full-size pages to any of the popular daily diary formats. It does take some exploration and practice to make sure all the information is printed the way you want it. *ToDos* are entered in the calendar form as part of a "Tickler" folder. The outlining conventions apply here also. Importing information is a breeze, as ECCO pro-

vides a simple translation table from the first record entered and allows you to go through the import steps one record at a time or to accept the format and automatically import all records. After setting up the translate table, importing 472 records was completed in less than a minute.

Moving between the phone list, calendar, and outlines is a simple task with a button bar that is also customizable. A very nice feature is the "Shooter" that allows you to take information from any folder and move it to another active *Windows* program. Thus, names and addresses can be transferred to your word processor.

ECCO requires *Windows* and has two program sizes depending on your needs, the $395 Professional, and the $149 Simplicity version. All file formats are compatible, so you can start small and move up. Using ECCO requires some time spent in the learning process. Outlining is straightforward, but the appropriate use of columns within folders takes practice. If you have the patience, the result will be well worth the time investment.

GoldMine. A classic contact manager that has all the bells and a

lot of the whistles to track your clients, customers, friends, and a few other things. The program focuses on when, where, what was finished, or what is yet to be done. You enter telephone calls, today's letters, and other notes. The system requests a date for follow-up along with its type—call, letter, meeting, etc., all selectable by you from a list that you create. You enter the date for the next contact, and GoldMine provides very useful tracking of the information by category. The date reminders show next call, next appointment, next letter, whatever combination of events that needs to be done. In addition, you can attach an extensive note file to retain other information about your contacts, customers, or clients. There is a powerful report writer to be used to extract all or some information in any sequence, on screen, to the printer, or to a file. Selecting the fields and columns where they should print is easily done. All reports can be previewed prior to printing. The system has its own vanilla word processor but can link directly to other programs and export information such as an address or an entire letter.

With a *daytimer* style, GoldMine provides information about every contact with your client, customer, or friend. It really does help when you can not remember Aunt Mildred's favorite things. Finding any name is easy with a full text search feature, selected by last name, first name, company, etc. The pop-up submenus help move you through the search and updating options. Depending on your business needs, you can add topics such as audit meeting, tax summary, and business planning as part of the follow-up listings. In addition, there are filters that can be used to select only some of the records for viewing and/or printing, such as only those people who live in a certain place. These filters can be saved and used again or modified to add new filters. Specific indexable key word descriptions, such as standard industry codes (SIC), can be added to allow rapid retrieval of names of com-
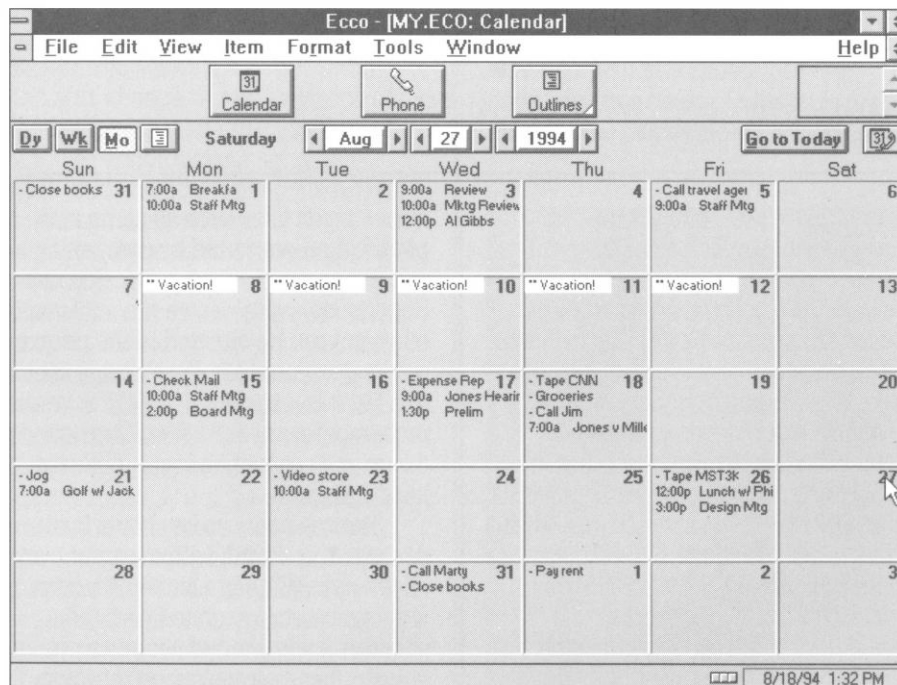
Courtesy of Arabesque Software

panies from one or a range of industries. Notes can be attached to any name in a free-form text. The program is simple to access and use because of the easy-to-follow, cascading, pop-down menu windows that guide even the occasional user to quickly obtain useful results.

data in the DOS and *Windows* version will be compatible.

