

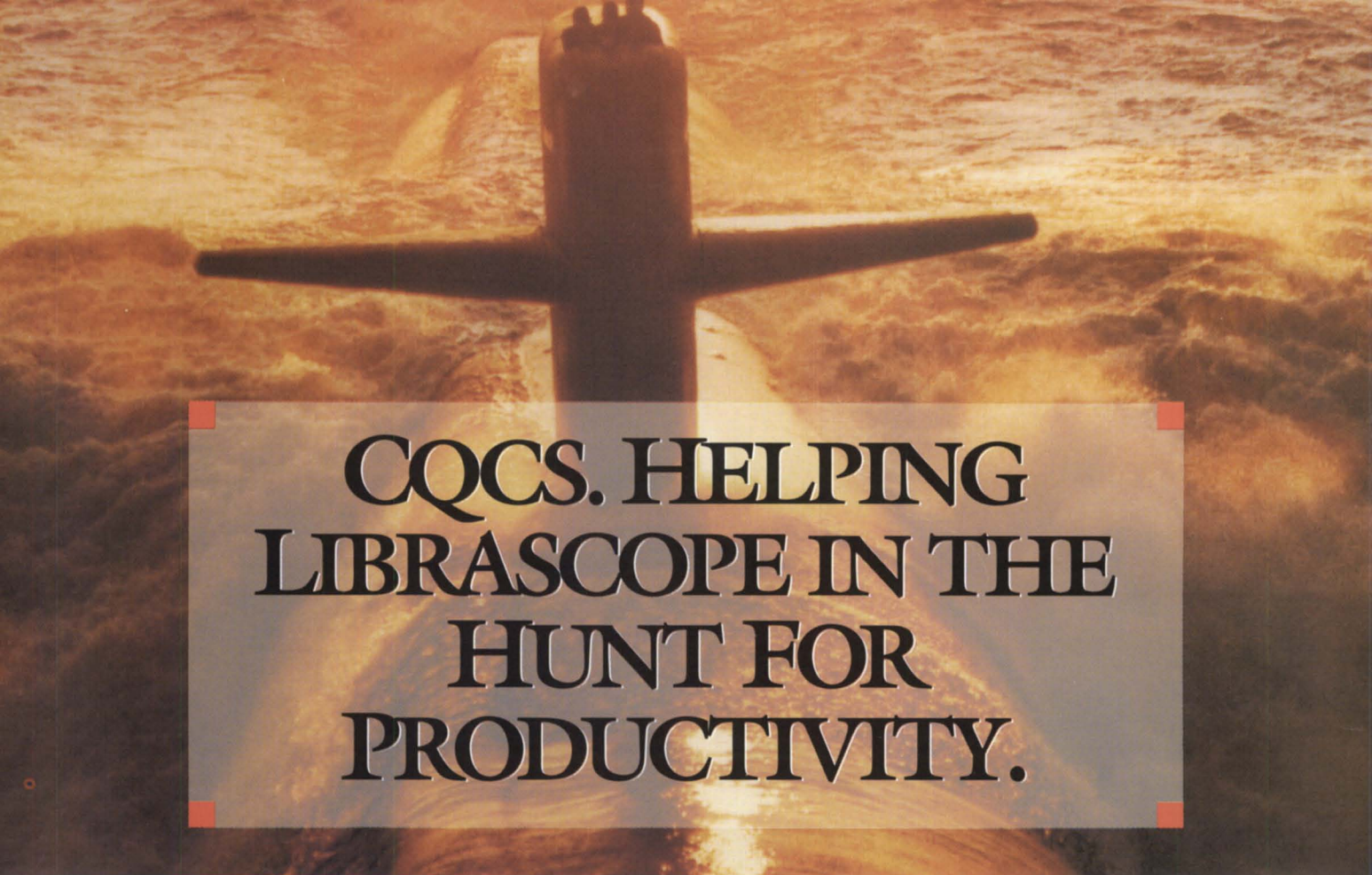
March 1991

# FOCUS

The Magazine of the North American Data General Users Group



## The Challenge of Change



# CQCS. HELPING LIBRASCOPE IN THE HUNT FOR PRODUCTIVITY.

**L**IBRASCOPE, INC. designs weapons control display systems and workstations installed in attack class submarines for the U.S. and Royal Australian Navies.

See the movie, "*The Hunt for Red October*," and you'll see Librascope devices in action.

When Librascope needed to upgrade their quality assurance systems, senior staff engineer Gary Rever began the search for a full-featured fourth generation language. His criteria? Fast rewrites of primary applications; machine efficiency; a seamless retrofit of older systems; and a powerful query structure.

And as a critical naval defense contractor, Librascope had to maintain responsiveness. "We needed something we could plug in and use right away," Gary recalls.

His choice: CQCS.

Gary's first project was a pivotal instrumentation testing application. "The original, written in C, took 8 months to write," Gary reports. "We rewrote it with CQCS in 4 weeks."

Bernie Abrams, Librascope's MIS manager of computer operations, put CQCS to work rewriting their entire financial processing system. "With CQCS, we expect to complete it in eighteen months," he says. "That's half the time it would have taken in COBOL."

In the area of report writing, the selection of CQCS paid off handsomely. "It's remarkably quick and easy to generate ad hoc reports," Bernie notes. "CQCS compiles very rapidly as compared with COBOL."

And learning the CQCS report writer was no problem at all, adds Gary Rever. "You can just sit down and use it right away."

As for machine efficiency, Gary describes CQCS as "excellent. There's no other word for it."

Librascope simply plugged CQCS into their existing hardware and software environment. So can you.

You can be writing even the most sophisticated applications 10 to 40 times faster than COBOL. And complete source code compatibility means your applications will run on DG MVs, AViiONS, DEC, PCs, PC networks, and various UNIX platforms.

In the U.S., call 1-800-451-1544 today. Let CQCS turn all of your data into useful information.

And bring you to new depths in your own hunt for productivity.

*Cyberscience*

C O R P O R A T I O N

*Productivity with Performance*

For the U.S., call 303-745-3900. For Australia, call 02-413-4666. For the U.K., call 0992-441111.  
Photo: USS City of Corpus Christi, Courtesy of General Dynamics, Electric Boat Division and the US Navy. Our thanks to Librascope, Inc. for their assistance. Copyright 1991, Cyberscience Corporation, 10065 E. Harvard Avenue, Suite 800, Denver, Colorado 80231-5946. All rights reserved. AViiON and MV are trademarks of the Data General Corporation. DEC is a trademark of Digital Equipment Corp.

Circle 42 on reader service card.

*Rave makes Waves...*

**BY DOING BUSINESS  
THE OLD FASHIONED WAY...**

*with honesty, integrity and sincerity —  
one customer at a time, offering the full range of  
Data General and Sun Microsystems Hardware  
We offer new, refurbished used and compatible equipment.*

*Whether your next purchase is a memory board, a disk drive, or  
complete system — CALL RAVE — Ride the wave to personalized  
customer service, quality and value.*

- **BUY • SELL • TRADE • LEASE**
- **QUALITY EQUIPMENT • COMPETITIVE PRICES**

**DATARAM**  
AUTHORIZED DEALER

**ZETACO**

**RAVE** COMPUTER  
ASSOCIATION

MAIN OFFICE:  
36960 Metro Ct. • Sterling Heights, MI 48312  
(313) 939-8230 FAX: (313) 939-7431  
NEW YORK OFFICE  
(516) 929-5000 FAX: (516) 929-5007  
RHODE ISLAND OFFICE:  
(401) 785-3090 FAX: (401) 785-3095



# FOCUS

The Magazine of the North American Data General Users Group

## EDITOR'S NOTE

Changes for the better  
by Robin Perry

4

## PRESIDENT'S PAGE

NADGUG looks ahead  
by Frank Perry

6

## SYSTEM MANAGER'S LOG

All rev'ed up and no place  
to go...but back

AOS/VS 7.68 solves some system problems but, alas, there are others; here's a rundown. Also, a (very) early letter to Santa for Christmas 1991  
by Brian Johnson

20

## BOOKWARE

Vulnerable to attack

Our reviewer recommends one book that takes a "non-sensationalistic approach" to the increasingly scary topic of virus protection  
by Tom Gutnick

26

## The desired end

Corporate America and its data processing gurus need to apply a little industrial psychology and rethink the relationship between information systems and the shop floor. Such is the message of a new book, *Manufacturing Information Systems*  
by Kevin Danzig

29

## OA TODAY

Learning to PIM

If you use Wordperfect now, you already know how to do most of what those complicated and expensive "time-saving" programs take forever to teach you. See how easy it is to become an effective personal information manager  
by Kent Finkle

31

Cover illustration by Tom Curry



## THE CHALLENGE OF CHANGE

### Vendor strategies

How do you succeed in business when your primary supplier is in transition? Experts say the challenge of these times can be met by innovation  
by Paula Jacobs

8

### Change in direction

Using its experience as a large manufacturing company as a starting point, DG enters the systems integration market  
by Robin Perry

12

### Lightning in a bottle

Forrest May, point man for DG's VAR community, presents a lively look at Data General from the reseller's perspective  
by Lori Rhea DiSorbo

16

### Shifting gears

The City of Glendale, with the help of Data General, embarked on an ambitious plan in the 1980s to provide comprehensive citywide data processing and office automation services. The City's new five-year plan reflects the computer industry's sobering of the 90s  
by Steven H. Jones

18

## THE WORKSTATION

### UNIX Goneys

AT&T and Sun are a duo to be reckoned with. However, X-Windows has amassed an amazing amount of applications. Oddballs like Next Step complicate the picture. Here's a look at who's who in Unix windowing display technology  
by Doug Kaye

36

## BULLETIN BOARD

Bits and bytes from the bulletin board

38

## ON-LINE HELP

Who to call for information about NADGUG and Focus

43

## SOFTWARE LIBRARY

A complete listing of the NADGUG software library

44

## PRODUCTS AND SERVICES

The latest products for DG systems

45

## IN GENERAL

News and notes from the DG community

48

## RIG/SIG GIGS

NADGUG and user group events

48

FOCUS, the Magazine of the North American Data General Users Group (ISSN 0883-8194) is the official monthly publication of the North American Data General Users Group (NADGUG) in cooperation with Turnkey Publishing, Inc. NADGUG offices are located at Livingston Building, Suite 250, 3420 Executive Center Dr., Austin, TX 78731, phone 512/345-5316.

FOCUS, the Magazine of the North American Data General Users Group, is distributed to members of the North American Data General Users Group. Membership fees are \$60, of which \$48 is allocated to a subscription for FOCUS, the Magazine of the North American Data General Users Group. A one-year subscription (12 issues) to FOCUS, the Magazine of the North American Data General Users Group, costs \$48. For all memberships and subscriptions outside North America, add \$50 to defray costs of mailing. For information on NADGUG membership, call 1-800/877-4787. Address all other correspondence to FOCUS, the Magazine of the North American Data General Users Group, c/o Turnkey Publishing, Inc., Livingston Building, Suite 250, 3420 Executive Center Dr., Austin, TX 78731.

Application to mail at Second Class Postage Rates is Pending at Austin, Texas and additional mailing offices. POSTMASTER: Send address changes to: FOCUS, the Magazine of the North American Data General Users Group, Subscription Department, c/o Turnkey Publishing, Inc., Livingston Building, Suite 250, 3420 Executive Center Dr., Austin, TX 78731.

The cost of single copies is \$4. Requests to replace missing issues free of charge are

honored only up to six months after date of issue. Send request to FOCUS, the Magazine of the North American Data General Users Group, c/o Turnkey Publishing.

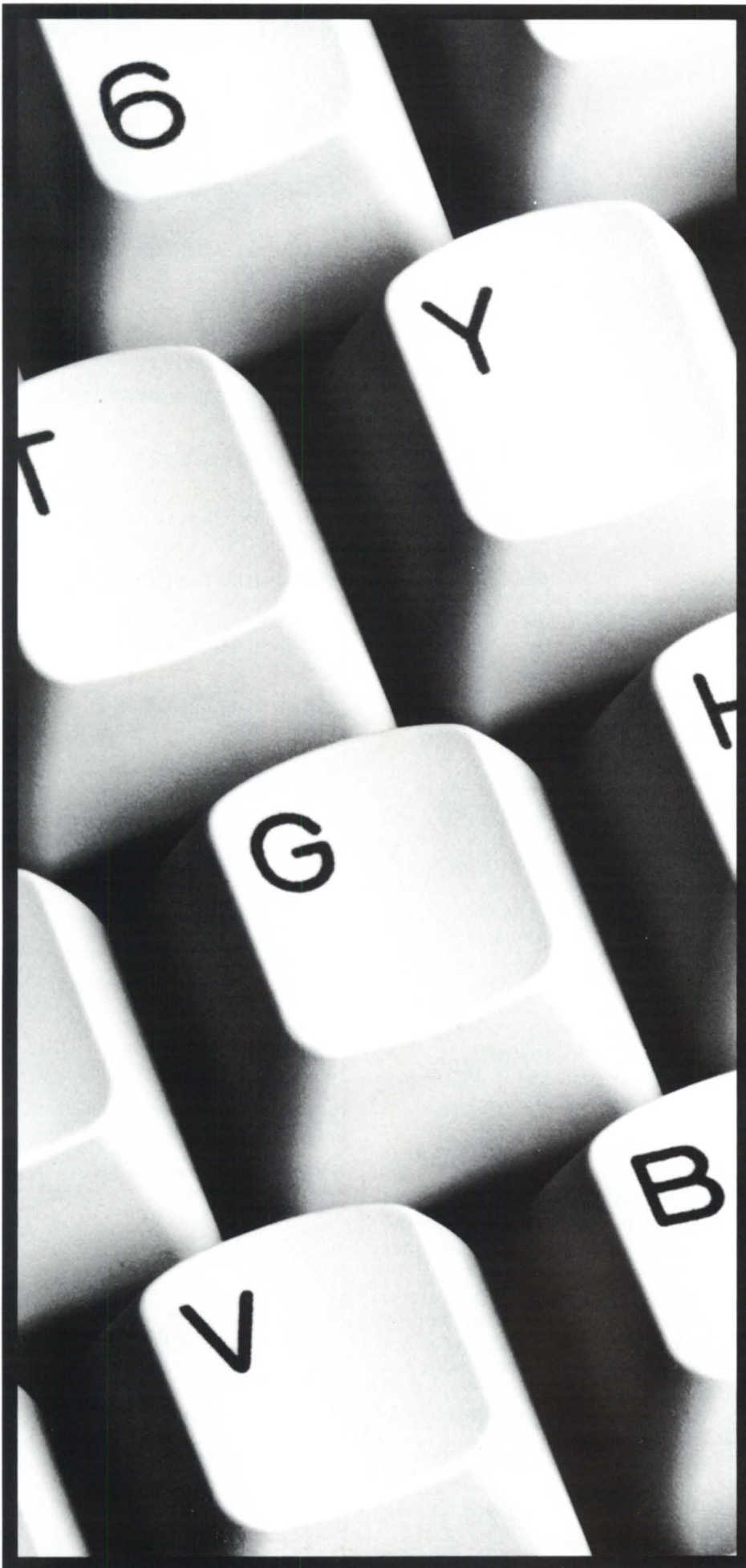
NADGUG is an independent association of computer users; it is not affiliated with Data General Corporation, nor does it represent the policies or opinions of Data General Corporation. The views expressed herein are the opinions of the authors, and do not necessarily represent the policies or opinions of NADGUG or of Turnkey Publishing, Inc.

Advertisements in FOCUS, the Magazine of the North American Data General Users Group do not constitute an endorsement of the advertised products by NADGUG or Turnkey Publishing, Inc.

Copyright © 1991 by the North American Data General Users Group. All rights reserved. Reproduction or transmission of contents in whole or in part is prohibited without written permission of the Publisher.

The Publisher assumes no responsibility for the care and return of unsolicited materials. Return postage must accompany all material if it is to be returned. In no event shall receipt of unsolicited material subject this magazine to any claim for holding fees or similar charges. Volume 7, Issue 3.

NORTH AMERICAN  
DATA GENERAL  
USERS GROUP



# We support key issues.

From facility management to recovery site service.

The sale of new and used hardware.

The sale of licensed software packages.

Repairs, upgrades.

And field-service maintenance.

NPA Systems understands your

Data General & PC needs—around the clock.

Give us a call toll-free at 1-800-USE-NPA 4.

After all, supporting your system is key.



*Enter The Computer World  
That's Commanded By Service.*

761 Coates Avenue, Holbrook, NY 11741  
1-800-USE-NPA4 • 1-800-873-6724  
(516) 467-2500 • FAX: 516-467-5609

Circle 26 on reader service card.



# Changes for the better

I'm writing this column in the middle of *Focus* production deadline. Whatever prosaic insight you were going to read here will have to wait for another month because today Data General released the financial statements for its first quarter, and the news is good.

Operating profit for the first quarter of 1991, which ended December 29, 1990, was \$12.4 million. This marks Data General's first profitable quarter since the second quarter of 1989. DG hasn't had a profitable year since 1985.

Revenues for the quarter were \$311.7 million, a 7.2 percent increase from the first quarter of last year. Operating income for the quarter was \$15.5 million, compared to an operating loss of \$18.8 million for the first quarter of 1990.

Data General reported increased revenue from Aviiion sales, particularly Aviiion servers. Following a strategy developed by Bill Zastrow, vice president of the Open Systems Division, Aviiion servers now represent the majority of Aviiion sales. Proprietary MV sales, DG reported, were stable in the first quarter of 1991.

Cost reduction steps taken in 1990 were reflected in reduced operating expenses for the first quarter. Operating expenses for first quarter 1991 were \$18 million less than in the first quarter of 1990.

A profitable quarter does not mean that Data General's troubles are over. There is a lot of lost ground to recover. Data General employees have done their part to help the company get turned in the right direction this quarter, financially. They've taken unpaid vacations. They've endured the anxiety of not knowing if they'll have jobs from one day to the next. They've learned how to do more with fewer resources.

The lessons learned at DG were not learned alone. Many of us are dependent on the success of DG for numerous rea-

sons: service to our equipment, software support, hardware supply, income. In studying the "challenge of change" (pages 8-19), *Focus* looks at how end-users, vendors, and value-added resellers are reacting to the changes at DG, and to changes in the computer industry as a whole.

While writing this column, I received a fax from DG President and CEO Ron Skates. It was a letter regarding DG's first quarter earnings. I'd like to share the letter with you:



In the course of our meetings over the past two years, we have often talked about what we both believe to be Data General's number one priority—returning to and sustaining profitability.

I am very happy to report that we have achieved that first very important step. This morning we announced an operating profit of \$15.5 million and a net profit of \$12.4 million for the first quarter of 1991.

The fact that we were able to post such a strong profit is a very strong indication that the strategy we have been implementing over the past three years is on target.

Of course, while we are extremely pleased with the first quarter's results, we remain cautious for the short-term in light of the economic conditions worldwide and the uncertainties of the situation in the Persian Gulf.