ACT. One of the original contact managers, this *Windows* version sticks to its roots by focusing on each name record in your file to set up and maintain your schedule. ACT's contact manager starts with the phone list—

cel the alarm or to clear the event as completed or rescheduled.

The information shown on the screen can be one of several different views based on how much or how little information you want to show or emphasize. The layout is easily selectable and the change is immediate. For

Product	Vendor	Telephone	Type	Learning Curve	List Price	Other Pricing	Price Note
ACT	Symantec	408-253-9600	Contact Manager	Moderate	$395.00		
askSam	askSam Systems	800-800-1997	DataBase	Practice	$395.00		
Business Card Reader	Cognitive Technology	415-925-2323	Utility	Easy	$99.00		
Commence Full Edition/StartUp	Jensen-Jones, Inc	800-688-7080	Contact Manager	Practice	$395.00	$49.95	Entry Level
ECCO Professional/Simplicity	Arabesque Software	206-869-9600	Information	Practice	$395.00	$149.00	EntryLevel
File Runner	MBS Technologies	412-941-9076	Utility	Easy	$99.95		
GoldMine	Elan Software	310-454-6800	Contact Manager	Moderate	$295.00	$895.00	5-User Pack
InfoSelect	MicroLogic	800-342-5930	Information	Moderate	$149.95		
LapLink V	Traveling Software	206-483-8088	Utility	Easy	$99.00	$129.00	CommWorks
SmartSync	Nomadic Systems	415-335-4310	Utility	Easy	$169.95		

All the information shown on the screen can be customized and changed to a format that fits your needs. Importing and exporting of data is table-driven and very easy to do. Labels can be created for all records in the file or just some subset based on a filter you establish. Dates and follow-up information are summarized for display purposes, and notes of any length can be attached to the records. An icon on the screen indicates additional information for this contact. The *Windows* version is due out shortly. All of the easily accessible features will be available in a flexible and customizable *Windows* environment. The stored

names, addresses, phone numbers, and 15 user-specified fields that you define. Appointments, meetings, *ToDos*—all trigger from the name record. You search for specific matches on name or company or scroll through the entire file one group or one record at a time. After locating the name, you enter schedule information in pop-up windows for meetings, telephone calls, or other notes that are associated with this contact. Once the schedule information is entered, fields on the screen display date and time for the event. Reminder alarms can be set to alert you before events or meetings. The alarm window forces an entry to can-

even simpler lists, such as name and phone numbers sorted by company and name, simply press a function key. Reports are available in a range of varieties and can be directed to the printer or to a document file. If a report is sent to a file, it is transferred to ACT's word processor for any further editing you desire such as font changes, different headings, etc.

The calendar can be shown by the day, week, or month with events shown on the day. ACT has a limited-function word processor integrated with the package. If you want to use your own favorite, then you can export the information directly to your word processor.

When creating a letter, if you start from the name view, addressing, salutation, and closing are automatically entered onto the page and the system switches to word processing mode. When done with the letter, the system prompts you to print an envelope, once again automatically transferring name and address. Font changes and other formatting features are available.

Importing files is easy with the translation table. While converting takes longer than with some other products, it is not a measurable problem. Also, you probably won't be converting files on a daily basis. ACT excels at tracking contact information by date, with history files and reports of the collected information.

Commence. This program provides all of the basic contact and information management tools for name and activity control. Data are entered through a series of forms that have been created for this purpose. The key to Commence is that while it is usable right out of the box, it provides for any kind of change or addition that you want to make. For example, if you want to add more phone number fields, a second or third address, other contact information like standard industry codes or company contact, the change is easy. You select the layout option, and add, change, or rearrange any of the fields to fit your personal needs.

The contact manager, phone book, and calendar can be linked by common names or activity. For instance, if you have a meeting scheduled for Wednesday, you can go to the phone file and check off names of the people you want to attend. This information can also be viewed by name, to see all of the events by person. The phone book provides a summary of names and phone numbers. A minor irritant is that you must enter the last name and then first name for proper placement in the phone book. The numbers shown do not indicate which is the business or fax number. The calendar can be shown in daily, weekly, or monthly formats and printed in any of a wide range of personal diary

styles. *ToDos* have to be entered as part of a separate form and printed in a separate operation.

Included with the package is a form for simple expense report entries. If you do not use spreadsheets, this feature provides a straightforward way to maintain information about travel, meals, and other expense items. Again, customization of this form works like any other form, including calculations such as mileage and category totals. Another feature is a simple project management view that allows entries for scheduled events with start and end. A GANTT chart can be displayed for any time interval you select—weekly, monthly, etc.

Commence comes in two styles, Full Edition—$395, and Start Up—$49.95, which is a ready-to-use scaled-down version.

General Information

InfoSelect for Windows. InfoSelect uses the sticky note approach to entering information. Each piece of data is entered within its own window frame. As new information is added, the screen becomes filled in sequence of entry or by some sorting procedure you specify. It is like filling up your screen with an unending series of sticky notes. In this way, information is added, retrieved, and stored in a series of selectable frames. The frames are combined and

placed either randomly or in a set location anywhere on your monitor.

Entries follow the simple paper metaphor of free-form text, thus allowing random thoughts to be entered as you think of them. If there is a need for formatted entries such as addresses or sales leads, you can use the preset forms feature. These forms allow for simple data entry, not as sophisticated as the contact managers, but usable considering the combinations of information you will be entering. The forms and notes can be intermingled and the search engine can access all at one time. This allows for retrieval of selected information by any text search method.

The power of InfoSelect is its ability to provide for the random entry and retrieval of free-form information. As the ideas occur, pop up a window and make the entry, ignoring forms or field sizes. Later, these notes can be retrieved in the same manner or selected based on a common name or key word.

askSam. In the event your needs are complex, and you have lots of different types of information to organize, you may want to use a database product to create your own information manager. One of the more sophisticated database engines is askSam from askSam Systems. This program enables you to create your own way of holding and retrieving

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Business Card Reader

How about the large number of business cards just retrieved from your last conference? Well, you need to retain some of them as part of your immediate contact file, others you just want to throw in the drawer and hope that you do not forget them. Business Card Reader is one of the new products that can utilize existing scanning technology (if you do not already have a scanner, you will have to obtain one). The concept is to scan the card and then let the software, using optical character recognition (OCR) techniques, automatically create a database of all the images (up to 32,000). Scanning can be for one or multiple cards at a time, dependent on the scanner hardware used. You can combine all cards on one file or set up different card databases to separate one group from another. The recognition software can separate text from graphics and make an initial attempt at placing names in the name field and phone numbers in the phone fields, etc. Once the initial scan and recognition process is complete, you can go in and modify any of the fields or add more information.

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information. The program's pedigree is a very fast, very good text retrieval engine that can locate and display all information loaded within a large database. Importing files from other products such as word processors is easy, as every word is indexed and can be retrieved.

Out of the box, *askSam* allows you an easy way to develop data-entry forms with field sizes ranging from one character to 16,000 lines (that is a lot of pages). There is no limit to the number of fields in a form. Thus, if you have a particular or unique need to combine different types of information such as combining real estate and insurance and tax files that all have to be cross linked, askSam may provide a means for you to develop a useful information manager. Included with the program are 14 templates that include calendars, simple name and address contact management, a phone directory, and ToDo lists. One of the interesting applications is for a clipping file, used for gathering information from newspapers and magazines. The program has a form that indicates publication, author, date, and fields for abstracts and indexed key words. Thus, searching through the file is simply a text search that can look for specific names within a field or a full text for information on specific topics. This can be used for personal research file.