However, the first quarter's results make us even more convinced that our strategy is correct and that we are now positioned to be successful and profitable during the decade of the 1990s.

I look forward to talking with you again in the near future.

Best regards,  
Ronald L. Skates

# FOCUS

The Magazine of the North American  
Data General Users Group

## **NADGUG LEADERSHIP**

### **President**

Frank Perry

### **Vice President**

Dennis Doyle

### **Treasurer/Conference Committee**

Jan Grossman

### **Recording Secretary**

Tim Boyer

### **Audit Committee**

Calvin Durden

### **Membership Committee**

Chris Thorpe

### **Planning Committee**

Lee Jones

### **Publications Committee**

Maggie Morris

### **RIG/SIG Committee**

Bart Bates

### **Executive Director**

Greg Farman, Ph.D.

## **FOCUS MAGAZINE**

### **Editor**

Robin Perry

### **Assistant Editors**

Lori Rhea DiSorbo, Doug Johnson

### **Contributing Editors**

Tim Boyer, Michael Dupras,  
Brian Johnson, Doug Kaye,  
Charlene Kirian, Jim Siegman

### **Contributors**

Kevin Danzig, Kent Finkle, Tom Gutnick,  
Paula Jacobs, Steven H. Jones

### **Account Executive**

Michelle Sentenne

### **Art Director**

Pat McMurray

### **Illustrator**

Ann Soto

### **Production Artists**

John Houser, Casey Hunter

### **Office Manager**

Paula Minton

### **Executive Assistant**

Jennifer Foye

### **Coordinator, Member Services**

Greg D. Goss

### **Administrative Assistant**

Karen J. Liszewski



## To find the most powerful word processor for Data General, take this simple screen test.

*Introducing WordPerfect® 5.0 for Data General AOS/VS.*

Want to get into pictures? WordPerfect 5.0 makes it easy to combine graphic images with text in WordPerfect documents.

Center your graphic box between text columns and watch the text wrap around it. Move your graphic over to a corner. Make it big. Make it small. Put a shaded border around it. Write a caption under it in small italic print.

The *preview* feature shows you how your graphics will look before you print your document.

And it doesn't matter whether you're on graphic terminals or character terminals. WordPerfect 5.0 utilizes whatever character sets are available to represent graphics on nongraphic terminals.

Of course being a true star takes more than just looks. That's why WordPerfect 5.0 gives you more tools than ever to create stellar documents.

With WordPerfect 5.0, your AOS/VS system and your PCs can work together in supporting roles. You can write documents on your PC using WordPerfect 5.1 and then edit them on your AOS/VS system using WordPerfect 5.0.

With the *Fonts* feature, and the appropriate printer (WordPerfect supports over 600 of them), you can combine up to 250 fonts on a given page. You can also make your characters just about any size you want—from fine to extra large.

*Kerning* helps you reduce space between specific letter pairs, eliminating unnecessary white space.

*Style definitions* make it quick and easy to change formatting throughout a document.

WordPerfect 5.0 also lets you customize individual keyboards to make the function keys correspond to the keys used by other programs.

With WordPerfect 5.0, it's easier than ever to be a hit in the Data General

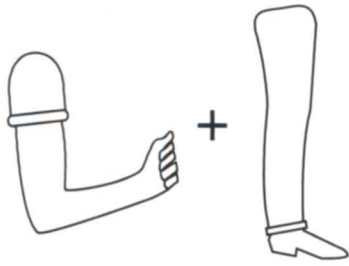
AOS/VS world. Just call (801)222-4100 for a major feature presentation.

**WordPerfect**  
CORPORATION

1555 North Technology Way, Orem, Utah 84057  
Tel: (801) 222-4100 FAX: (801) 222-4177

WordPerfect is a registered trademark of WordPerfect Corporation. All other brand and product names are trademarks or registered trademarks of their respective companies. ©1991 WordPerfect Corporation.

## Why pay this



## for memory?

With SCIP memory, you don't have to.

We design and manufacture value priced memory that will boost your system to full power.

A full line, ....even for the newest and most popular DG processors, like the.....

**MV5500**

**MV9500**

**MV15000**  
thru

**MV20000**

**AViiON's**

Bottom line....

- ✓ a fraction of the cost
- ✓ 100% compatible
- ✓ lifetime warranty
- ✓ 24 hour exchange
- ✓ trial evaluation

...give us a call

**(213) 282-8700**

FAX 213/839-4464

**SCIP**

441 S. Beverly Dr. #2  
Beverly Hills, CA 90212

Circle 29 on reader service card.

## PRESIDENT'S PAGE *by Frank Perry*



# NADGUG looks ahead

This is my first opportunity to address all of our members since I became president of NADGUG. I want to thank all of you for the opportunity to lead NADGUG into the future.

At our annual meeting held in Seattle last October, we took some major steps forward in our relationship with Data General. For the first time, NADGUG's annual meeting and exhibition were combined with Data General's sales kickoff and VAR (value-added reseller) conference. This made it possible for two new groups of people to attend our exhibition, which is the largest showing of DG and DG-related products in the world. The joint meeting was extremely successful, and caused a positive development in DG's perception of the value of NADGUG.

We are committed to continuing this joint meeting concept. Our next meeting will be in Denver. Several ideas for expanding the interaction between groups are being explored.

Data General was represented in Seattle by almost all of its top people, and there were ample opportunities to speak with them about user concerns. I came away with a good feeling about the future of Data General and the MV systems. This feeling was bolstered by the reports of a profitable first quarter. Despite all of the rumors to the contrary, the people at DG really seem to know what they're doing, and they are doing it quite well.

Our next NADGUG conference is scheduled for November 18-21. This is a change in dates for us, caused by a conflict with the COMDEX conference on our previously selected dates. Jan Grossman and the rest of the Conference Committee are working hard to make this a great meeting. We are taking advantage of the joint meeting concept to benefit all of the groups involved. Begin to make your plans to attend now! Planning Chairman and Texan Lee Jones has discovered snow, and he is investigating the skiing possibilities in the Denver area. Stay tuned to *Focus* for more information.

One of my major goals as president is to find ways to improve the value of NADGUG membership. The major benefits of belonging to NADGUG include the annual conference, *Focus* magazine, and the forum we provide to present your needs and concerns to DG management. Other benefits include special and regional interest groups, the annual directory, and the software program library.

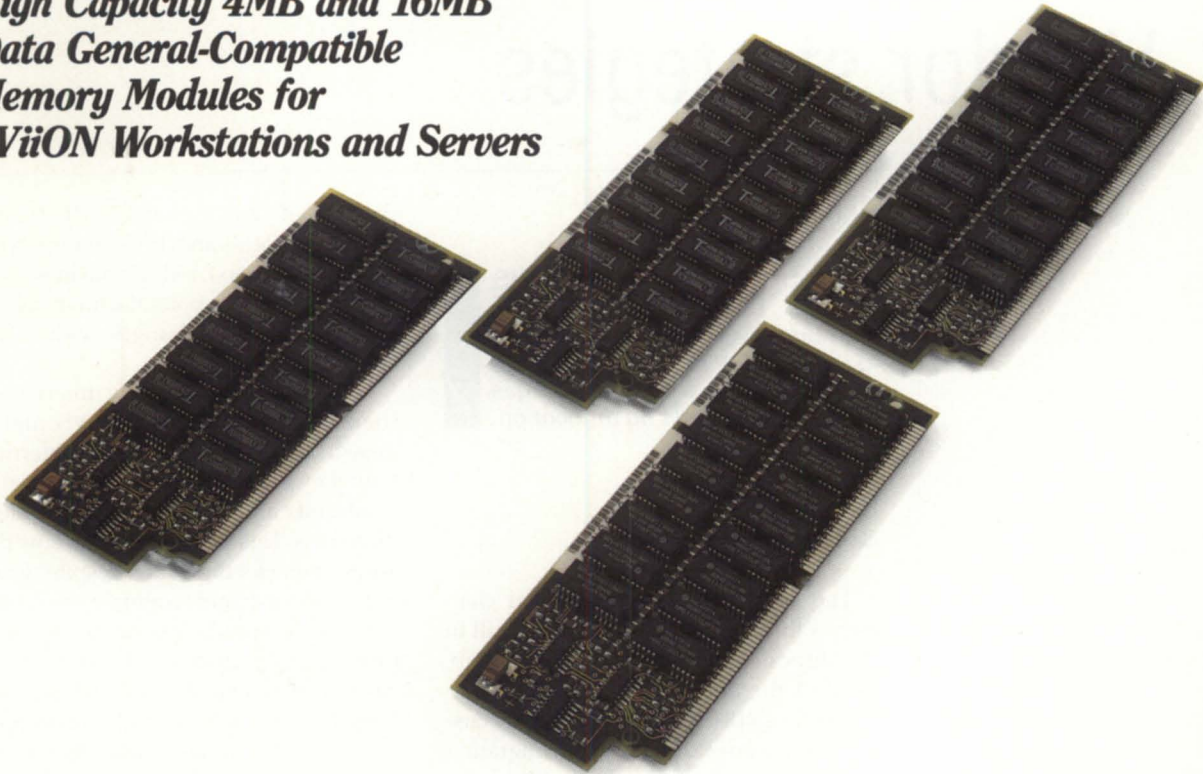
I have been exploring new types of member benefits. In addition, I would like to hear your ideas of what you might like to see in enhanced member services. How can NADGUG increase its value to you?

One of our major concerns since the Seattle meeting has been the financial condition of NADGUG. As you are aware, the Board of Governors raised the membership dues to \$60 per year. This amount more fairly represents the costs of serving our membership. The sluggish Data General marketplace and the slow economy in general have affected *Focus* revenues. The *Focus* staff is responding by being careful to produce our magazine in the most economical way possible, while maintaining our established standards of excellence. In the area of member services, we will redirect our efforts into those areas that users want most. That is why it is very important for you to tell us what you need. You may call me or any of the NADGUG officers with your suggestions.

I look forward to serving as your president in 1991. Please join us in November in Denver.  $\Delta$



**High Capacity 4MB and 16MB  
Data General-Compatible  
Memory Modules for  
AViiON Workstations and Servers**



Now you can enjoy the maximum performance and capability of your AViiON workstation or server with high capacity memory modules from SiGNAL. Whether your application demands low cost memory or ultra-high capacity, there is an AVRAM to satisfy your needs.

**Features:**

- 100% Data General Compatible
- 4MB and 16MB Modules
- Surface Mount Technology for Low Power Consumption
- Unconditional Lifetime Warranty

**100% Compatibility**

Both the 4MB and 16MB AVRAM memory modules from SiGNAL offer complete hardware and software compatibility with Data General's AViiON and DG/UX. 100% "Look and Feel" of Data General... at a fraction of the price.

**Unmatched Reliability**

Every module is built and tested to the most rigid specifications. We use only the highest quality components to insure long life. All memory boards are subjected to 72 hours dynamic burn-in as well as 24 hours testing in an AViiON workstation.

**Unconditional Lifetime Warranty**

We have complete confidence in our memory products and prove it by backing them with the SiGNAL Lifetime Warranty. SiGNAL will replace or repair an AVRAM memory module for as long as you own it.



**Signal Computer Products Inc.**  
411 Massachusetts Avenue  
Acton, Massachusetts 01720  
**1-800-228-8781**  
(508) 263-6125  
FAX (508) 635-0423

Authorized AViiON Distributor

Circle 31 on reader service card.

**CALL, WRITE OR FAX FOR MORE INFORMATION.**

Please call to discuss my needs for \_\_\_\_\_

Please send more information on:

Disk/Tape  RAM Disk

Memory  Custom Solutions

Opticals  AviiON/MV Systems

Removable  Helical Scan Tape

My Current System is: \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Phone ( ) \_\_\_\_\_ Ext. \_\_\_\_\_

Fax ( ) \_\_\_\_\_

# Vendor strategies

## SYNOPSIS

*How do you succeed in business when your primary supplier is in transition? Experts say these times pose challenges that can be met by innovation.*

by Paula Jacobs  
Special to Focus

The 1990s present unparalleled challenges for the computer industry, still in the throes of a general industry slump. While Unix and LANs (local area networks) are still the buzzwords, many customers remain undecided about migrating from proprietary systems to other solutions. Consequently, purchasing cycles are relatively long and hardware margins continue to shrink.

As we move toward the year 2000, we are witnessing the advent of a global economy and more technological innovations and choices than ever. At the same time, we are beset by a spiraling economic downturn and a volatile, intensely competitive business environment accompanied by rapid shifts in employment requirements.

Doomsayers are quick to point out the negative effects of recessionary times and the concomitant problems that will result. Others view these times of adversity more as a positive opportunity, especially for businesses that can demonstrate organizational flexibility and respond quickly to shifts in customer demands and new market requirements.

In such an unpredictable marketplace, planning for the future is now more of an art than ever before. How do you forecast in such a climate? Or, are forecasting and strategic planning now obsolete concepts?

What is the impact of market uncertainties on a business whose primary supplier has faced difficult financial times? In

the case of Data General VARs (value-added resellers) and ISVs (independent software vendors), today's business environment offers the potential for instability because of recent changes within Data General.

*Focus* magazine recently interviewed some Data General VARs, ISVs, and independent software houses to determine how they are affected by current market conditions and Data General's strategic directions. This article describes how they are planning for the future, despite current industry trends and economic projections.

Kevin Reynolds, president of Signal Computer Products, a Massachusetts-based Data General VAR and the New England distributor for all Aviiion products, perceives today's market as an unparalleled creative business opportunity. As a show of confidence in the Aviiion product line, Signal recently broadened its product line from DEC and Sun and moved into the Data General marketplace.

According to Reynolds, "The uncertainties of the coming year mean that we need to think about whether we are in the right business. There's no question that the greatest challenge is choosing the products and the marketplace correctly. That's why strategic planning is key."

As both a VAR and distributor, Signal Computer Products has access to a wide variety of equipment and has forged alliances with a number of third-party software vendors. In order to provide customers with cost-effective solutions, Signal is in the process of forming strategic alliances with as many software vendors as possible. Specifically, the company is focusing on strategic alliances with software vendors who provide turnkey solutions in marketplaces that present opportunities for both Unix and PCs, such as manufacturing, legal, office, and medical arenas. Within this arena, Signal is placing major emphasis on imaging and document management, which can provide users with significant cost-savings.

"The globalization of the marketplace also offers an unprecedented opportunity," says Reynolds. "We see Europe, Australia, and the Far East as key to future growth. For example, while the United States may be in a recessionary mode, other parts of the world are economically much stronger." To meet this challenge head-on, the company is now setting up worldwide distribution channels.

General market conditions are also not deterring Sterling Software, an Ottawa-based DG ISV, from achieving a fair measure of success. Sterling Software is the developer of ZIM, a 4GL application development environment that runs on Eclipse and Aviion systems, as well as a number of Unix and PC platforms. To date, Sterling Software, a \$220 million company cited by *Software Magazine* for its rapid growth, has successfully sold ZIM in the medical, municipal government, and insurance vertical markets.

According to Rob Rose, the company's manager of product strategy, "As a Data General ISV, we have developed joint strategic clients around the world. Our strategy is to focus on the open systems world, and we view Aviion systems as a major business opportunity. We anticipate that as people become more comfortable with Unix, more MV family users will look for an easy migration path to Aviion. Since ZIM is completely portable, and does not require code conversion, we are providing MV family users an easy migration path to Aviion systems."

However, the company recognizes that currently the greatest challenge is to remain recession-proof. Therefore, an integral part of the current marketing strategy is to show prospective buyers how the right software can result in significant cost savings. Sterling Software plans to continue joint marketing programs, including customer seminars, with Data General.

Concept Automation, Inc. (CAI) is a systems integrator for the federal marketplace and the developer of Rush, a fax product for Eclipse MV family systems. To remain competitive in the marketplace, CAI is placing major strategic emphasis on networking, LAN solutions, and software/hardware services.

As Steve Baldwin, vice president of sales and marketing at CAI, explains, "Presently, we are broadening our vendors, and are working with IBM, Sun, and a

range of PC and networking vendors, such as 3COM, and LAN manufacturers. Much of our stuff is service-related, integrating existing systems into IBM mainframe applications. We see our future in the federal government marketplace, and are building our capability to do networking types of solutions. The LAN world is where everyone is going, so you are not tied to any one hardware vendor, as in the past."

In planning for the future, CAI considers software solutions—with an emphasis on value-added products and services—key to driving the hardware business. Because of recent cuts in the defense budget, the company is now refocusing efforts on the commercial side of the federal market.

Another VAR that is emphasizing services and systems integration is Viewpoint

## The most popular DG Color Graphics Terminal Emulator for IBM Micros now includes **NETWORK SUPPORT!**

EMU/470's newest release, Version 3.1,

**EMU/470**

Files; Foreign Keyboards and Character

provides significant capabilities and enhancements, to include: Network support, complete emulation for all DG terminals; support for all graphic adaptors, including compressed mode to 135 columns on VGA, EGA, MCGA, CGA, and Hercules cards; both text and binary file transfers plus XMODEM, YMODEM, and Kermit protocols.

Plus numerous Bonus Features: Built-in System Diagnostics; Command Language and Script

Support including Code Page 850; Graphics on IBM Proprinters and HP Laserjets; 70+ Macro Keys, Auto Dial & Logoff; Unlimited Configuration Files; and complete Mouse Compatibility.

Rhintek offers a comprehensive line of products spanning the entire Dasher Terminal Line, priced from \$95 to \$249. We offer volume discounts and unlimited free technical support.



**Rhintek, Inc.**  
DG Terminal Emulators since 1983.

P.O. Box 220 Columbia, Maryland 21045  
VISA and MC Accepted 301-730-2575

Circle 28 on reader service card.

Technologies, a spinoff of Vantage Software, a Data General VAR since 1983.

"Customers are purchasing smaller, less expensive machines than before," says company President Ken Anderson. "Therefore, we cannot rely on hardware margins, but see service revenues as an important part of our business."

Controlling overhead and expenses has become one of the greatest challenges for

the 1990s, admits Anderson. In an effort to reduce expenses, the company recently moved offices from Manhattan to suburban New Jersey.

"We are also more willing to work with contractors for short-term projects than in the past," says Anderson. "The current economic situation means rather uncertain buying patterns, and in these times no one can afford the luxury of having staff

with idle time."

As a systems integrator, Viewpoint Technologies develops custom software solutions for customers with different needs and different hardware platforms, including PCs. "For the future, we plan on continuing to develop multiple vendor relationships so that we can be immune from the ups and downs of any one vendor," explains Anderson.

The need to provide solutions on a number of platforms is a common concern. For Sue Dintelman, CEO of DMS Systems, this need transfers into a recent decision to diversify and release a series of products under Unix. As Dintelman explains, "As of 1991, we are now supplying Unix versions of our popular Genisys and disk backup recovery products. Like Data General, we also plan to satisfy our continuing customer need for AOS/VS and AOS/VS II software."