AskSam does not have the preset fields and entry forms found with other contact and information managers. This can be an advantage when setting up a customized information database. As with most systems, there is a low learning curve when using one of the existing templates or adding new information to existing forms or creating new ones. The advanced features require some thinking about how you want the database structured and what type of information will be entered. You do have the full range of *Windows* tools available when setting up forms, which includes font types and sizes. **IT**

Gadget of the Quarter— The Stick™

By Joseph C. Maida, MBA, CPA

When fax machines became cost-effective for most offices, many firms balked at the added cost of dedicated phone lines. The cost of installing and maintaining additional business phone lines is often more than $50 per month. Dedicated lines for fax and modem communications can rarely be cost-justified in most small office/home office organizations. In addition to cost, some smaller offices have limited capacity to add additional physical lines due to restrictions in the premises' wiring system.

The answer to these concerns is an electronic telephone line switch. The switch should automatically direct the incoming call to the appropriate device. So-called fax/phone or fax/phone/modem switches have been available for many years. However, we have not found one as affordable or programmable as the Stick from Multi-Link.

The Stick answers every incoming call on the first ring and then listens for about 12 seconds to determine the correct routing. The Stick senses the CNG (CalliNG) fax tones of an auto-dialed fax machine and routes the call to the fax port. It also listens for touch-tone codes used to access an incoming modem. For security reasons, the modem port can only be accessed through a touch-tone code. Failing to hear any tones, the call is passed to a voice- or answering-machine connection.

If the fax call is manually dialed, and the sender gets a voice response instead, the call can be transferred to the fax port with a simple *2 or other code of your choice. If the sender's fax machine cannot produce touch tones or your message does not indicate how to access the fax port, a "silent transfer" feature can be activated to send

silent calls directly through to the fax machine.

In addition to fax calls, the Stick also routes incoming modem calls at any speed and is compatible with virtually all modems and even fax modem cards.

Most competitive line-sharing devices require installation before any other equipment. The Stick can be installed at any extension on the line and the call transfer feature can be activated from any extension. Even fax machines with built-in fax/voice switching only ring the fax machine's own phone for voice calls. If another extension receives a fax call with a machine-based switch, you cannot
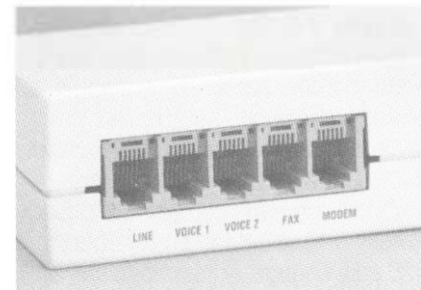
transfer the call back to the fax machine.

The Stick can be installed behind the KSU (Key System Unit) or PBX (Private Branch eXchange) phone system found in most offices. Barge-in protection is offered to prevent an extension phone from disrupting a fax or modem call, as well as protecting the security of your voice communications. A blinking indicator on the Stick will show that the fax/modem or other extension is in use.

Editors Note to users in a PBX environment: Be sure to check with your telecommunications vendor or department before ordering.

Installation cannot be easier on a

single-line system. Detailed diagrams provide step-by-step instructions for plugging in your phone system and making the recommended connections. Advanced installation is supported for business phone systems. The manual warns you when it's time to contact a qualified telephone installer and then provides the technical information needed for the installer to complete the installation.

The Stick features remote programming and diagnostics. By calling the factory's 800 number, the user can obtain installation support, including custom programming of the Stick's features. Also, the company can run diagnostics of the equipment over the same 800 number connection.

In addition to the Stick, Multi-Link has a broad line of telephone routing devices. Some of these devices are able to sense the distinctive ringing features which allow multiple telephone numbers to ring in on one physical phone line. Many households use distinctive ringing features to differentiate between business, personal, or lines dedicated to other family members, without installing dedicated wiring.

The Stick is designed and manufactured in the USA and backed-up by a three-year factory warranty. As part of the Gadget of the Quarter promotion, AICPA Information Technology Section members can obtain the Stick direct from the manufacturer at $105, a 25% discount from the list price of $139. Please call Mr. Larry Anderson at Multi-Link on 800-535-4651 (9:00 a.m.–5:00 p.m. EST) for more information. Be sure to identify yourself as an Information Technology Section member. Multi-Link offers an unconditional money-back guarantee. If for any reason you are not satisfied with the device, return it for a full refund.

The AICPA does not endorse the products or services of this or any other vendor, but we will from time to time call to your attention to products and savings opportunities that may benefit your organization. We sincerely hope that these discount programs are of value to you. **IT**

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Note from the Editor

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THE ITMS FaxSURVEY

The AICPA Information Technology Section would like to know how to better serve its members. To do so, we need your cooperation in completing the following survey. Please send in your response as soon as possible. Thank you.

1. In general, how useful do you find the following products offered by the Information Technology Section?

	Very Useful	Somewhat Useful	Not Particularly Useful	Not At All Useful	Don't know/ No Opinion
a. Quarterly newsletter, *InfoTech Update*	1	2	3	4	5
b. Practice Aids (e.g., CPA Firm Technology Planning Guide; Image Processing and Optical Character Recognition, How They Work and How to Implement Them; Computer Disaster Recovery Planning Guide)	1	2	3	4	5
c. Technology Bulletins (e.g., Memory Management, Executive Information Systems)	1	2	3	4	5
d. Technology Alerts (e.g., Fax/Modem Capabilities; What's Hot, What's Not in Information Technology; Is There a Fax-On-Demand System in Your Future?)	1	2	3	4	5
e. Vendor discount programs (e.g., InfoROM, Xircom, Konexx Koupler, CPA Software News)	1	2	3	4	5

2. Below is a list of programs and services which may be offered by the Information Technology Section in the future. Please indicate the extent to which each would be useful to you or your organization.

	Very Useful	Somewhat Useful	Not Particularly Useful	Not At All Useful	Don't know/ No Opinion
a. An information technology conference	1	2	3	4	5
b. A public awareness campaign to help CPAs be recognized as information technology experts	1	2	3	4	5
c. Client speeches and/or slide presentations on technology	1	2	3	4	5
d. A technology practice manual	1	2	3	4	5
e. Technology-related CPE courses	1	2	3	4	5
f. A discount program for the purchase of hardware and/or software	1	2	3	4	5
g. An information technology accreditation program	1	2	3	4	5
h. A technology "hotline" for Section members	1	2	3	4	5
i. An electronic bulletin board to communicate with other members	1	2	3	4	5

3. Please provide below any advice you may have as to how the Information Technology Division can improve its service to members of the Information Technology Section.

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Fax to (212) 596-6024

Or Mail to Editor, AICPA, Information Technology Division
1211 Avenue of the Americas, New York, NY 10036-8775
(Please respond by either fax or mail, not both)

AICPA Offers Best Practice Benchmarking

As a service to its members, the AICPA has joined with The Hackett Group, an Ohio-based management consulting firm, to provide best practices benchmarking of the accounting and finance function.

The goal of the best practices benchmark study is to help a company's finance and accounting function quickly identify and evaluate opportunities for improving productivity, cost-effectiveness, and quality through reengineering and adopting proven financial best practices.

A wide range of industries is represented, e.g., Aerospace, Automotive, Banking, Health Care, High Technology, Information Services, Pharmaceuticals, Publishing, and Telecommunications.

The findings as of June 1994 address several issues. A sampling of the results include:

■ Cost
Overall, finance costs 1.5 percent of revenue.

Costs are significantly lower for large companies, on average.

■ Resource allocation
Finance employs 183 full-time equivalents per billion dollars of revenue.

Half of knowledge worker time is wasted on transaction processing.

■ Organization and staffing
Turnover in companies averages 12.5 percent annually.

Only 13 percent of companies have formal career rotation programs.

■ Processes
Only 10 percent of companies close the books quarterly.

Some 30 percent of companies close in one to three days, and another four days are required to produce a monthly report.

■ Systems
The average age of finance systems is six to nine years.

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INFOTECH
Questions & Answers

Networks

Q – What is a network co-processor? How will network co-processor technology affect the networking industry?

A – A network co-processor is an intelligent, Network File Server (NFS) which off-loads network communications overhead from the host processor, thus freeing up server central processing unit (CPU) cycles. The host CPU operations such as data link, internet protocol, multiple interrupts, and data transfer can be managed by the network co-processor. The newest network co-processor on the market features a 1Mb communications buffer and provides two 10Base-T (twisted pair cabling) Ethernet ports from a single computer card slot.