US&T, a Massachusetts-based software development house, plans to address this issue by providing multi-vendor solutions, beyond the scope of its PC to CEO E-mail Connection. Consequently, US&T, also an IBM Business Partner, will focus on office automation solutions for Data General, IBM, and open systems platforms.


According to Steve Bigda, company vice president, "The biggest challenge in today's marketplace is sorting out the needs and determining who the vendors are. Many buyers are confused, and don't know whether Unix is really the technology of the future."

The coming year is critical for many DG VARs and software suppliers. While no one can predict the future, strategic planning, accurate forecasting, and innovative, cost-effective solutions remain vital to business success.

As Reynolds of Signal points out, "I expect that the rapid market changes will separate the serious contenders from those who will not survive. We have already seen some fallout. The businesses which will survive are those which are creative. Now is the time for the visionary who is also a good businessman. Personally, I am quite excited about what next year has to bring." △

*Paula Jacobs is a marketing consultant based in Framingham, Massachusetts. She has worked with Data General VARs and ISVs for a number of years.*

**FLYING POINT SOFTWARE**  
33 Flying Point Road  
Southampton, NY 11968



"Top Ten Utility"  
*Randy Berndt, DG Review*

**Work faster, smarter, cheaper with @Con/PC instead of a terminal. @Con/PC offers all the features of D210-D411 terminals, plus flexibility that no real terminal could ever hope to match:**

- Access DG host via gateway from PCs on Novell ®, 3Com ®, IBM ® Token Ring, LANtastic™ and other NetBios networks
- Fast error-free file transfer with included host software
- Access DOS without terminating on-line session
- Display 132-columns on many EGA and VGA monitors
- Macro language automates processing
- On-screen underlining on EGA and VGA monitors
- Multiple on-line sessions under DESQview™
- Memory resident mode
- OS/2® Presentation Manager-compatible version now available

**@Con/PC terminal emulation**  
everything you wish you could do with a terminal

*Limited Time Offer*

Upgrade from your old DG terminal emulator to **@Con/PC Plus for \$99** (normally \$149)  
(Call for details) **516 • 283 • 4994**

Circle 20 on reader service card.

SEVEN SERIOUS REASONS  
FOR MAKING BL ASSOCIATES YOUR HARDWARE SOURCE.



1. FREE SOFTWARE SUPPORT HOTLINE  
617-878-9891
  2. FREE HARDWARE SUPPORT HOTLINE  
617-878-8101
  3. HARDWARE ALTERNATIVES  
(ZETACO, DATARAM, MEGATAPE, SCIP, . . .)
  4. PRICING —  
COMPETITIVE
  5. DELIVERY —  
MOST ITEMS ARE  
IN STOCK
  6. RELIABILITY —  
ALL ITEMS TESTED  
IN-HOUSE AND  
FULLY WARRANTED
  7. FLEXIBILITY —  
TRADE-INS, LEASING OPTIONS
- 7%. SIX NATIVE NEW ENGLAND  
LOBSTERS SHIPPED WITH  
EVERY ORDER OVER \$1,000.00

WHEN IT COMES TO DG AND COMPATIBLE HARDWARE, BL ASSOCIATES HAS A BETTER PLAN. WE BELIEVE OUR RESPONSIBILITY TO CUSTOMERS DOESN'T END WITH THE SALE, SO WE'VE INSTALLED FREE SOFTWARE AND HARDWARE SUPPORT HOT LINES. OUR PEOPLE ARE HERE TO ANSWER YOUR QUESTIONS CONCERNING DG HARDWARE, OPERATIONS SYSTEMS, APPLICATIONS, ETC. THE SUPPORT WE PROVIDE DOESN'T START WITH A DOLLAR SIGN. IT'S OUR RESPONSIBILITY, OUR COST OF DOING BUSINESS.

WHEN YOU'RE IN THE MARKET FOR DG OR COMPATIBLE HARDWARE GIVE BL ASSOCIATES A CALL. YOU'LL GET THE FULL PACKAGE, THE PEOPLE BEHIND IT, AND AN AFFORDABLE PRICE.



A S S O C I A T E S

D.G. HARDWARE AND ALTERNATIVES • WITH THE STRUCTURE TO SUPPORT THEM



145 WEBSTER STREET, SUITE A, HANOVER, MA 02339  
TEL. (617) 982-9664 • FAX (617) 871-4456 • FLORIDA OFFICE 813-576-8100  
PC COMPATIBLES • DG COMPATIBLE DIAGNOSTICS AVAILABLE



AUTHORIZED DISTRIBUTOR

Circle 3 on reader service card.

# Change in direction

## SYNOPSIS

*Using its experience as a large manufacturing company for a starting point, DG enters the systems integration market.*



David Jacob

by Robin Perry  
Focus staff

In April of last year, Data General hired EDS veteran David Jacob to develop a systems integration arm of Data General. The result is the Data Solutions Company, a division of Data General dedicated to providing comprehensive system design, development, and integration solutions to complex information processing needs. The initial target markets are ones with which Data General is very familiar: healthcare, manufacturing, and government.

Of the Data Solutions Company, DG CEO and President Ron Skates says, "We recognize that selling solutions is fundamental to success in the future computer and communications industry." In the

following interview with Jacob, executive vice president of Data Solutions Company, we learn how Data Solutions Company intends to carve a niche in the systems integration market.

**FOCUS:** Prior to coming to Data General, you worked at EDS, a major systems integrator. What did you do there and how will that experience help you at Data General?

**Jacob:** I started there [at EDS] in the technical training program in 1972 and moved up through the technical ranks into management. I ran business accounts for EDS in the field, and then moved into sales. When I left EDS, I was vice president in charge of southwestern sales. So, I have a view of operating business accounts that involve systems integration and facilities management, as well as the sales side of doing this. Data General has asked me to do a similar thing for them using the skills that I got at EDS.

**FOCUS:** Why did you choose the name Data Solutions Company? Was the intent to disassociate your division from Data General Corporation?

**Jacob:** When we were trying to name the company, we wanted to have "Data" in the name, and we're selling solutions. The people who we're calling on to sell our services (we have our own sales organization) need to think of us in terms of solutions. If we said we were Data General, then they would think of us in terms of selling Data General hardware, and that's not what we do.

So, we thought in the outside world we'd be Data Solutions Company. All our cards and all our brochures say "a Divi-

## An epochal decision

Data Solutions Company's first contract is a five-year agreement to provide data processing services to EPIC Healthcare Group. Data Solutions expects the contract to total approximately \$10 million over its term.

Data Solutions will assume responsibility for EPIC's Dallas-based data operations, which provide health information systems processing support for 12 of the company's 39 hospitals. Data Solutions also will manage EPIC's data communications network which

links the Dallas support center with all of EPIC's hospitals and its five Patient Financial Service Centers.

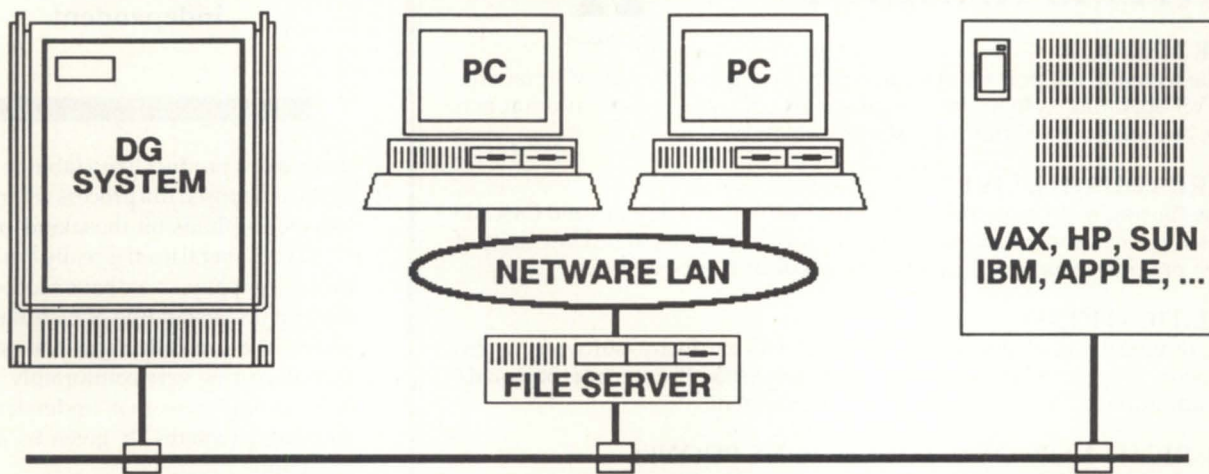
Although Data General is a major supplier of data processing equipment for EPIC, Data Solutions went through a competitive bid process in order to win the contract. "We chose Data Solutions from a field of three strong companies because Data Solutions was able to provide EPIC significant cost savings and increased technical support," said EPIC Chairman and Chief Executive Officer Kenn S. George. Data Solutions estimates it will save EPIC more than 15 percent annually in data processing costs.

EPIC is the third-largest em-

ployee-owned company in the United States. George said that "after two years of operations, our employee-owned company decided to focus its energies on managing hospitals and applying technologies to help solve business needs rather than managing a computer center." Under the agreement, Data General bought computer equipment owned by EPIC, and is leasing it back to the healthcare group. A dozen employee-owners in EPIC's MIS department now work for Data Solutions.

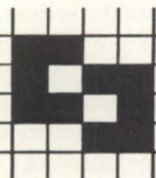
EPIC has more than 4,500 licensed acute care beds in 39 hospitals throughout 10 states, and employs some 11,000 people. Δ

## INDUSTRY STANDARD NETWORKING



- \* FOR ALL DG SYSTEMS
- \* AOS/VS II, AOS/VS, AOS, RDOS
- \* FTP FILE TRANSFER
- \* LPR REMOTE PRINTING

- \* TCP/IP ETHERNET NETWORKS
- \* IBM-PC & NETWARE INTEGRATION
- \* TELNET VIRTUAL TERMINAL
- \* SMTP ELECTRONIC MAIL



**Claflin & Clayton, Inc.**

203 Southwest Cutoff

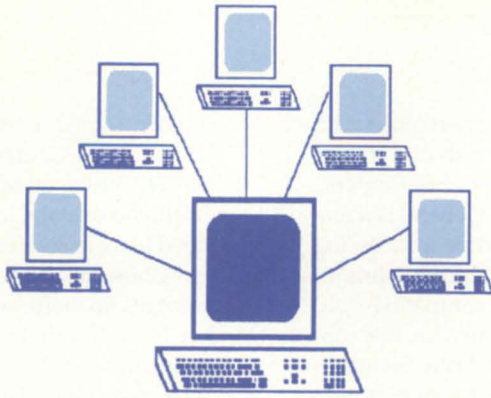
Northboro, MA 01532

FAX (508) 393-8788

Telephone (508) 393-7979

Circle 4 on reader service card.

# Could you use more than one terminal?



With MultiView Windows, you can have the equivalent of up to eight terminals with just one!

Both terminal and PC versions available.

60 day demo for MV Windows.....Only \$49  
60 day extended MV Windows demo for the PC.....Only \$99  
MV Windows with 5 terminals.....\$849



3055 Plymouth Road • Ann Arbor, Michigan 48105 • (313) 995-2400

Circle 16 on reader service card.

sion of Data General." We readily admit that fact, but we want them [the customers] focused on what we're all about.

**FOCUS:** How many people are in your sales force?

**Jacob:** It's fairly small right now. The total organization is about one hundred people. Direct selling is less than five at this point.

**FOCUS:** How are you going to market the Data Solutions Company?

**Jacob:** We're positioning it to sell to the discrete manufacturing marketplace. Those are companies like Data General

**W**e will evaluate other alternatives within the realm of what that company wants and then recommend solutions, but we are vendor independent

that make a product like a table or desk or chair, as opposed to a process where you'd be handling fluids, oil, those kinds of things . . . . Data General itself is really a manufacturing company, so we have a lot of expertise and understanding of manufacturing issues. We can talk about the issues of manufacturing very comfortably . . . . We have people here that understand networking problems. It gives us a lot of credibility.

**FOCUS:** Are you going to be selling Data General hardware only, or all types of hardware?

**Jacob:** All types. Actually, selling is probably the wrong term. We're selling a business solution. When we work with a customer, they will invariably have a hardware platform that they're currently using. We need to leverage that asset. Our intent is not to come in and take what they

## SYSTEMS ANALYST



Weyerhaeuser

### YOUR NEW JOB:

Provide technical support for operation of DG computer facility. Maintain the AOS/VS operating system, user applications software, communication networks, and support real-time operations.

### WHERE YOU WILL LIVE:

Eugene/Springfield, Oregon is located near Pacific Coast beaches and Cascade Mountains. Excellent recreational activities at your doorstep. The University of Oregon provides educational, sporting and cultural opportunities.

### QUALIFICATIONS:

Strong technical knowledge/experience with DG hardware/software, macro instruction programming, and local area networks. Strong interpersonal/communication skills to work in a team environment.

### CALL RIGHT NOW ON A TOUCH-TONE PHONE:

**(800) 338-1542**

Then punch in **Box #8018**. You will hear a detailed job description, and you can immediately submit a brief verbal resume.

Equal opportunity employer. Weyerhaeuser Company is recognized as "one of the 100 best companies to work for in the U.S." Competitive salary/benefits and relocation plan. Qualified candidates can also send resume/cover letter to:

WEYERHAEUSER PAPER COMPANY  
P.O. BOX 275 - 29M  
SPRINGFIELD, OREGON 97477  
FAX (503) 741-5670

Circle 38 on reader service card.



have and throw it away and put all new things in.

We'd like to work with the investment that they've made because we believe that's the best way for them to get savings. We will evaluate other alternatives within the realm of what that company wants and then recommend solutions, but we are vendor-independent, in the sense that we can recommend anything that makes sense.

**FOCUS:** How will Data General compete against, larger, established systems integrators like EDS?

**Jacob:** EDS is focused in terms of customer size on very large complex problems. They will generally call on the Fortune 100 Companies and large government contracts. They have thresholds for what they'll do and what they won't do. Obviously, I'm positioning to be below that threshold. With one hundred people, I don't need the revenue growth every year that they do. They'll be at \$6 billion this fiscal year [FY 90]. So for them to grow at 20 percent a year, they need huge contracts.

I'm going to position to be at medium-sized manufacturing companies, say, one to three million in terms of revenue. To them, Data General will appear to be a large company, which it is. It is not large in the computer industry, but it is large in the manufacturing definition. We solve problems that they are just starting to face. Initially, I don't want to compete with EDS and Arthur Anderson. I want to be in the niches where they don't focus.

**FOCUS:** What are your goals as the person in charge of the Data Solutions company, both for the company and for Data General?

**Jacob:** From the corporate perspective, I was hired by Data General to teach Data General about solutions selling, to move in a direction toward more comprehensive sales planning. I'm really the start-up venture into that, to show Data General how it can be done, and to teach our sales force how to sell more value, away from purely selling hardware. How to add value to the hardware.

At the Data Solutions Company, I take that mission statement and say I've got to build a business. I'm positioning myself to have all the resources I need to be success-

ful in that business. I have a software group, a hardware group, and a network services group, in addition to my sales, marketing, and financial functions.

**FOCUS:** Those sound like lofty goals!

**Jacob:** Well, it's interesting. I've been here since April and have been building a strategy and started pulling the pieces

together, interviewing people in Data General and outside, to get the critical mass I needed to grow that business. That's why I'm so excited about this first round of contracts. It shows that we really can convince customers, and that's what matters, that we can do a good job for them. There's no problem with working with a division of Data General in the systems integration business.  $\Delta$

## Only The Best For Your DG System

*The disk subsystem that sets the standards*

**FOR YOUR  
MV COMPUTER  
Argus 623X Emulation  
SKS-HP Plug and Play Series**



- Up to 1200MB (formatted)
- Only 3.5" vertical rack space
- 5.25" SCSI-interfaced drives, which offer longevity, high reliability, large capacity and a small footprint
- 10.7 msec average seek time (40% faster than DG's 6239 Argus)
- 4.0MB/sec transfer rate

**FOR YOUR ECLIPSE &  
NOVA COMPUTERS  
Zebra Emulation  
SKZ-XX Plug and Play Series**

- Up to 620MB
- 5.25" SCSI-interfaced drives
- Only 3.5" vertical rack space
- 18 msec average seek time
- 1.25MB/sec data transfer rate

**ZETA** Authorized Stocking Distributor

For Back-up:

*The Helical-scan Cartridge Tape Subsystem*  
2 Gigabytes on a small 8mm cartridge



- High reliability
- Compact Media
- Uses host resident tape drivers and back-up utilities

### Dataproducts Printers



**LB Series  
Band Printers**  
(DG Models 4595, 96/  
4598, 99)

4 models: 300, 600,  
100, 1500LPM

**Dataproducts** Authorized Stocking Distributor

**LZR Series Laser Printers**  
(DG Models  
6474-6479)



LZR 1230 — 12ppm  
LZR 1260 — 12ppm PostScript  
LZR 2630 — 26ppm PostScript

*Also: complete line of accessories & supplies*

*Your First Choice for DG solutions*  
Call

**interscience**  
COMPUTER CORPORATION  
5171 CLARETON DRIVE, AGOURA HILLS, CALIFORNIA 91301

(800) 627-2007  
Fax (818) 707-1627

Circle 23 on reader service card.

# Lightning in a bottle

by Lori Rhea DiSorbo  
Focus staff

Resellers, who account for more than half of DG's product sales, play a crucial role in Data General's revival. How have the recent changes at Data General affected resellers? *Focus* magazine interviewed Forrest May, president of Admark Systems and president of the DG VAR (value-added reseller) Council, to get the reseller's perspective on recent changes.

The VAR Council is DG's forum for communicating with its resellers. It's made up of 15 resellers from the U.S. and Canada, who represent the DG VAR community as a whole. The Council is a two-way communications channel. VARs use it to bring their concerns to Data General. On the other side, DG may preview products to the Council before they are officially rolled out, or get the VARs' reaction to new ideas.

In a time when open systems make vendor loyalty ever more enigmatic, DG is wise to treat its VARs nicely. As May put it, DG VARs are "lightning in a bottle." Controlled, but highly volatile.

**FOCUS:** What was the VAR community's reaction to the ousting of DG founder Edson D. de Castro, and what is its confidence level in DG President Ron Skates?

**May:** Salespeople have been calling us asking what we think about Edson retiring and I say, "He hadn't been running the business the last two years. So, I don't

think it makes any difference." We [DG and its VARs] have been in transition from a single proprietary line to a dual product line, and we're almost through with that. We're ready to move on.

I didn't like the style [of the retirement]. I didn't like the idea that the board voted [de Castro] out. I wish he had been smart enough to leave. It's like Tom Landry leaving the Cowboys. Tom Landry didn't have a choice, either. It would have been better if he had read the room and said, "Looks like I need to retire." Then they could have thrown one heck of a party.

We used to fuss at Ed and tell him he should come to [VAR Council] meetings, since we're 60 percent of his business, and rub shoulders with us, get to know us, and us him. But he never felt like he had to.

I have no trouble with Ron Skates. I like his style. He's a "no-brag-just-fact" kind of guy. At the NADGUG kickoff/reseller conference, he was out there walking the floor just like I was. I think he is in a tough position. DG needs to make money. I told him they don't need to make \$30,000, they need to make \$1. It's not that DG needs to show this great big profit—they need to have the ink be the right color.

**FOCUS:** Do you have confidence that the changes made during Data General's restructuring will be enough to turn the company around?

**May:** I think when we see the [first quarter] numbers we'll know how close we got. We really hated losing some key people through the layoffs, but the VAR council told DG that one of their [DG's] problems is that they wouldn't figure out their employee formula. If it's 9,000 or 9,200 employees, then get there. Then they need to tell those 9,200 employees that they are the team. Because those guys are looking over their shoulders. He [Skates] needs to give his employees reassurance that they are the formula, and that they can make money. That way the employ-

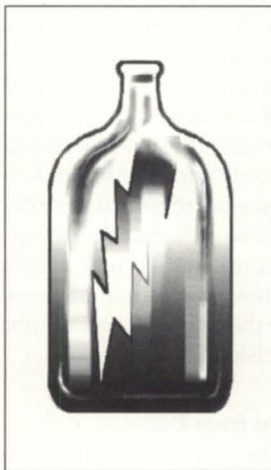
**SYNOPSIS**  
*Forrest May, point man for DG's VAR community, presents a lively look at Data General from the reseller's perspective.*

ees are solid and they can put their minds on their work. The VARs can then stop worrying about whether there's going to be another cut in the second quarter.

There are some maintenance problems with the cutbacks. DG has done such a good job of getting their customer satisfaction level up. They've spoiled us. And then all of a sudden there are cutbacks, and we don't get the same level of service. I think what they'll see the next time they review the customer satisfaction level is that it isn't as high.

**FOCUS:** Data General has been accused in the past of pushing Aviiion sales at the expense of MVs. From your perspective, how has DG's move into open systems affected MV sales?

**May:** There are some very effective programs in place as far as moving MVs. Whereas last year they were giving quotas to their salespeople to sell Aviiions, now the quotas are for any type of machine. That's what they should have been doing last year. They should have let the Aviiion mature, and not stopped with the MVs. I am really pleased with what I see now. I believe they are going to pull it out.



**FOCUS:** Along with the restructuring, Data General announced that it was forming a new division, the Data Solutions Company, to pursue systems integration business. Is DG's venture into systems integration threatening to VARs?

**May:** DG's never done [systems integration] before. It wouldn't surprise me to see them get in and then get out of it. I still think that their claim to fame is building hot boxes. The whole notion of "dancing with the one that brung ya." That's how they got here; that's what we look for.

We look for them to sell us a comprehensive product line. We want it to be the price/performance leader. We want them to make money. We want them to provide support from a system and field engineering perspective, and then I want them to leave me alone.

As far as a channel conflict, systems

integration is actually another channel. And that could be construed by some VARs as a channel of conflict. As a VAR, I want them to stay out of my channels. They have done a good job over the years of staying out of our way.

A long time ago, someone talked about DG's VARs being lightning in a bottle. That's what we are right now—lightning in a bottle. And I believe we have an extremely good focus. Only the test of time will show.

**FOCUS:** In general, how is business for DG VARs? Do you find hesitation among buyers because of DG's financial problems?

**May:** Let me put it to you this way: the MV/1000, the low-end machine, they can't keep up with the demand . . . . That's a good sign. The MV is doing an outstanding job for us. I don't know of anybody who is not pleased with the product. And [DG] has been working hard on their PC product line. I understood they had a similar demand problem with the PCs.

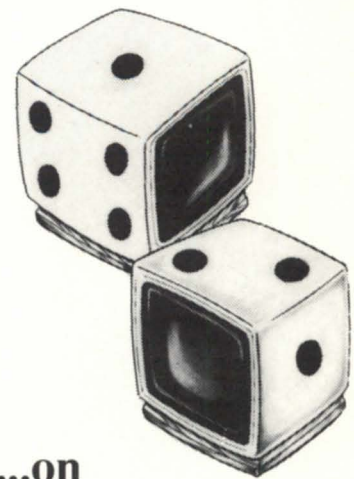
With the Aviiions, I put one in just to make sure that, if somebody asked us, we could spell Unix. We've installed our first Aviiion for a

client in Wichita and the client is tickled to death. It's been operating for months now with no problem whatsoever.

And we finally got Wordperfect 5.0 on the MV, which puts the MVs ahead of the Aviiion right now. We are told that they are going to give us 5.0 and Wordperfect Office on the Aviiion, and there is a rumor that they have decided to revamp their spreadsheet product for the Aviiion. That's what we've been asking for forever. If Santa Claus could come, he would bring me an MV in my left hand, an Aviiion in my right hand, and both of those machines would run Wordperfect, Planperfect, and Office.

That makes this dual-product thing that everybody keeps talking about a reality. When the final pieces are in place, I will have a dual-product line. I think the next one and two years are going to be real interesting. Δ

## Why gamble...



### ...on someone offering disaster recovery as a sideline?

With DG/hot site from Data Assurance, you get:

- Dedicated DG computers
- Dedicated Communications
- Dedicated Recovery Experts

Over 150 DG users, spanning the U.S. and Canada, don't gamble with their information based assets - or their choice for a hot site. They use the dedicated people, experienced in actual recoveries and hundreds of tests, and dedicated disaster recovery resources of

## Data Assurance Corporation

Denver • New York • Philadelphia

**(800) 654-1689**

12503 E. Uclid Dr., Ste 250, Englewood, CO 80111  
(303) 792-5544 • FAX (303) 792-0218

Data General has qualified DAC as a provider of DG/hot site, based on criteria established by DG. DAC is an independent company offering its disaster recovery services to users of

  
equipment.

# Shifting gears

## SYNOPSIS

*The City of Glendale, with the help of Data General, embarked on an ambitious plan in the 1980s to provide comprehensive citywide data processing and office automation services. The City's new five-year plan, based on decentralization and investment protection, reflects the computer industry's sobering of the 90s.*

by Steven H. Jones  
Special to Focus

*"Home to settlers since the 1880s, Glendale incorporated in 1910 as a town in the Arizona territory. Nearly a century later, it is the fifth-largest city in Arizona, with over 136,000 residents. Today, Glendale is a vibrant and progressive community, a community with pride in its heritage and a plan for the future."*

This was the lead-in to an article that appeared in Data General's Profiles magazine in 1986. Five years later, Glendale finds itself reflecting on the path it chose and considering a bold new plan to manage the challenges of the 90s.

In 1984, our goal was to install a decentralized, but integrated network of computer systems that would extend office automation and custom application systems to the end user. In just two short years, with the help of Data General, we developed and implemented a citywide integrated CEO office automation system that increased efficiency, facilitated productivity, and saved money.

In the late 1980s, CEO was considered by many, including myself, to be the Cadillac of integrated, state-of-the-art, user friendly office automation software systems. Here we are in 1991,

and CEO is still the mainstay of our operation that includes two MV/20000 Mod IIs, three MV/10000s, an MV/4000 system, over 400 terminals, and over 200 personal computers. Along the way, we wrote or purchased all of our major application systems, such as utility billing, sales tax, police CAD (computer-aided dispatch), police records, general ledger, accounts payable, purchasing, payroll, and many other smaller applications.

The mission statement of the City is "to be responsive in efficiently providing quality services to the community." We truly believe that it is our job to serve the citizens. However, since the Information Systems Department does not provide front line services, our "customers" are not the citizens, but the City employees who are responsible for delivering those services. It is our task to make sure that the police officer, fire fighter, customer service representative, or field operation worker has the best and most up-to-date information possible. We consider this information to be the driving force of human activity—it enables us all to make decisions.

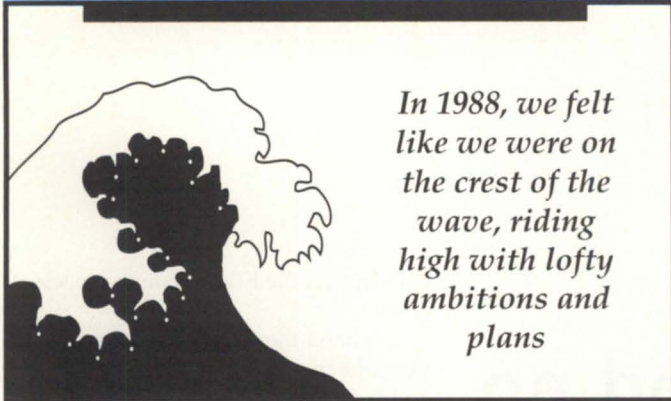
## With help from DG

Over the years, we built upon our relationship with Data General and its VARs to provide an environment for our employees that stresses comprehensive service and support. In all automation projects, user support is critical. In response to that concern, we established an in-house training program that includes a fully equipped training center. To promote the sharing of ideas and further improve communications at the end user level, we formed a citywide users group and publish a monthly newsletter. Whenever a department needs a special application, we form project teams. These teams include as many of the end users as possible to ensure that the best solution, not necessarily the data processing one, is designed or selected to fit their needs.

In 1988, we felt like we were on the crest of the wave, riding high with lofty ambitions and plans. Then, like many municipalities, we were finally hit by the country's economic problems that resulted in budget cutbacks and overall belt tightening. The decision to upgrade the computer system took a back seat to the front-line services needed to serve a community that continued to grow and had come to expect quality service from its local government. The strategy became "do more with less." Now that we believe that the worst is behind us, we are proposing a new automation plan for the 90s.

Today, we realize that it is no longer economically practical for us to continue to upgrade and purchase large super-minicomputers, so we have explored other ways to accomplish the same

goal of decentralization, while protecting our large investment in application software and CEO experience and training.



*In 1988, we felt like we were on the crest of the wave, riding high with lofty ambitions and plans*

#### A change of scene

In 1988, we started writing or purchasing all of our new application software systems using the Oracle RDBMS as a standard. We chose Oracle for its portability, maturity in the RDBMS marketplace, availability of software solutions, and its ability to utilize personal computers as intelligent workstations. To date, our utility billing system, sales tax, complaint tracking process, integrated police records, and investigative management systems are written using the Oracle RDBMS and tools.

CEO, like any office automation product, requires a lot of machine overhead to work efficiently. We believe that off-loading the bulk of the user-intensive office automation processes, such as word processing and spreadsheet analysis, from the host computers down to personal computers, will allow us to down-size our host computers in the future.

In summary, our proposed five-year plan is to

- Re-cable existing City facilities for twisted pair LANs
- Migrate CEO to a mixed minicomputer and PC environment ultimately replacing all terminals with PCs and moving to a CEO-like network PC product
- Migrate and/or convert all of our application systems to use the Oracle RDBMS in a Unix environment
- Retire the MV series computers, replacing them with Unix-based RISC architecture Aviiion systems.

Keeping in mind that we have a user community of over 650 employees that will have to be transitioned gently to any new environment, we are inviting broad participation in the development and implementation of our plan.

In retrospect, we think we made a good decision in 1984, and more importantly, we are in a good position today to make an appropriate decision about our future.  $\Delta$

*Steven H. Jones has worked in city government for nine years. He began as a programmer, and has worked through the stages of systems analyst and programming manager, to his present position as information systems director for the City of Glendale.*

# BUSINESS BASIC UNDER MS-DOS?

## WHO'S KIDDING WHO!

### No one... If you're using Personal Computer Business BASIC by MarcAlan Software

**PCBB** is an easy to use product which allows you to convert your existing double and triple precision D.G. Business BASIC applications and data over into a single or multi-user MS-DOS or PC-DOS environment. Binary compatibility allows data and index files to be moved and utilized without modification.

**PCBB** features include on-line help, debugger, an editor which offers the look and feel of an interpretive environment and Compiler Driver which expedites the process of compiling source code without the creation of batch files. Special features such as support for extended or expanded memory, 128 user channels, allowing labels to be utilized instead of line numbers and a Block Common area that can range in size from 512 bytes to 10K in size are standard. Utilities to maintain Data General compatible screen files, param, logical database and index file structures are also included.

Purchase of **PCBB** includes a royalty-free right to reproduce and distribute executable files.

*Write, call or fax now for more information*

# MAS<sup>®</sup>

**MarcAlan Software, Inc.**

22096 North Pet Lane  
Lincolnshire, Illinois 60069-4113

Voice: 1-800-728-7387

Fax: 1-708-634-9460

PCBB is a registered trademark of MarcAlan Software, Inc. All other product names and logos are trademarks or registered trademarks of their respective owners.  
© MarcAlan Software, Inc. 1990



# All rev'ed up and no place to go ... but back

## SYNOPSIS

*AOS/V5 7.68 solves some system problems but, alas, there are others; here's a rundown. Also, a (very) early letter to Santa for Christmas 1991.*

## :HAPPY\_HOLIDAYS

By the time you read this, the Coldest California Christmas in recent memory will be history and the flood of New Year's Eve resolution articles will have long since faded from your hypothalami.

I've always had trouble writing these columns three months in advance and pretending that it's the publication date instead of the actual date I wrote it, so you'll just have to put up with one more Xmas/NY article.

## :22 DEC 90 (SAT)

AOS/V5 7.68 arrived last week and I plugged it into one of the four MV/4000s today. The good news is that several pesky old problems went away. The bad news is that they got replaced with lots of pesky new ones, and several of the old ones just won't seem to disappear. It's pretty clear that 7.68 never went through any serious alpha or beta tests before it shipped. So much for Software Quality Assurance.

The only delightful aspect to the installation was that 7.68 does not require running the dreaded UPDATE.CLI macro. That shaved at least an hour off the upgrade time.

After following the installation instructions religiously (why not? it's Xmas), the only major problem remaining was that I

couldn't get the FTA queue to process its entries.

I combed the Release and Update notices, the manual update files (:UTIL:0+), and the hard copy *Supplement I to Managing AOS/V5* that came with 7.68, for any special instructions regarding FTA, but all to no avail. Luckily, the only thing we use QFTA for is to distribute the logs of system backups to the other systems on the net once a day, so I figured I'd just change the backup macros to use MOVE/FTA (which worked) instead of QFTA until I located whatever patch was missing.

You might be asking yourself, "Why didn't the jerk just call Atlanta?" I would have, except that we have simple SSS without SPSA. So I did the next best thing: during my weekly Sunday night call to the NADGUG BBS, I left a message to ALL describing the problem and asking if anybody had had similar trouble.

On the chance that the solution to my problem might be lurking on OIS, I also called that and discovered that as far as OIS is concerned, there is no AOS/V5 7.68. However, I did discover that the number of current STRs for AOS/V5 was more than 4,000. That's disheartening. So I contented myself with downloading the latest patches for Xodiac/XTS, none of which mentioned my problem.

## :30 DEC 90 (SUN)

The following Sunday, I made my weekly call to the NADGUG BBS and discovered that several people were experiencing a variety of problems with 7.68, mostly having to do with the new EXEC and its band of co-op processes, but nobody had anything concrete to offer on my FTA problem.

At that point, I decided to do something I haven't done in a long, long time: back rev. I mounted the 7.67 tapes and started

LOAD/DELETE on the system that had been upgraded to 7.68.

While the tapes were loading, I sat at a terminal and started looking around on the disk for old junk files to delete. In the process, I discovered :UPDATE:7.67:5.30\_FTA.PR\_PAT. We're currently running FTA rev 5.50, so I figured this patch was junk and started to delete it. Luckily, I decided to read it before I deleted it. Lo and behold, there was the solution to my EXEC/FTA problem. The patch indicated that it was intended for AOS/VS II, not AOS/VS, but it involved changing a text string within FTA.PR from "EXEC" to "XNET" for use with the new style AOS/VS II EXEC. Eureka. I copied the patch file to :UPDATE:7.68:5.50\_FTA.PR\_PAT and edited it to change the references to 5.30 to 5.50.

Then I aborted the LOAD/DELETE and started a LOAD/DELETE of the 7.68 Update media to give 7.68 one last chance. I applied the patch to FTA.PR and suddenly XNET was gobbling FTQ entries like a bandit.

**:01 JAN 91**

Two days later on New Year's Day, I upgraded the other three MVs to 7.68 and it looks like we're on 7.68 to stay, in spite of the remaining problems.

**:STR\_TIME**

Normally, when I install a new rev of AOS/VS, I check all my STRs for the old rev to see how many have been fixed, and I submit new STRs for anything I discover during the installation and shakedown cruise. I didn't do that this time for three reasons. First, the number of outstanding STRs I saw on OIS was not an encouraging sight. Second, the number of problems I found would have taken the better part of a day to document fully and I don't have a spare day right now. Third, I'm still a bit hacked over the response to the last STR I sent in. I sent a marked up listing of the actual DG source file for a C runtime library routine that has a bug in it, and the response was that they could not see the bug. Huh?!

To save all of you C types from calling me to find out what the bug is, don't worry: it's not likely to affect you unless you call strtok with a token string that contains character values in the range 360 to 377 octal. The author of the routine forgot to bump AC2 before the second

BLM when setting up the complementary token delimiter tables. Anyway, here's a list of what I would have STR'ed had I had the time and/or inclination.

**:EXEC**

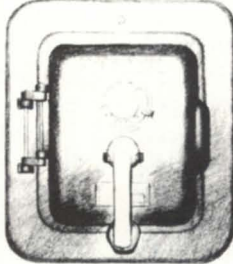
The most annoying bug for me in the new EXEC is not exactly of cosmic importance; typing ^D (EOF) at the logon banner used to clear the screen and re-display

the banner. Now, it echoes "S" and re-displays the banner without clearing the screen. I noticed the same problem on AOS/VS II 2.01's EXEC a while back.

We have two new macros around here for the operators to use :MOUNTQ\_RESTART.CLI and XLPT\_RESTART.CLI.

XMNT has an annoying habit of going off into la-la land when hard tape errors occur. The only thing that seems to cure

**IN  
CASE OF  
EMERGENCY**



**CALL  
FAST TRACK  
SYSTEMS, INC.**

**FAST TRACK is best equipped to provide disaster recovery services to your company**

**Look at the facts:**

- Multiple hot sites for better geographic coverage
- Fully equipped locations: Manhattan, Brooklyn NY, and Chicago
- Largest base of installed equipment, and most equipment per subscriber of any Data General disaster recovery firm
- Facilities manned 24 hours a day, 7 days a week by trained operators
- Data General VAR authorized to provide disaster recovery services
- The only Data General hot site facility with its own off-site high security data storage vaults offering 24 hour, 7 day a week courier service
- Fully equipped computer room, office space and conference room facilities dedicated to disaster recovery subscribers
- On-site inventory of hundreds of modems, multiplexors, and terminals
- Private communications network available in most major U.S. cities
- In-house Data General communications expertise ready to provide solutions to your networking needs

**Before disaster strikes, you need FAST TRACK SYSTEMS™**

**(718) 522-7373**

FAX (718) 260-4375

Data General has qualified FAST TRACK SYSTEMS as a provider of **DG/hot site** services based on FAST TRACK having met criteria established by Data General.