Network co-processing is an innovative approach to improving network server performance. Unlike traditional Ethernet cards, the network co-processor is able to assemble, decode, and format an entire NFS request out of several packets before interrupting the server CPU. This capability substantially reduces the number of interrupts and context switches the server must handle: Therefore, significant CPU cycles are freed up to execute file system operations and applications.

Network co-processor technology addresses CPU-to-network performance by lowering the cost of network operations per second and making performance-based client/server networking more affordable and available to a larger number of users. Network performance involves a group of interconnected network components. In order for the entire network to offer peak performance at its most cost-effective level, each component must be "balanced." As the industry continues to test out the entire server performance paradigm,

network co-processor architecture has the potential to become a key performance-enhancement technology of tomorrow–along with higher bandwidth networks such as Fast Ethernet and ATM (Asynchronous Transfer Mode).

Q – What is Fast Ethernet? How is it different from the standard Ethernet?

A – Although there are over 30 million nodes of 10Mbps standard Ethernet installed bases today and millions being added each year, networking bandwidth available to the individual user is becoming increasingly limited. This situation is worsened by the emergence of new applications that continue to demand more bandwidth. The Fast Ethernet provides 10 times (i.e., 100Mbps) the bandwidth of a standard Ethernet and offers a cost-effective upgrade for 10Base-T Ethernet applications. The Fast Ethernet adapter is a single-card slot implementation that offers 10Mbps or 100Mbps network bandwidth over a variety of wiring types (i.e., unshielded twisted pair, shielded twisted pair, and fiber optic cables) via external third-party transceivers.

The Fast Ethernet adapter is designed to be an extension of the existing Ethernet standard, preserving the core CSMA/CD (Carrier Sense Multiple Access with Collision Detection) MAC layer of the familiar Ethernet standard. The Fast Ethernet Alliance, an open industry consortium, is formed to support the preservation of the CSMA/CD MAC layer and ensure a natural, safe, and cost-effective migration path to 100Mbps Fast Ethernet technology. Specifications developed by the Alliance will be submitted to the IEEE 802.3 Standards Committee for approval. The Fast Ethernet Alliance includes leading vendors such

as 3Com Corp., Sun Microsystems, DEC, DuPont, Intel Corp., LAN Media Corp, Cabletron Systems, etc.

Q – What is ATM in networking?

A – ATM, Asynchronous Transfer Mode, is an implementation of scalable networking technology that supports the speed of 155Mbps. ATM is the most compelling of the emerging network technologies due to the benefits it provides in scalability in speed, size, distance, and traffic types. ATM adapters in the market today offer up to 256 transmit channels and up to 1,024 open receive channels with a 32-bit single-bus card slot. ATM has no throughput barriers and can support any data type: It can scale with CPU performance increases and is ideally suited for multimedia collaborative applications that use real-time voice, video, image, and data transfer. The public carriers are already starting to deploy ATM circuits as a high-end component of their broadband Integrated Services Digital Network (ISDN) standards strategy. ATM can be applied in workgroup local area networks (LANs), campus backbones, and wide-area transport. The scalable technology of ATM provides increased networking flexibility, since there are no protocol differences between an ATM switch for the LAN and the ATM switch used in the central office. The boundary between LAN and wide-area network (WAN) is a matter of speed and cost, not a technical barrier.

ATM is complex and will take years to mature, but it is going to become a better value relative to the alternatives as time goes by. One should begin with ATM trials on a small scale with low risk. Focus on LAN interconnection backbones first, in order to attain the highest traffic at the lowest cost with the least risk. Limit early ATM use to high-value situations and extend ATM as your needs grow and prices drop.

Contributed by Amy Chen Pierce, CPA, Pierce, Chen & Associates.

CASE Tools

Q–We have been using Computer Aided Software Engineering (CASE) tools for approximately three years and have found that there is an expensive training and start-up period involved in order to use these tools. Have there been any discusssions or surveys detailing other users' experiences in the use of these tools for software development, documentation, and coding?

Contributed by Susan J. Reinardy, CPA, Division of Management Services, The State of Wisconsin Department of Health & Social Services

Editor's Note: If you have any suggestions for Susan, please fax them to my attention and they will be forwarded to her.

Fax your response to:

Nancy Cohen
(212) 596-6024 FAX

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