**FAST TRACK SYSTEMS, INC.**

61 Broadway New York, NY 10006

FTS is an independent company providing its disaster recovery services for users of Data General equipment.

Circle 19 on reader service card.

the problem is TERMINATEing XMNTI and restarting it.

XLPT exhibits a more varied pattern of behavior. Everything from occasionally ballooning its working set size to infinity, to sending the data channel printer offline with illegal format code errors.

None of the co-op problems are reproducible. My gut feeling is that these problems were introduced intentionally so that we would appreciate the new EXEC's ability to restart a dead co-op without having to kick all of the users off and restart EXEC. OK, I'm impressed with the new facility. Now, how do I turn off the bugs that make it so handy?

The command uniformity made possible under the new EXEC co-op scheme has a few chinks in its armor. The START command for MOUNTQ (needed by our new MOUNTQ\_RESTART.CLI macro) is weird: CXSTART MOUNTQ MOUNTQ. When a queue has no "device", such as MOUNT,FTA, and batch queues, it would seem to make more sense to just allow the device name to be omitted instead of forc-

ing you to specify the queue name as the device name. On the plus side, at least this quirk was documented clearly in the XHELP START file.

The /NOTIFY logic for queue submissions seems to have changed. Previously, the notifications would always be sent to the correct console, even if the process that did the submission was no longer around (e.g., push to a CLI within SED, QPRINT/NOTIFY, and BYE back to SED). That doesn't seem to be the case now. Also, like many other shops, our SUPERUSERS tend to use the BE.CLI macro to become other usernames. That also seems to account for a few of the missing notifications.

Finally, CXSTATUS@FTA\_EXEC now displays the co-op and stream statuses correctly again, as it did prior to 7.67.

### :LOAD\_II

Both CLI16 and CLI32 interpret the meaning of the /RECENT switch to be "if the source file's DCR/TCR is more recent than the target file's DCR/TCR, or both

have the same DCR/TCR but the source is longer, then the source file is more recent." LOAD\_II/RECENT doesn't compare the file lengths if the DCR/TCR is the same. This means that if you've appended new information to an existing file (e.g., a transaction log file), then MOVE will see the longer file as more recent, but DUMP\_IIing it to tape and trying to LOAD\_II/RECENT on top of a shorter version will not.

This is not strictly related to AOS/VS 7.68, but you should be aware that QFTA/RECENT also fails to take file lengths into account when DCR/TCRs match.

LOAD\_II now warns you that the "UDA already exists" under certain circumstances when loading on top of an existing directory structure. Unfortunately, I haven't been able to pin down the circumstances and the Update Notice offers no clue.

LOAD\_II/RECENT occasionally fails to load a more recent file at all if the parent directory of the file already exists. This little bug has rendered /RECENT nearly

GOOD NEW  
PLANET EA



useless around our shop. We now routinely use /DELETE or PROC up a CLI16 and use LOAD/RECENT because of this nasty little problem.

The next DG person who suggests that what I really need to get around these problems is a license for LOAD\_III/DUMP\_III is going to get a tape reel suppository. Instead, I'm coming dangerously close to resurrecting my old LOAD\_99/DUMP\_99 product project.

#### :MEMORY

The new EXEC and its four co-ops increase memory consumption by a bit. Exactly how much is a function of the number and types of queues, streams, and printers that you have. A check of the networking set sizes using PERFWA (see my May '90 column) shows that the net memory consumed for EXEC and the four co-ops on my system is a whopping 942 KB. Ouch.

Except for that, there don't appear to be any other significant memory increases associated with the new rev.

#### :TIMING\_PROBLEMS

When I brought up the new EXEC, I got a "no such cooperative" message. A little research pinned the problem down in the way that EXEC is brought up. Our EXEC\_UP.CLI macro is modeled after DG's standard UP.EXEC.CLI macro: it PROCs up EXEC and then uses WAIT\_FOR\_PORT @EXEC to wait for EXEC to create its IPC file before proceeding to ram all the initial CONTROL@EXEC commands down its throat.

Unfortunately, the new EXEC creates its IPC file early during its initialization, before it has even started to PROC up the XBAT and XMNT co-ops. As a result, our CX OPERATOR ON command that occurs shortly after the WAIT\_FOR\_PORT @EXEC resulted in a "no such cooperative" message because XMNT hadn't been PROC'ed yet. I added a PAUSE 1 after the WAIT\_FOR\_PORT @EXEC and kept rebooting, adding 1 to the PAUSE each time, until the message disappeared. Final score: PAUSE 10.

#### :HELP

Rev 7.68 finally supplies the missing HELP files for all the new CLI32 and EXEC commands. Now I don't have to keep a CLI32 manual handy at my console.


#### :CLI

Like most AOS/VS systems running current revs, we've completely switched over to CLI32. Unfortunately, the Update Tape comes with CLI.PR linked to CLI16.PR, so our UP macro bombed the first time I brought the system up when it hit a PRIVILEGE command. I wonder how long it's going to be before CLI32 becomes the default?

Only a few minor problems have been noticed so far with CLI32. Occasionally, I've noticed that when CLI32 repeats a command that had errors, the repeated version does not match what I typed in. The /HASH switch on FILESTATUS, which didn't work at all on CLI32 7.67, now returns a random value. Very handy. Also, the command FILESTATUS A:B:C, where A and B are directories and C is a

# S FOR RTH.

The struggle to protect the environment has a powerful new weapon. AViiON™ Systems from Data General. The U.S. Geological Survey will soon begin installing more than 6000 of our AViiON™ UNIX® servers and workstations in a sophisticated new computer network that spans 50 states, two territories and the District of Columbia. Data General won this 7-year contract for all the right reasons: great open-architecture, superb service, support, systems engineering, training. Plus 22 years experience working in multivendor environments. If you need new solutions to help conserve and maximize resources why wait for the others to catch up. Call 1-800-DATAGEN now. We have good news for you, too.

 Data General

Circle 11 on reader service card.

file, results in no error message for the trailing colon. CLI16 correctly points out the error. There are a bunch of other anomalies that I haven't kept track of, but so far none have proved to be anything other than annoying.

I wish I had a nickel for every bug related to pathname checking and template expansion that could have been cured years ago by putting one set of standard

logic for them into the AGENT.

Some old problems with CLI32 seem to have disappeared. One involved MOVE/BUFF=n :NET:host:dir commands. If the n was more than 8,192 then CLI32 would not complain, but only a zero length file would appear at the destination.

## :GARBAGE\_COLLECTION

7.68 finally fulfills DG's promise to pro-

## :DEAR\_SANTA

After installing 7.68 I decided to get a jump on next Christmas by sending my letter to Santa 12 months early. Here's what I wrote:

Dear Santa:

I'm gonna be a good boy this year (again). Here's what I'd like to get for next year: consistent naming convention for the patch files provided with all DG products—preferably something like x.yz\_programname.PR\_PAT. Patches on OIS are major offenders.

Consistent use of file types and record formats for text files. For example, :UTIL:0+ and +.CLI files that are type TXT with record format D S.

Reasonable hash frame sizes on the directories for product tapes, instead of using the default value of 7.

Better segregation of files on product release tapes (e.g., why aren't 093 files stored in :UTIL:DOC\_CHANGES and why aren't the CONTEST files in :UTIL:CONTEST?).

Compiler macros that consist of just "XEQ %0 %" so I don't expend 5 seconds of CPU per compile evaluating a 4,000 byte recursive macro before I even get to the compiler or linker.

Compiler macros that allow the use of XEQ/S to test whether or not the compile succeeded before wasting time invoking the linker (esp Cobol).

Macros that don't mess up my environment if they abort early (e.g., COBOL.CLI).

Less duplication of similar macros (e.g., NET's WAIT\_FOR\_NET-PORT.CLI vs. AOS/VS' WAIT\_FOR\_PORT.CLI).

A consistent set of UP and DOWN macros for any product that involves a global server, including consistent naming (e.g., FOO.UP.CLI vs. FOO\_UP.CLI vs. UP\_FOO.CLI).

A real hierarchical HELP facility (e.g., HELP SYSLOG/START).

Thanks and Regards,

B.J.

## YOU NEED DATA GENERAL AND DEC EQUIPMENT. YOU NEED IT NOW. YOU NEED IT PRICED RIGHT. AND IT HAS TO MEET YOUR SPECIFICATIONS.

### DATA GENERAL

#### CPU'S

MV 20000 Mod 1 & 2 ...	CALL
MV 15000 .....	CALL
MV 10000 w/AOS/VS .....	\$14,900
MV 10000 .....	\$7,000
MV 7800 XP w/4 MB .....	\$9,900
MV 7800 w/4 MB .....	\$5,500
MV 4000 .....	\$1,900
MV 2500 .....	\$17,500
MV 2000 .....	\$2,900
S/280 .....	\$2,900
S/140 .....	\$2,200
Nova 4X .....	\$1,600
Desktop Systems & Peripherals .....	CALL

#### DISK & TAPE

MV 2000 Disks and Tapes .....	CALL
6239 592 MB S/S .....	\$5,900
6236 354 MB S/S .....	\$2,675
6161 147 MB S/S .....	\$1,500
6160 73 MB S/S .....	\$1,200
6299 6250 BPI Tape .....	\$9,500
6125 Tape S/S .....	\$795
6026 Tape S/S .....	\$1,750

#### MEMORY

MV15 & MV20 32 MB .....	\$16,500
MV15 & MV20 16 MB .....	\$8,500
MV15 & MV20 8 MB .....	\$3,900
MV4 & MV10 8 MB .....	\$2,500
MV4 & MV10 4 MB .....	\$1,600
MV4 & MV10 2 MB .....	\$650
Memory For All Other DG Processors IN STOCK	

#### CRT's & PRINTERS

BP 1500 Printer .....	\$8,900
4374 Printer .....	\$5,000

#### CRT's & PRINTERS Continued

B1000 Printer .....	\$3,900
B600 Printer .....	\$2,200
B300 Printer .....	\$1,450
D461 CRT .....	\$475
D460 CRT .....	\$325
D411 CRT .....	\$395
D410 CRT .....	\$275
D462 CRT .....	CALL
D216 CRT .....	CALL

#### COMMUNICATIONS

IAC/16 .....	\$2,400
IAC/8 .....	\$875
ATI/16 .....	\$400
AMI/8 .....	\$200
LAN Controller .....	\$3,500
LAC-12 .....	\$1,500

### DEC

#### CPU'S

MicroVAX II, III .....	CALL
KA630 w/ck .....	\$2,500
11/785 XAAE .....	\$9,995
11/780 XAAE .....	\$1,995
11/750 XAAE .....	\$995
11/730 XAAE .....	\$500
11/44-DA .....	\$1,695
BA23-A .....	\$595
Rainbow PC IOOA .....	\$295
KDJIBB .....	\$3,250
KDJIBC .....	\$2,000

#### DISK & TAPE

RLV12 .....	\$495
RA60-CA .....	\$2,500
RA81-AA .....	\$2,995
TK70 w/contr., new .....	\$5,800
TK50/TQK50 .....	\$2,495
RA82 .....	\$9,500
TSU05-AA .....	\$3,995

#### DISK & TAPE Continued

TSV05-AA .....	\$3,995
CDC 9715-160 .....	\$1,500
Cipher 880 .....	\$950
TU80-AA .....	\$950
RM05 .....	\$500
RX02 .....	\$295
UDA50-A .....	\$450
Kennedy 9600 .....	\$3,295
KDB50-A .....	\$5,500
Fujitsu 2351A .....	\$2,000
Emulex SC03/BX .....	\$295
XT2190 (MAXTOR) .....	\$1,395

#### MEMORY & COMM

Deuna-AA .....	\$500
DELQA .....	\$2,200
DELUA-M .....	\$3,800
DHQII-M .....	\$1,275
DZQII-M .....	\$350
MS750-CA .....	\$100
MS650-AA .....	\$1,400
MS630-CA .....	\$2,250
MKII-CE .....	\$300
Dequna w/cab kit .....	\$500
Emulex CS02 .....	\$575

#### CRT's & PRINTERS

B600 .....	\$1,995
B1000 .....	\$3,995
LA50-RA .....	\$295
LAIOORA .....	\$425
LA120DA .....	\$795
LA210-AA .....	\$795
LQP02 w/SF .....	\$400
LK201-AA .....	\$100
LP25 .....	\$995
LP26 .....	\$1,995
VTIOO-A .....	\$100
VT102 .....	\$125
VT220A/B/C .....	\$300
VT320A/B/C (new) .....	\$415
VT240A .....	\$750

### LARGE SELECTION OF EARLY-MODEL EQUIPMENT

## SECURITY COMPUTER SALES, INC.

MINNESOTA  
PHONE: (612) 227-5683  
FAX: (612) 223-5524  
622 ROSSMOR BUILDING  
500 N. ROBERT STREET  
ST. PAUL, MN 55101

ARIZONA  
PHONE: (602) 861-0165  
FAX: (602) 861-0313  
11426 N. CAVE CREEK RD.  
SUITE E  
PHOENIX, AZ 85020

"THE SOLUTION"



Circle 30 on reader service card.

vide a means of deleting obsolete files when installing a new or updated rev. The facility is supplied as :UPDATE:7.68 :OBSOLETE\_FILES.CLI. Somebody forgot to tell the person who created it that the ".CLI" extension is traditionally reserved for CLI macro files. This file is not a CLI macro; it's a "BUILD" format file of pathnames, so don't try to execute it directly.

System managers frequently ask me what unused AOS/VS files can be deleted to free up space on the system disk. A complete list is hard to specify accurately because it depends on what utilities you use and what your hardware configuration is. But in general, it doesn't make sense to delete unused files; there just aren't enough of them to make a significant difference. For example, if you don't do any programming, use only IACs without ANSI and don't use SMI or LOCK\_CLI, you could conceivably free up a maximum of 4.25 MB out of a total of about 20 MB.

#### :PATCHES

The patch situation for 7.68 is basically the same as it was for 7.67. I installed the standard patch file, plus the following optional DG patches:

7.68\_FILE\_ELEMENT\_SIZE\_PAT  
7.68\_FLUSH\_BUFFERS\_PAT  
7.68\_SYSCALL\_CHARGE\_PAT  
7.68\_TUNPBLK\_PAT

Then I installed my own unsupported "standard" patches:

7.68\_BJS\_AOSVS\_PAT  
7.68\_BJS\_EXEC.PR\_PAT

The above patch files are available from the :SYSMGR BBS. The first patch extends DG's element size patch to more closely

*Bj is the President of B.J. Inc., a San Francisco based consultancy specializing in system auditing, system management, and performance analysis. :SYSMGR is a division of B.J. Inc. Bj can be reached at 109 Minna St., Suite 215, San Francisco, CA 94105, 415/550-1444 (voice) or 415/550-1072 (fax). The :SYSMGR bulletin board number is 415/391-6531 (300/1200/2400 with optional MNP class 5, CHAR/605X/CHARLEN=8/PARITY=NONE/AUTOBAUD) or 415/550-1454 (voice).*

mimic AOS/VS II and adds bit 6 to the TUNPBLK patch to keep BLAST's excessive ?WDELAYS from disrupting other users. The EXEC patch speeds up logons with the unfortunate side effect of disabling the license message during logon.

#### :POSTSCRIPT

In the week since I submitted this column to *Focus*, we've been experiencing

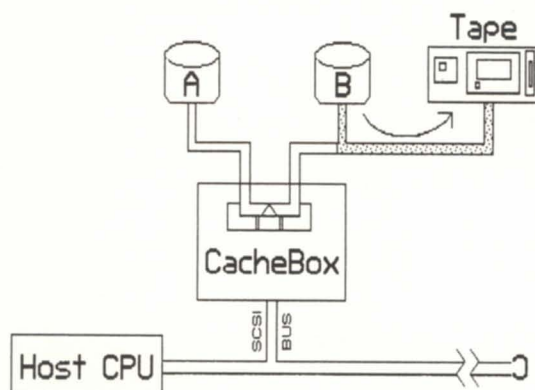
four or five EXEC cooperative failures a day, and also a handful of EXEC failures and two panics indicating file system corruption. On January 13, I reluctantly backrev'd all four systems to 7.67 and decided to wait for AOS/VS 7.69. The number "769" has a special significance for me; it was my badge number when I worked for DG. Here's hoping that it's in better shape than 7.68. Δ



## Delphi Data

### Introduces the RAIDER™

CacheBox Driven Array of SCSI Disks for Maximum Price/Performance



16<sup>th</sup>  
Anniversary

Concurrent Backup

#### Additional Features:

- Mirroring / Stacking / Unstacking  
The drive size you need with mirroring for data integrity.
- Concurrent Backup  
No stop backup for systems that need high availability.
- Backup to 8MM tape / 4MM tape / optical cartridges for long term archiving and off-site secure data storage.
- Disk Arrays up to 5 GB deep to 3 wide (triple mirror) per cachebox.
- Up to 64MB disk cacheing with advanced Algorithms (LRU etc.).
- 486 EISA compute power for high speed response available.

Patent Pending



## Delphi Data

(714) 279-7955  
Fax: (714) 279-7957

9069 Cajalco Road,  
Building 1 •  
Corona, CA 91719

Call for your  
VAR pricing.

Circle 14 on reader service card.

# Vulnerable to attack

## SYNOPSIS

Our reviewer recommends one book that takes a "non-sensationalistic approach" to the increasingly scary topic of virus protection

by Tom Gutnick  
Special to Focus



*Computer Viruses: Dealing With Electronic Vandalism and Programmed Threats*, Eugene H. Spafford, Kathleen A. Heaphy, and David J. Ferbrache. Arlington, Virginia: ADAPSO, 1989. (ADAPSO, 1300 North Seventeenth Street, Suite 300, Arlington, Virginia 22209-3899.)

With seemingly a new computer virus appearing on the scene every week, books on the subject are popping up with nearly the same regularity. Perusing the stacks at your local mall's bookstore undoubtedly will turn up several titles, but there is little cream in this crop. Fortunately, this book does *not* fit the mold, and is worth more than the paper it's printed on! (Most of the books I've seen provide little *useful* information to the system manager concerned with protecting a system, and seem

to have been written mainly to cash in quickly on current hysteria.)

An important question: how real is the computer virus threat? I used to be among the skeptics—until I started hearing from computer users whose systems had been infected and suffered file damage or corruption. The most common varieties of viruses reported so far are those designed to infect MS-DOS systems, followed by Apple Macintosh systems. Next come viruses for Amigas, with viruses for other systems trailing in the dust. As a rule of thumb, there seems to be a strong correlation between the incidence of viruses for a given system and the number of those systems sold. (The typical low-life who writes viruses is more likely to have access to an MS-DOS system than one running AOS/VS or VAX/VMS. And an MS-DOS virus is more likely to spread to thousands of systems—what better way to get your handiwork reported on the front page of *The New York Times*?)

With that non-trivial digression out of the way, let's get to the book. To begin with, the authors are experts in the field. Gene Spafford, the primary author, is on the computer science faculty of Purdue University, and has had extensive involvement in many areas of computer security. He gained much prominence a

# DATA INVESTORS CORPORATION

22 E. Lafayette Street  
 Hackensack, NJ 07601  
**(201) 343-8875**  
**FAX# (201) 489-5633**

## COMMUNICATIONS

4370 IAC-16 RS-232 .....	\$1,775
4368 IAC-8 RS-232 .....	.700
4370-A IAC-16 RS-422 .....	.850
4368-A IAC-8 RS-422 .....	.800
4380 ISC-2 .....	.400
4560 LAC-12 .....	1,100
4561 LSC MV/2,000 .....	.600
4342 ATI-16 .....	.200
4543-B MCP-1 .....	1,900
4463ZT USAM-4 DESKTOP .....	.250
4532 ILC W/ACCESSORIES .....	3,100

## SYSTEMS & PROCESSORS

8956 MV/15000 MOD-10 16MB .....	\$23,500
8952 MV/15000 MOD-8 8MB .....	16,500
MV/15000 MOD-20 CPU BOARD .....	19,900
8888 MV/7800XP 4MB .....	7,200
MV/7800XP 4MB CPU BOARD .....	5,500
MV/7800 4MB CPU BOARD .....	1,900
8790 MV/8000 MOD-2 8MB .....	2,200
8936 MV/2000 5MB, 160 DISK, LAC-12, TAPE .....	4,900
8760 MV/4000 2MB .....	1,600
8770 S/280 2MB W/BMC .....	3,900
8678N S/140 256KB .....	1,100
8395N NOVA 4X 256KB 16 SLOT .....	.850
DESKTOP MOD-10 256KB 15MB DISK .....	.500
DESKTOP MOD-20 512KB 15MB DISK .....	.900

## DISK DRIVES & MAG. TAPE

6239 592MB ARGUS S/S .....	\$4,800
6236 354M ARGUS S/S .....	2,000
6581 500MB RAMS DISK .....	CALL
6161 147MB WINCHESTER S/S .....	1,150
6122 277MB DISK S/S .....	1,000
6554 662MB FOR CSS .....	4,000
6491 322MB FOR CSS .....	3,000
6495 322MB TDP S/S .....	10,000
6329 120MB MV/2000 .....	.800
6363 160MB MV/2000 .....	1,500
6100 25MB WINCHESTER W1.28 .....	1,000
6300/6299 1600/6250 MAG TAPE S/S .....	6,500
6026 DUAL MAG TAPE S/S BROWN .....	.900
6123 MICRO STREAMER BROWN .....	1,200
6270 DESKTOP CARTRIDGE TAPE .....	.475
6125 STREAMER MAG TAPE S/S .....	.600

## MEMORIES

8990-D 16MB MV/20000/15000 .....	\$7,900
8990-C 8MB MV/20000/15000 .....	\$3,200
8871 8MB MV/4000/10000 .....	2,900
8870 4MB MV/4000/10000 .....	1,500
8765 2MB MVV/4000/10000 .....	.400
8940 10MB MV/7800XP .....	4,800
8708 2MB MV/8000 .....	.300
8754 512KB S/140 .....	.450
8687 256KB S/140 .....	.300
8387 256KB NOVA/4 .....	.300
8656 256KB ECLIPSE .....	.275
DESKTOP MOD-10 512KB .....	.300
DESKTOP MOD-20 512KB .....	.300

## TERMINALS & PRINTERS

D-216, D-412, D-462, D-470C .....	CALL
D-214, D-215, D-411, D-461, D-220C .....	CALL
D-210, D-211, D-410, D-460 .....	CALL
4596-D 600 LPM LB BAND S/S .....	\$4,500
4595-D 300 LPM LB BAND S/S .....	2,800
4364 600 LPM BAND S/S .....	1,800
4327 300 LPM BAND S/S .....	1,000
6215 180 CPS SERIAL .....	1,000
4434 160 CPS PRINTER .....	.500
6262 DESKTOP COLOR CRT S/S .....	.600
4221 DESKTOP PRINTER CONTROLLER .....	.350
005-8096 D.C. PRINTER CONTROLLER .....	.300

Data Investors is a worldwide specialist in Data General Equipment. We have been for 14 years buying and selling pre-owned Data General Equipment. All equipment is shipped from our own facilities, thoroughly tested and guaranteed eligible for Data General Maintenance.

few years ago for his role in dealing with the infamous "Internet Worm," which affected thousands of computer systems—but which was not, despite press reports, a computer virus. (If any among you don't understand the difference between a worm and a virus, and you can't wait until you get this book, let me know—you can just drop a note on the "Reader Response" card bound into this magazine—and I'll

see about doing a column on the subject.) Spafford continues to be active in this arena; I had the pleasure a few months back of attending his talk on the lessons of the Internet case. David Ferbrache has similarly strong credentials in computer security.

Let's get my quibbles out of the way first. (That's what I like about being a book reviewer—the feeling of omnipotence as I

pontificate!) Grammatical errors! Typographical errors! Really just a few, but having worked as an editor myself, I can't read anything (not even the daily newspaper) without mentally blue-pencilling, and I expect perfection.

The authors make a number of good points, many of which echo my own recommendations to the security conscious. If your system is vulnerable to a virus attack, it is also vulnerable to many other threats: trap doors, logic bombs, computer crime, and sabotage. And the threats are as likely to come from disgruntled employees as from outside hackers. Also, they note the potential non-destructive uses of the so-called programmed threats: "Worms can be used to do distributed computation on idle processors, back doors are useful for debugging programs, and viruses could be written to update source code and patch bugs. It is not the approach that is dangerous, but the purposes for which it is used."

The authors do provide the obligatory explanations of how viruses work, but devote more space to the important issues of dealing with viruses—prevention, detection, and recovery. Here, however, I have a major disagreement. Under the heading "Sharing software," they state that "important software should be obtained only from reputable sources." (And in the following paragraph, they discuss what is "reputable.") In my view, that doesn't go far enough, and the rule should apply to *all* software. If I'm not using bootlegged software (and just ask my wife how much I've spent on software in the past year), there's little danger of my getting an infected copy of Quattro Pro or Wordperfect. But I *am* vulnerable with the "unimportant" software: the public domain utility that I download from a bulletin board, the diskette with the game that I borrow from my officemate. And it doesn't matter whether the virus came from "important" or frivolous software—either way, my entire system is at risk.

The authors make another statement that echoes my own feelings (and, in fact, may well be one of the most important in the book): "Computer security is a series of trade-offs—finding the right balance between the value of the items we want to protect, and deciding how much we are willing to invest to protect those resources." In my security seminars, I stress repeatedly (some say I preach, which is



## What Do:

Naval Surface Warfare Center  
Public Works Canada  
Lord Chancellor's Department (U.K.)  
New York State Assembly  
3M Health Information Systems  
Exxon Chemical Corporation  
Harp Ireland, Ltd. (Eire)  
ESPN  
Thomson-CSF (France)  
Citicorp Information Resources  
AT & T Bell Laboratories  
Handelsbanken (Sweden)

North Carolina Central University  
U.S. Department of Justice  
California Credit Union League  
New Zealand Industrial Gases  
U.S. Federal Aviation Adm.  
Waste Management of NSW  
(Australia)  
Southwestern Bell  
Texaco, Inc.  
Rockwell International  
British Broadcasting Corporation  
**and hundreds more...**

## Have In Common?

# GUARDIAN

## ACCESS CONTROL & INTERNAL SECURITY

- Automatic Password Control
- Control access by time with Automatic Log Off
- Control access by group
- Restrict access by console
- XODIAC Support
- Batch creation of profiles
- Detailed Management Reports
- 500,000 easy to remember password phrases
- Set 61 User Privileges with one screen & window

**DataLynx** • 6659 Convoy Ct. • San Diego, CA 92111  
(619) 560-8112 • FAX (619) 560-8114

**Le Software Man** • Box 545 • London N78DF U.K. • 01-809-2762

Circle 13 on reader service card.

probably true) the importance of understanding and making these trade-offs. Yes, a system needs to be secure, but not to the extent that users can't get their work done. In fact, in the aftermath of the Internet Worm, Spafford said, "The only secure system is one that is powered off, cast in a block of concrete, and sealed in a lead-lined room with armed guards—and even then I have my doubts."

## The desired end

### SYNOPSIS

*Corporate America and its data processing gurus need to apply a little industrial psychology and rethink the relationship between information systems and the shop floor. Such is the message of a new book, Manufacturing Information Systems.*

by Kevin Danzig  
Special to Focus



*Manufacturing Information Systems, Luca G. Sartori, Addison Wesley Publishing, (Massachusetts.)*

Across the minefield of my office there sits a wealth of treasure neatly "crammed" into a corner. Stored there one will find textbooks on nearly every topic in product manufacturing. Alas, I have to admit that my viewpoint here is not of a data processing professional involved in manufacturing, but of a manufacturing professional involved with data processing. To understand the dichotomy one should peruse *Manufacturing Information Systems* by Luca G. Sartori.

Sartori is a marketing specialist with Data General Italy in Milan. He writes that his book "is the result of a five-year confrontation with the applications of information technology and manufacturing management." Without vendor-specific details, the author shows modern imple-

(See manufacturing on page 30)

As viruses proliferate (and get increasingly creative and devious), the threat, particularly to personal systems, becomes ever more real. This book is non-sensationalistic and even rather dry; it won't keep you transfixed at midnight (next time I'll discuss a book which will), but it will give you guidelines to help you avoid computer viral infections—and wouldn't you rather be able to sleep at night? Δ

*Tom Gutnick is currently a systems engineering consultant in Data General's Eastern Technical Services, and has been using Data General systems for over a decade. He says that he frequently preaches sermons about computer security. He can be reached at Data General Corporation, 7927 Jones Branch Drive, Suite 200, McLean, VA 22102; 703/827-9600*

Now with  
ARctape & ARCmerge

# ARC<sup>®</sup>

Includes  
a commercial license  
for PC version 6.02

**COMPRESS and Library Files**

**PROVEN, RELIABLE, FAST COMPRESSION**

Retains all DG File information, including File Type, UDA's ACL's, etc.!

Fully Compatible with ARC 6.xx on PC!

"ARC works beautiful.  
It is user friendly and totally compatible . . . **DG to PC and PC to DG**"

— Bill Smith, AMI

**With ARctape, Archive to Magnetic Tape • Use ARCmerge to Merge Archive Libraries.**

**ARC is Officially Approved by the Creators of ARC for the PC!**

THE package includes: 1 year software subscription and hotline support!

- Already has a large existing base of users • VAST reductions in disk space •
- Automatic upgrades • Can be used for configuration management, and on-line libraries •
- Tremendous saving in file transmission and employee's time • Passes Superuser •
- Redirect Output to File or Printer • Supports Input from File List • Print Directly for Library

**Just Look at the Results!**

Name	Length	Stowage	SF	Size now	Date	Time	CRC
093_0002	50191	Crunched	66%	17099	16-Sept-88	2:01 p	01C9
BILLING.LOG	532000	Crunched	94%	36087	31-May-89	11:41 p	3E91
EMPLOYMENT.AGR aka EMPLOYME_00	5793	Crunched	45%	3221	18-Jan-89	3:55 p	1D1C
<b>TOTAL</b>	<b>3</b>	<b>587984</b>	<b>91%</b>	<b>56407</b>			

**Only \$995 For Single CPU Systems**

**And The Perfect Complement . . .**

## TurboTran<sup>™</sup>

XModem/YModem Protocol

" . . . TurboTran has the simplest method of transferring file I've seen."

— Focus Magazine

**and now even better with . . .**

**The Smart Connection**

**Complete PC Integration with SmarTerm<sup>®</sup>, and Perfect Integration with SmarTerm<sup>®</sup> and CEO<sup>®</sup>**

**For \$495 Look at What You Get . . .**

- Efficient, Fully Supported DG/PC Integration • Software Subscription • Hot Line Support •
- CEO Integration • PC Support Utilities • AOS or AOS/VS • Low, Low CPU Impact •
- Runs at Baud Rates Up To 38.4 KB • and More!

**Call, Write, or FAX for ARC or TurboTran on a 30 Day Evaluation**

**Corporate Licenses Available**

Data Bank Associates, Inc.

2010 Century Blvd., Suite 104  
Germantown, Maryland 20874  
Telephone (301) 540-5562  
or FAX (301) 540-8105

ARC is a registered trademark of System Enhancement Associates, SmarTerm is a registered trademark of Perisoft Corp., CEO is a registered trademark of Data General Corp.

Circle 10 on reader service card.

## L-BUS SOLUTIONS

**Indocom boards for your MV/1400, MV/2000, MV/2500, or DS/7500 computers**

- VME bus adapter
- DRV-11 interface
- Voice processing
- SCSI controller
- Industrial I/O
- Co-processor boards

Custom boards available for your application.

### INDOCOMP SYSTEMS, INC.

P.O. Box 157  
Drayton Plains, MI 48020  
Phone: (313) 666-9715  
Fax: (313) 666-1001

Circle 21 on reader service card.

## BOOKWARE

(Manufacturing, from page 29)

mentations of shop floor technology and inventory record-keeping.

*Manufacturing Information Systems* presents a thorough tutorial that should be required reading for all data processing professionals in the manufacturing industry. Simply put, if we are to remain an economy built upon isolated colonies of organisms, all kept apart by a mindset declaring autonomy, then we cannot grow in dominance any better than algae in a very large world's pond. By cooperating as a complex multi-cellular organism, we may grow to a dominant position. Cooperation is dependent upon both desire and intelligence.

Sartori's book informs us that the relationship of information systems to the shop floor is not that of the body's head to its dirty hands, but rather the synergy one finds between a surgeon and anesthesiologist. Case studies are given in varied sectors of our industrial society so that readers may connect to some or all of the examples. Many of the popular terms used when describing manufacturing today are explained in excellent detail from both the points of view of data processing and shop floor environments.

We are shown how strongly the link between any data base and its implementation affects the ultimate yield of the company. The strength of information systems dictates how strong and efficient the shop floor may be. However, it is only through understanding what the shop floor needs and how and when it needs it that this synergy may come to fruition.

There is a conception that the Western economy has left behind its dependence on the "smokestack" industries and entered a more mature period based upon service and technology as an end, or more properly—the desired end. Outside of the United States one would find this concept preposterous, and with any intelligent thought we should as well. Have you heard of yuppies trading in their foreign cars made by Mercedes, Porsche, and Ferrari to something even better that was produced by our American Big Three? While those of us in manufacturing truly believe that we are building the future backbone of a nation's economy, we also find that to the outside world we are at best second-class citizens. How this hurts the long range goals of an industrialized society is very serious.

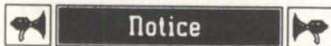
Until now, many of us in manufacturing have held such excellent texts as *Quality Control Handbook* by The Juran Institute to be "bibles" to which all other ideas must be compared and digested. *Manufacturing Information Systems* rethinks and incorporates such texts in building a total picture of how the company must function together. It will take input from the shop floor to help build information systems, but that input itself must be knowledgeable. The author provides us with a clear view of all the tools needed to produce the finest products in a timely and efficient way, while maintaining high quality standards and cost competitiveness. This should be the desired end.

I must question a few points in the text, as to whether they were built upon actual experience and intimacy with the environment or through subjective reporting. While emphasis on JIT (just in time) and the Japanese Kanban systems is important, I doubt seriously that outside of Japan the Kanban could ever succeed. What we have in the United States as shop floor inefficiency and a backlog of work in progress, the Japanese system has shifted back to the suppliers of the large manufacturer.

Secondly, misconceptions such as life employment in Japan have recently been shown to be something for a privileged group, not for an entire work force. Lastly, periodicals dealing in industrial psychology today are rife with articles analyzing work place stress in both the U.S. and Japan. While the author notes that Toyota has only a fraction of the suppliers of General Motors (less than 10 percent), it is only through the near sweat shop atmosphere, which our society abhors, that the Kanban is most efficient. Personally, I would have preferred more analysis of either the German or Swiss systems, as both are formidable competitors.

In all fairness, the author does question the ability of JIT to exist "out of Japan" as it does in Japan. Emphasis on the need to involve suppliers earlier in the development process of new products and methods is extremely important. *Manufacturing Information Systems* is an excellent tutorial and has found its way into the corner of my office. Δ

*Kevin Danzig is the general manager of DFM Corp. He may be reached at P.O. Box 157, Northvale, New Jersey 07647; 201/767-8000.*



Notice



WE'VE MOVED

BUT WE STILL:

BUY-SELL-LEASE-TRADE

DATA GENERAL

NOVA 3 THRU MV40000

A\$\$ET REMARKETING CORP.  
4561 S. WESTMORELAND  
DALLAS, TEXAS 75237

(214) 330-0404

(800) 383-9898

FAX (214) 330-8840



Circle 2 on reader service card.



# Learning to PIM

by Kent Finkle  
Special to Focus

## SYNOPSIS

*If you use Wordperfect now, you already know how to do most of what those complicated and expensive "time-saving" programs take forever to teach you. See how easy it is to become an effective personal information manager.*

**"One of the most difficult to learn programs that has ever been written"—*BYTE* magazine, discussing the personal information manager Lotus Agenda.**

**"[Could] anyone busy enough to need it... have time to learn all its features?"—*Government Computer News*, discussing Agenda.**

**"Agenda [is] . . . by all accounts, one scary piece of software."—*LOTUS* magazine, Agenda.**

Personal information managers (PIMs), such as the above-mentioned Lotus Agenda, have quickly garnered a reputation for being rather difficult to use. Their remarkable capacity to save time by linking and associating vast quantities of random information is balanced by their equally remarkable capacity to waste time during the learning curve. Judging by the comments above, the efficiency gains obtained from PIMs have been somewhat less than had been anticipated.

The purpose of this article is to implement an *extremely* simple PIM, for those too busy and/or too impatient to plow through the long and complex PIM learning process.

You will need

- the Wordperfect Office
- the Wordperfect word processor
- an AOS/VS computer.

We will create our very simple PIM as a choice on the Wordperfect Office shell menu. Let's call it the Mini-PIM.

You will be able to "hot-key" into Mini-PIM from any shell-compatible program, and "hot-key" back out again with two keystrokes: home and the letter of the program on the menu. To hot-key into Mathplan use home M; and then to hot-key back to Mini-PIM use home P. Once inside Mini-PIM, simply enter any and all random notes, thoughts, and musings into Mini-PIM, and save once at the end of the day. Think of it as an endless legal pad with fast searches. When you want to find something, we will search for it with the Wordperfect search function.

## Creation of the Mini-PIM file

This file is an ordinary Wordperfect document and will contain our Mini-PIM information. Turn on your terminal and log on. Exit from any programs until you are at the CLI. At the CLI, type:

```
) WP (newline)
```

Wordperfect loads.

In Wordperfect:

```
Type the words "Mini-PIM Information"
Press Exit (Function key 7)
Save document 1? (Y/N)
Document to be saved: PIMFILE (newline)
Exit Wordperfect? (Y/N) Y
```

## Creation of the shell menu

To allow us to jump back and forth between applications, we will need a shell menu. At the CLI, type:

```
) Office/s (newline)
```

The Office/s command runs the Wordperfect Office shell menu editor. Here we will create the menu choice for

Mini-PIM. Using the arrow keys, move the highlight bar to the spot on the menu where you would like to put the choice for Mini-PIM.

Press 1 for Edit

Now you will see the Program Information form.

Menu letter: P  
 Menu description: Mini-PIM (newline)  
 Selection: 4 - Shell Compatible Program  
 Program name: :wrp:ssiwp.pr  
 PIMFILE (newline)  
 Default directory: (newline)  
 Number of Sons Required: 5 (newline)  
 Prompt For Startup Options: N  
 Press Exit (Function key 7)  
 Press Exit (Function key 7)

Note that we made the selection "Shell Compatible program." For this hot-keying to work, all programs we want to hot-key in and out of must be selected as shell-compatible. If they are not shell-compatible, the hot-keying will not work. You will be able to hot-key into them, but you won't be able to hot-key back out again.

**Opening Mini-PIM**

Now you have returned to the shell menu. Mini-PIM needs to be opened once at the beginning of the work day. To open Mini-PIM, at the shell menu:

Press "P"

Wordperfect executes and loads PIMFILE. Now Mini-PIM is open. Return to the shell menu with:

Shell (CTRL-Function key 1)  
 Go to Shell (1)

The shell menu looks the same except that the Mini-PIM choice has a "\*" next to it. This is to remind you that Mini-PIM is open.

**Using Mini-PIM**

Now you can continue using the Wordperfect Office as you would normally. For purposes of illustration, let us imagine that you are going

to be using the Mathplan spreadsheet to work on your budget. To run the Mathplan spreadsheet:

M

Mathplan executes and you begin working on your budget. The phone rings. It is your friend across the hall who wants to let you know some facts about your client Franz's new venture, a restaurant called "The Castle." You press:

Home P

Almost instantly, Mini-PIM pops up. You did not have to save your spreadsheet, exit Mathplan, run Wordperfect, and load PIMFILE. Mini-PIM was there, in "the background," waiting to be summoned. You type your friend's comments into Mini-PIM. After you hang up, you press:

Home M

and you instantly return to Mathplan. Again, you did not have to save your document, exit Wordperfect, run Mathplan, and load PIMFILE. Your spreadsheet was just two keystrokes away.

Throughout the day, you can always pop up Mini-PIM whenever you need it. At the end of the day, you need to close Mini-PIM. Hot-key into Mini-PIM:

Home P  
 Press Exit (Function key 7)  
 Save document? (Y/N) Y  
 Document to be saved: :udd:yourname:  
 PIMFILE (newline)  
 Replace: :udd:yourname:PIMFILE? (Y/N)  
 Y  
 Exit Wordperfect? (Y/N) Y

**Searching in Mini-PIM**

After a few months, you will have accumulated a substantial file of notes and comments in Mini-PIM. Suppose that you have occasion to refer to the information your friend has told you about the Castle. From

the menu, press:

P

or, from inside another shell-compatible program, press:

Home P

Now you are in Mini-PIM. To make sure you are at the top of the document:

Home Home Up Arrow

To search for notes about the Castle, you use:

Search (F2)  
 -> Srch: Castle (BREAK ESC)

Mini-PIM puts the cursor just after the first occurrence of Castle in the file. If Wordperfect does not find Castle, it will display "Not Found." To see if there are any other references to Castle in the file:

Search (F2)  
 BREAK ESC

You don't have to retype the word "Castle" because Search will repeat the last search until you tell it otherwise.

In some searches, you may not know exactly what you are looking for until you find it. For example, suppose you couldn't remember the name of the restaurant, only that the fellow's name was Frank or Francis or something like that. Just search for "Fra":

Search  
 Fra BREAK ESC

At other times, you may want to look for exactly one pattern of letters and no others. Let's say you abbreviated "Imported Natural Gas" as "ing" in your PIMFILE. If you did a normal search for "ing" it would take a long time because you would get too much chaff with the wheat. Wordperfect would eventually find "ing" for you

# Wild Hare Announces More "Know Knows for the 90s"

- ✓ Know complete compatibility.
- ✓ Know increased productivity.
- ✓ Know new market accessibility.
- ✓ Know greater profitability.

Nobody "knows it all" but when it comes to your hardware and software investment, ignorance isn't exactly bliss.

And that's why *Choice!*<sup>™</sup> - our full-featured ICOBOL run-time system - is so important. *Choice!* protects your software and hardware investment by supporting just about every platform. Like DOS, OS/2, UNIX, XENIX, AIX, VAX/VMS, AOS/VS, PC Networks, Macintosh, AVIION and more. And as you may already know, that kind of compatibility yields one other thing: increased profitability.

Then there's *Axis*, our performance-tuned ICOBOL compiler. *Axis* is packed with features like windows, menus, input time-outs, environment variables, screen attributes, and color support. And portability that will take you just about anywhere you want to go — including under Data General's own ICOBOL run-time system.

Individually or together, we guarantee that *Choice!* and *Axis* will give you the know-how to go as far as you want to. To know more call (303)442-0324.

We're Wild Hare.

We're behind you all the way.

Wild Hare Computer Systems, Inc.

P.O. Box 3581 Boulder, CO 80307-3581 U.S.A.  
TEL: (303) 442-0324 FAX: (303) 440-7916

Circle 39 on reader service card.



Wild Hare  
COMPUTER SYSTEMS INC.



**:WFFCA**  
**World's Fastest**  
**File Compressor**  
**& Archiver.**

:WFFCA compresses files and archives them faster and with less impact on other users than any other similar utility available on DG systems. Dramatically reduce disk storage used by infrequently accessed files maintained for historical purposes. A typical SYSLOG file compresses better than 7 to 1.

:WFFCA has the ability to handle archives in the popular PC ARC™ format significantly reducing file transfer time.

Initial AOS/VS and AOS/VS II License: \$499  
 10 Day Trial Copy: **FREE!**

ARC™ is a registered trademark of Systems Enhancement Associates

A Division of B.J. Inc.

**:SYSMGR**

Software for System Managers

109 Minna St., Suite 215  
 San Francisco, CA 94105  
 (415) 550-1454 FAX (415) 550-1072

Circle 33 on reader service card.

**IT'S NOT JUST**  
**FOR COBOL**  
**ANYMORE!**

**SCREEN DEMON** supports AOS/VS 32-bit languages such as PL/1, C, B32 and others.

**SCREEN DEMON** may be added to most existing AOS/VS 32-bit programs, including SED, CLI32, and CEO.

- **Faster screen display**
- **View the screen and enter data on a remote terminal**
- **Powerful window functions**

**C-thru** provides Screen Demon compatible features for ICOBOL and MicroFocus COBOL on AViON systems.

**Threshold, Inc.**

(205) 821-0075

Fax (205) 821-0122

**DEMON**

Circle 37 on reader service card.

but it would find "discussing," "linking," and "being" along the way. To search for an occurrence of a word standing by itself, not as a part of other words, type a space before and after the word:

Search  
 (space) ing (space) (BREAK-ESC)

Be careful about uppercase versus lowercase letters in your search. In a search, BIG matches BIG but not big. However, small matches SMALL and small. To be on the safe side, then, you could always do searches in lower case, unless you are very sure.

**Link with electronic mail**

Much of the information in my PIMFILE arrives via electronic mail. Mini-PIM is closely linked with e-mail.

Moving information out of your inbox and into Mini-PIM is very easy. Hot key into e-mail with:

Home E

Point at the mail message with the ">" pointer in the e-mail screen. Press:

Save (3)  
 Without Status (2)  
 Filename: Give it a name (newline)  
 Delete? Y

Then hot key back to Mini-PIM.

Home P

Move the cursor to where you want the information to go in your PIMFILE. Retrieve the file:

Retrieve (Shift-F10) your name (newline)

The message is now in Mini-PIM.

Moving information out of your Mini-PIM and into e-mail is just as easy. Put your cursor at the beginning of the block you want to send:

Block (F13)  
 Use the arrow keys to highlight the block

Save (F10)  
 Give it a name and press (newline)

Now hot key back to electronic mail:

Home - E  
 Mail (5)  
 Fill in the subject and send to boxes  
 Tab over the message box  
 In the files box, type the file you just saved  
 Send (F9)

That sends a part of your PIMFILE by e-mail.

**Search speed**

Mini-PIM searches very quickly. Our system is an MV/7800XP. In the middle of the working day, a user of ours recently searched a 140-page document for a word that occurred only in the last sentence. The search took only nine seconds. So, if your setup is similar to ours, a PIMFILE has to be hundreds of pages before searches take more than 20 or 30 seconds.

After you have found an occurrence of the word or phrase you are searching for, you can easily move to the previous occurrence of the word by:

Go To (CTRL SHIFT F11)  
 Go To (CTRL SHIFT F11)

Or, you can search backwards with:

CTRL-F2

**Conclusion**

People who have demanding, responsible jobs can't waste their time. They need a program they can use fast. The current generation of PIMs, while powerful, can be a struggle to learn. To those pressed for time, Mini-PIM may offer a very quick and dirty alternative. If you know Wordperfect, you already know how to use Mini-PIM. Δ

*Kent Finkle is a computer system manager for the Town of North Andover, Massachusetts; 508/682-6483.*

# Inquiry Offers Fast, Flexible Reporting for INFOS and ICOBOL

Inquiry, the report writer from DMS Systems, allows end users as well as programmers to query and report on INFOS and ICOBOL files.

Inquiry includes a file description analyzer which automatically converts

COBOL or PL/1 FDs to Inquiry data dictionary format.

It also includes default forms for an easy-to-use query-by-example interface that allows selection of records by exact or partial matches or with operators

such as greater-than or less-than-or-equal-to, on any number of fields. These queries can involve up to 128 separate files.

Inquiry allows sorting on up to 32 fields, and subtotaling on up to 64 fields or combinations of fields. Percentages and running totals can be calculated against subtotals or grand totals. Reports can include filtering on subtotal calculations.

The report creation interface is WYSIWYG, making it easy to place fields exactly where desired and to modify reports created earlier. Reports may include fields from multiple files and calculations based on these fields.

Inquiry is a subset of the DMS Systems database management software package GENISYS. It does not allow application development of files other than overdefined INFOS or ICOBOL files, but upgrades to full development licenses of GENISYS are reasonably priced.

## Growing Firm Uses GENISYS To Accommodate Expansion

Like many successful small companies, Productive Sales Promotions found themselves outgrowing their custom-written COBOL applications.

The original COBOL program worked, says Darlene Ovesney of PSP, but "we needed to adapt it to each new project. That constant tinkering made the COBOL program awkward and slow, and the more changes we made, the harder each change became."

PSP replaced their old COBOL programs with GENISYS, a database package easy enough for their staff to use without hiring programmers, yet sophisticated and flexible enough to accommodate their rapidly changing needs.

Ovesney took three days of GENISYS training. She produced her first application in two weeks, and completed 26 more in the next six months. The implementation flexibility of GENISYS allows her to work on two or three applications at once, getting the critical parts of each one done as needed.

# GENISYS

## OFFICE INFORMATION SYSTEM

**Our customers built these applications in days,  
not months!**

Sales Tracking	Mailing Lists
Real Estate Transactions	Litigation Support
Political Contributions	Project Management
Survey of Felon Sentencing	Telemarketing
Customer Calls	Bacteriology Register
Inventory Management	Asset Management
Legislative Tracking	Employee Census
Maintenance Schedules	Field Service Dispatching
Library Catalogue	Document Tracking

These are a few of the applications created by marketing specialists, accountants, paralegals, clerical staff, personnel officers, research assistants, office managers and other non-technical computer users. With GENISYS you can develop comprehensive, customized solutions — stand-alone or integrated with WordPerfect Office or CEO. And you can have GENISYS for as little as \$4,900 on any CPU!

**Try GENISYS Today!**  
**1-800-284-8333**

Available from: Mini COMPUTER SYSTEMS PTY LTD (Australia) 03 528 2711;  
Total Data Solutions Ltd. (England) 095 222 2277; ADB Gruppen (Sweden) 040 38 08 00

**DMS** Systems, Inc.

ADVANCED SOFTWARE SOLUTIONS

1111 Brickyard Road, Salt Lake City, Utah 84106  
(801) 484-3333 FAX (801) 484-3367



# Unix Gooeys

## SYNOPSIS

*AT&T and Sun are a duo to be reckoned with. However, X-Windows has amassed an amazing number of applications. Oddballs like Next Step complicate the picture. Here's a look at who's who in Unix windowing display technology.*

X-Windows, Motif, Open Look. I'm sure it's happened to you, too. You suddenly come to the realization that there's an entire faction of the computer biz of which you somehow managed to lose track. It's understandable. Gone are the days when *Computerworld* was the only trade paper and TV commercials for computers were unheard of.

This time for me it was the plethora of Unix workstation graphical user interfaces, GUIs, or just plain gooeys. I spent a long weekend digging through all of my notes and old magazines in order to piece together who was doing what. And to whom. I think I've figured it out. If not, I'm sure the phone will ring.

### The X factor

Almost everything out there is based on X-Windows. This is the outcome of some work at M.I.T. and is a standardized windowing display technology. X-Windows serves as the platform for virtually every Unix workstation display except a few interesting notables including Next, the new endeavor of Steve Jobs of Apple fame. More about Next later.

As the figure shows, using X-Windows as a platform, two divergent paths have evolved. In simplest terms, it's AT&T and Sun vs. everyone else. AT&T's Open Look is based on X-Windows and Unix System V Release 4 and is being pushed by the Unix International group, again Sun and AT&T.

On the other side of the field we have Motif, being pushed by the Open Software Foundation (OSF). A company called Visix has developed a nice file manager for Motif named Looking Glass, and both Visix and Motif are supported on many

workstations including those from DEC, Intergraph, Data General, Motorola, and HP/Apollo. Motif is also used by SCO's Open Desktop.

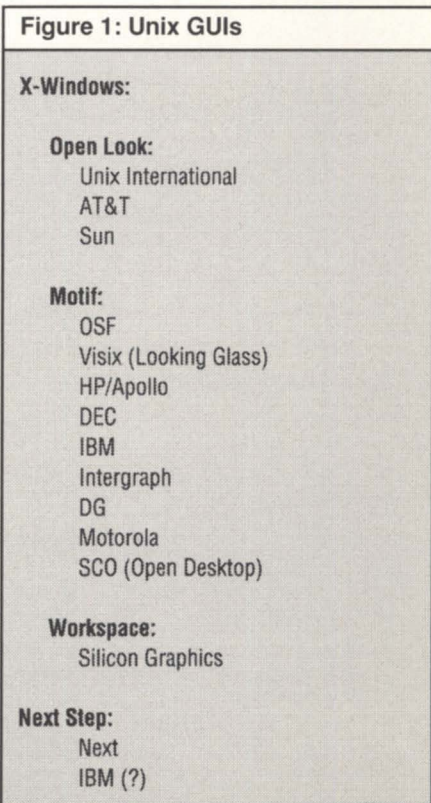
### Look and feel

In my brief investigation of these GUIs, I discovered an interesting fact. Whereas there are many different display formats in the PC world, Unix workstations seem to have standardized on an 1170 x 780 pixel monitor at 72 pixels per inch both horizontally and vertically. The standardization alone is worthy of note, but the 72 dpi is especially interesting as this resolution has such strong roots in typesetting and printing.

As far as user input, Open Look uses all three buttons of a three-button mouse, whereas Motif, with its single-button approach, feels more like Presentation Manager or Microsoft Windows.

### Oddballs

Silicon Graphics, the first company to



ship high-quality display technology in a Unix workstation, offers a color-only X-Windows based desktop manager called Workspace. Although Workspace is not currently standardized, Silicon Graphics has announced plans to evolve it to become Motif-compliant.

Either at the leading edge, or else too far off the mark (depending upon your perspective) is Next. Rather than traditional Unix, Next boxes run Mach, a more modern Unix derivative, which is both smaller and faster than the standard operating system. Next has also leapfrogged X-Windows and implemented its own GUI (named Next Step) based on Adobe's Display Postscript. Given the heritage of its management, it's not surprising that Next systems feel the most like the Macintosh. Of early interest was IBM's licensing of Next Step for its popular RS/6000 workstation, but recent talk in the press indicates IBM may not take advantage of the technology—a serious blow to Next.

#### And the winner . . .

As I mentioned at the top, this goes beyond my traditional area of expertise, but I thought the results of my survey might be of interest to other novices in the area. All of this begs the obvious questions, however: which platform is better, and which will ultimately "win" in the marketplace.

On one hand you have a large count of major players in the game. On the other you have AT&T and Sun—a duo to be reckoned with. What both of these technologies, Open Look and Motif, need desperately is applications. In general, it's the lack of applications that is currently holding back the entire Unix workstation market while the high-end PCs just can't be stopped.

Today there are only 50 or so major applications running under Open Look or Next's Next Step. There were almost this many for Microsoft's Windows 3.0 the day it was announced. Motif, on the other hand, boasts no more than two dozen major applications, clearly running in second place so far.  $\Delta$

Copyright 1991 Rational Data Systems, Inc. Doug Kaye is president of Rational Data Systems and can be reached at 1050 Northgate Drive, San Rafael, CA 94903; 415/499-3354. For a free copy of the RDS 1991 Report on PC Integration, contact RDS at this address.

# SYSGEN DATA Ltd. MARKETING

## Data General COMPUTERS & PERIPHERALS WORLDWIDE

MV 20000 CPU .....	\$48,500	IAC 8-2 .....	\$950
MV 15000 Floating Pt. ....	2,850	TCB-8 and 16 .....	200
MV 2000 4MB, Flipy .....	2,500	MCP 1 w/TCB .....	1,200
MV 20000 Model 2 Upgrade .....	14,750	DG 6590 2GB Tape .....	8,500
MV 15000 MOD 8 .....	16,000	DG 70MB Drive (2000 Format) .....	700
MV 4000 2MB .....	750	DG 160 MB Disk .....	1,500
MV 4000 CPU 0 MB .....	500	4327 B300 .....	1,200
6239 S/S 592MB .....	5,500	4364 B600 .....	1,950
4307H Tape Drive .....	3,500	B2000.....6,500 6026 .....	500
6299 Tape Drive S/S .....	6,500	32 MV Memory (MV 20000 Style) .....	17,000
6300 Tape Drive S/S .....	6,500	6236 S/S...1,250 D210 .....	150
WIOC (MV 10000) .....	1,500	D460.....235 D410 .....	195
LAN BOARD (15000 Style) .....	2,750	D411.....250 D211 .....	175
LAN BOARD (2000 Style) .....	750	D214.....175 D215 .....	225
MV 4 & 10 Memory 2MB .....	450	D216 New.....365 D400 .....	75
MV 4 & 10 Memory 4MB .....	1,500	MV 15000 MOD 8 .....	Call
MV 4 & 10 Memory 8MB .....	3,150	DG 16MB Mem..6,500 Dataram 16MB Mem.3,500	
IAC 16 (RS 232) .....	1,850	8MB Memory MV 20000 Style .....	3,250
IAC 16 (RS 422) .....	1,200	DG 6321 Printer w/ Sheet Feeder .....	350

<b>SYSGEN SPECIAL</b>	DG 6321 Printer .....	\$350	MV 2000 4MB .....	\$2,500
	MV 20000 CPU Only .....	48,500	MV 20000 MOD II Board .....	14,750

### BUY • SELL • TRADE • LEASE



PRICING SUBJECT TO CHANGE WITHOUT NOTICE  
ALL EQUIPMENT SOLD IS WARRANTED FOR 30 DAYS

Authorized  
WordPerfect

12 ELKLAND ROAD, MELVILLE, NY 11747 (516)491-1100 fax: (516)491-1559

Circle 32 on reader service card.



*The Computer Specialist*

SYSTEMS EXPRESS LIMITED

### For European Users:

Why buy Data General equipment 5,000 Kilometers away?  
EEC Based Data General Sales Specialists

- ⇒ Prices will be better from us !
  - ⇒ Delivery will be faster from us !
  - ⇒ Power specifications will be the same from us !
  - ⇒ No import duty from us\* !
  - ⇒ No export licence needed from us\* !
- (\*EEC countries)

**We will be happy to quote for and supply:**

MV55 and MV95 upgrade boards - the latest Data General MV technology, featuring an MV family CPU on a 5 MIPS single-chip board.

MV 18,000 Range	MV 10,000	MV 2,500	MV 1,400
MV 15,000 Range	MV 7,800XP	MV 2,000	MV 1,000

Spares for all your Old Eclipse/Nova/Micronova Systems.

Full range of AViiON and 386 UNIX machines, workstations and the PLUS-type, AViiON-compatible terminals with twin-host working.

Data General Compatible equipment.  
Fujitsu, Dataram, Kennedy, MegaTape, Zetaco

**THE BEST SUPPLIER FOR THE NEW EUROPE !**

**Systems House**, Rear of 23/29 Daws Lane  
Mill Hill, London NW7 4SD  
Tel: 44-081-906-8191  
FAX: 44-081-906-8638  
Telex: 8954111 Replay G

Circle 35 on reader service card.

# Bits and bytes from the bulletin board

## Managing very large macros

From: Richard Timmons

Does anyone know how to get around the "not enough memory, restarting CLI" error message when running a very large macro? I know it's because there was not enough memory for the original macro to run with all the subprocesses, but do not know a quick and direct way to correct it. I am doing the following when this occurs: 1) running a menu macro; 2) executing a program to create a report; 3) executing a pass macro-program to allow the

report to be printed on a local printer instead of a line printer.

It is in step three that, when it tries to return to the main menu macro, that it bombs off. These procedures are a part of a national system that I personally do not have rights to modify, so I cannot split the macro up. Can anyone help?

From: Robert Fogg

The "not enough memory, restarting CLI" error is produced from overflow of the CLI process' internal stack. PUSH

commands in CLI macros push a rather considerable amount of CLI ENVIRONMENT data onto this stack. Of course, POP commands recover this stack space. The amount of stack space needed for each PUSH command can be reduced by minimizing the lengths of string oriented CLI ENVIRONMENT variables such as SEARCHLIST, DATAFILE, LISTFILE, etc. Another big user of CLI stack space is conditional execution in macros.

Since you say you cannot modify the macros, you can at least ensure that the starting ENVIRONMENT is at LEVEL 0 when the first macro is invoked. Unfortunately, you can't increase the stack size of the CLI, but if you have CLI32 available, it should not encounter this problem. The memory used by the subordinate processes created by a CLI macro is not connected with the CLI at all and has no bearing on the problem you describe. Perhaps you can avoid the problem by invoking one of your lower-level macros directly, instead of through the menu macros.



**Computer  
Engineering  
International**

2231 Star Court  
P.O. Box 81755  
Rochester, MI 48308  
MI Phone: 313-853-0770  
FAX: 313-853-0775

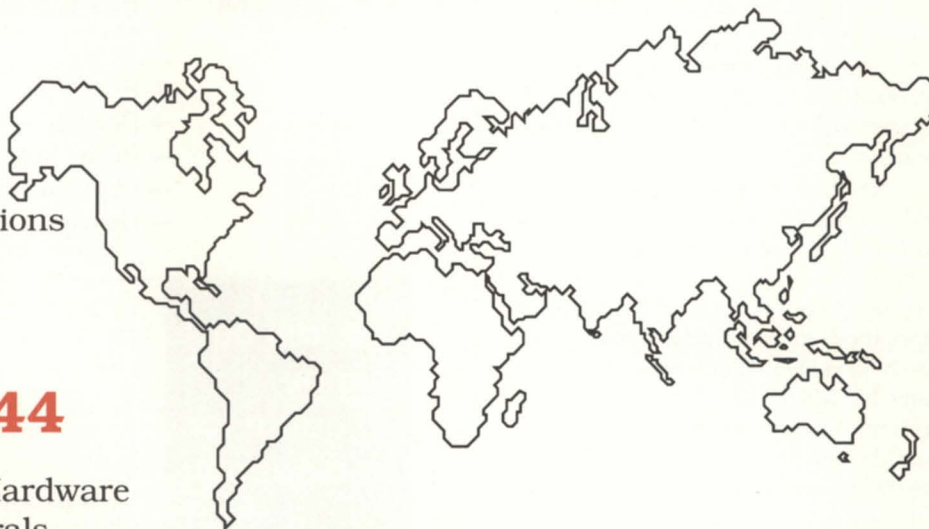
Providing intelligent solutions  
and personalized service  
around the globe.

Call  
**800-462-2344**

New & Refurbished DG Hardware  
Compatible Peripherals  
Depot Repair Service

**DATARAM**  
AUTHORIZED DISTRIBUTOR

# WORLD WISE



# WORLD WIDE

Circle 5 on reader service card.



**Setting up CEO\_CP** 

From: Joseph Edens

I seem to be having a problem setting up CEO\_CP as the initial program for logons . . . anybody have any suggestions? (I'm on an MV/20000 Mod 2).


From: Dell Setzer

Don't know if this is the problem, but CEO\_CP needs your CEO\_DIR on its searchlist (typically :UTIL:CEO\_DIR). Try making the initial IPC a macro that first sets its searchlist and then invokes CEO\_CP. Or, maybe just the CEO.CLI macro as the initial IPC. Good luck!

From: Bob Butler

I've had similar problems with a number of canned programs. Many would not accept an EXEC-style IPC message which is slightly different from a CLI-style message. I finally created a short program that simply set my searchlist, defac1, etc., and then did a chain to the correct "initial" program with the correct IPC message (flushing whatever /EXEC sent). It sounds

a bit awkward, but it solved the problem cleanly and quickly.

**Understanding CPUTIME** 

From: Andries Holtzhausen

CPUTIME gives three summaries at the bottom of its screen: IDLE, USER, and SYSTEM. Does SYSTEM indicate the percentage CPU used by the three system tasks and scheduler only, or does it include for example PID2, or does it include all CPU used by all OPs logged on?


I have been given each one of these options by various SEs. If SYSTEM is high, where does one start to look? I'm using an MV/8000 with 50 PIDs, SYSTEM sitting at 60 percent, and users at 39 percent. The main application is a Cobol personnel system under TPMS, using Infos. Help!

From: Bob Butler

SYSTEM time can't include PID 2 or other OP users per se because as far as the system is concerned they are just other users like anybody else. What that is

(without getting into all of the gory details) is time spent scheduling, dealing with peripheral I/O (disks, IACs, etc.), and other such stuff that can't be charged to a specific user (at least not without spending more time than it is worth figuring out what percentage each is due).

Part of the problem with reconciling USER/IDLE/SYSTEM times with runtime information on processes is that the time charged to each process for a system call is only an average estimated time (or a flat rate depending on system/rev/etc.). The time showing up under IDLE and SYSTEM are more accurate (or at least different). Look at USER as an estimate of how much time is spent in user code, SYSTEM as time spent doing background/support for USER, and IDLE as time with nothing to do or waiting for peripheral (disk, tape, whatever) response.

**MV/30000 or MV/20000?** 

From: David Czech

We are looking at [acquiring] either an



**ENERGIZE Your Data General System**

**EAGLE SOFTWARE'S POWER\_PAK™**

Three powerful time-saving products in one package:

**DISK\_PAK™**

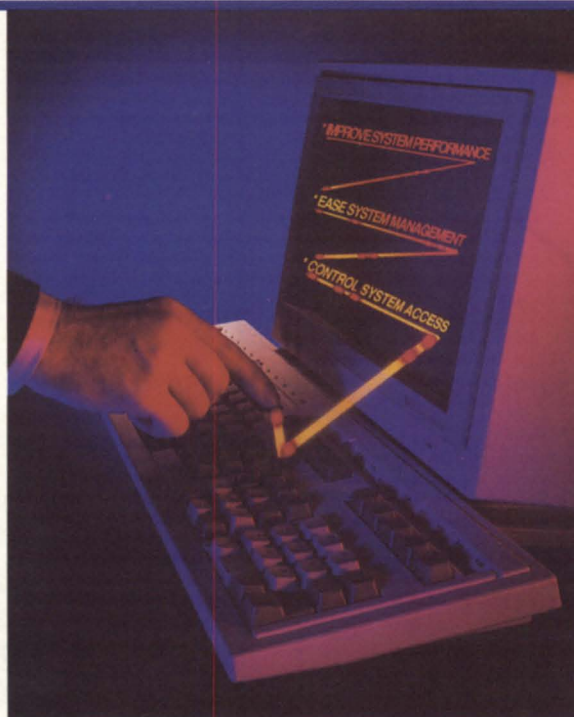
The premier automatic disk optimization product for MVs.

**VS\_TOOLBOX™**

Powerful tools to tighten security, improve performance, and optimize INFOS®.

**FILE\_MONITOR™**

The file system spy and disk balancer.



**Coming Soon!**

Watch for our new CEO® utilities.

**Call today.**

**Dial 800-477-5432 and ask about our 30-day trial copies.**

**See you at the DG Review Expo in Washington, D.C. March 12-14, 1991.**

**EAGLE Software, Inc.**

169 East Cloud  
P.O. Box 16  
Salina Kansas 67402-0016

Phone (913) 823-7257  
Fax (913) 823-6185

POWER\_PAK, DISK\_PAK, VS\_TOOLBOX, AND FILE\_MONITOR are trademarks of EAGLE SOFTWARE INC. INFOS and CEO are registered trademarks of Data General Corp. © 1991A EAGLE Software, Inc. 046

Circle 18 on reader service card.

MV/30000 Mod 2 or an MV/20000 Mod 2. What comments or suggestions does anyone have?

From: Doug Rady

If you can afford it, go with the MV/30000 Mod 2. That way, you'll have a fairly easy and fairly cheap upgrade path. If you're going to be doing disk-intensive applications, you might want to get a second IOC, regardless of which system you go with.

From: Stan Gula

Doug is right about the MV/30000 Mod 2 and also right about adding an IOC. I assume you're going to be running CEO on that box? You should do everything possible to maximize disk I/O capacity... and beef up memory. If price is an issue (is it ever not an issue?), and if you are sure you will not max out the MV/20000 Mod 2, and if maintenance costs are workable, there are good buys in used MV/20000s these days.

## CEO connect

From: David Czech

Does anyone have CEO connect working on an IBM PS/2 model 55SX machine? We cannot upload or download a file with it, but it works on other machines nicely.

From: Stan Gula

The problem is the VART that IBM uses in newer machines. I think they are using 16550 chips now. Lots of older software that directly controls the comm hardware gets hung up because of the initial power-on state of the 16450 and 16650 chips. The only fix is revised software. I went through three rounds of updates in Express when the Model 55 and later versions came out. So, check with DG to see if they have an update.

## Reading unallocated blocks

From: Bob Butler

I'm running VS II 2.01 and recently discovered that if you read a block that has not been allocated already, VS allocates one before returning nulls. The file I

am using is open for shared I/O, and the blocks I am attempting to read are before the physical end-of-file. With several reports scanning the files sequentially looking for data, I end up allocating thousands of disk blocks for no reason. For various reasons, I can't make use of the calls that will determine the next allocated block—I have to rely on VS returning nulls without making the file grow. Any ideas?

From: Doug Rady

?SPAGE is documented as performing as you describe. It extends the file. If you're using ?RDB with the optional patch installed, you take your chances as to what is going on, due to changes made in the kernel.  $\Delta$

*Do you have an answer, comment, or question? Call the NADGUG/RDS electronic bulletin board, available to all NADGUG members. The phone number is 415/499-7628. There are no fees for use other than the telephone charges.*

# TEXTBASE™

## The Next Generation of RDBMS

TextBase is a new technologically advanced management system designed to specifically manage free-form text in a relational database management system.

- High Speed Text Search
- Proximity Searching
- Subset Searching
- Analysis Tools
- WordPerfect Interface
- Review Forms
- Report Features
- Menu Driven

### TextBase Imaging Corp.

901 Dover Drive, Suite 242, Newport Beach, CA 92660  
(714) 722-9648 FAX: (714) 722-6927



TextBase runs on the DG MV series of computers.

TextBase is a trademark of TBI. WordPerfect is the registered trademark of the WordPerfect Corporation

## COMPUTER HARDWARE OF AMERICA



DG • CDC • PE

Upgrades • Tech Support • Parts  
Systems • Peripherals

### 45 DAY WARRANTY

Call: Jim Sittinger

214-424-6884

FAX: 214-424-1052

1201 E. 15th St., Ste. 115 — Plano, TX 75074

Circle 36 on reader service card.

Circle 6 on reader service card.

# FOCUS

The Magazine of the North American Data General Users Group

Do you need information, **today**, about products or services advertised in this issue?  
**Focus Magazine makes it easy!**

1. Copy this page, or cut it out.
2. Find the ad you're interested in (the ad index is located on the following page).  
**Focus** has requested that advertisers include their fax number in their ads. Write it down.
3. Fill in the information about you and your company.
4. Add any comments about the specifics of your request.
5. Then FAX it directly to the company. You'll receive the information you need fast!

Advertiser's company name: \_\_\_\_\_

Advertiser's FAX number: \_\_\_\_\_

I am looking for the following information: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Your name: \_\_\_\_\_

Your company's name: \_\_\_\_\_

Your fax number: \_\_\_\_\_

Your phone number: \_\_\_\_\_

**AD FAX**

*Now wasn't that easy?  
You'll be excited about the quick response you'll get to your request!*

**ADVERTISER!**  
This is a hot lead from *Focus Magazine*. Please give this prospect your immediate attention!

# AD INDEX

Company	PG#	RS#	Company	PG#	RS#
Ames Sciences, Inc.	47	1	Minitab Statistical Software	43	-
Asset Remarketing Corporation	30	2	More Computers, Inc.	46	25
BL Associates	11	3	NPA Systems, Inc.	3	26
Claffin & Clayton	13	4	RAVE Computer Association	1	27
Compuplan International, Inc.	43	-	Rhintek, Inc.	9	28
Computer Engineering International, Inc.	38	5	SCIP	6	29
Computer Hardware of America	40	6	Security Computer Sales	24	30
Computer Maintenance Corporation	47	7	Signal Computer Products	7	31
Concept Automation, Inc.	46	8	Sysgen Data Ltd.	37	32
Cyberscience Corporation	C2	42	Sysgen Data Ltd.	43	-
Data Assurance Corporation	17	9	:SYSMGR, a division of B.J. Inc.	34	33
Data Bank Associates, Inc.	29	10	:SYSMGR, a division of B.J. Inc.	47	34
Data General Corporation	22 & 23	11	:SYSMGR Bulletin Board	43	-
Data Investors Corporation	27	12	Systems Express Limited	37	35
DataLynx	28	13	TextBase Imaging Corp.	40	36
Delphi Data	25	14	Threshold, Inc.	34	37
Digital Computer Consulting	C3	15	Weyerhaeuser Company	14	38
Digital Dynamics, Inc.	14	16	Wild Hare Computer Systems, Inc.	33	39
DMS Systems, Inc.	35	17	WordPerfect Corporation	5	40
DMS Systems, Inc.	43	-	Zetaco	C4	41
Eagle Software, Inc.	39	18			
Eagle Software, Inc.	43	-			
Fast Track Systems, Inc.	21	19			
Flying Point Software	10	20			
Indocomp Systems, Inc.	30	21			
International Computing Systems	45	22			
Interscience Computer Corporation	15	23			
MarcAlan Software, Inc.	19	24			

## PRODUCTS AND SERVICES

Company	PG#	RS#
Data General Corporation	45	45
Data General Corporation	45	46
Marc Alan Software, Inc.	46	47
Plus III Software, Inc.	46	48

## ON-LINE HELP

### Who to call for answers about NADGUG and FOCUS

#### NADGUG

##### Membership, RIGs, SIGs

Greg D. Goss ..... 800/877-4787  
 (Outside the U.S.) ..... 512/345-5316

##### Electronic bulletin board

(300 or 1200 baud modem)

Rational Data Systems ..... 415/499-7628

#### NADGUG staff and FOCUS Magazine address:

c/o Turnkey Publishing, Inc.  
 Livingston Building, Suite 250  
 3420 Executive Center Dr.  
 Austin, TX 78731  
**FAX:** 512/343-7633

#### FOCUS Magazine

512/345-5316

**Editorial comments, article suggestions**.....Robin Perry  
 (please send product announcements to the address listed above)

**Information about advertising**.....Michelle Sentenne

**FOCUS back issues** .....Turnkey Publishing staff

# Make the Connection!

- AOS/VS
- Business BASIC
- CQCS
- Educators
- Federal
- INFOS II
- ICOBOL
- Law Enforcement
- Lions Gate
- Music & Recording Industry
- OASIS (Office Automation)
- :PERFSIG (performance and capacity planning)
- SIG/UX (Unix)
- SMBASIC

Let the North American Data General Users Group (NADGUG) connect you with other Data General users who have a similar special interest and who want to share information, ideas, problems, and solutions. No matter what the special interest is behind the group — equipment, systems or application software, major language, operating system, industry type — the reason is the same: to work together to exchange ideas on how to get the best performance out of your DG system.

Listed above are NADGUG's current special interest groups. If you are interested in making the connection with one of these groups, or if you have an interest that needs a group, please contact NADGUG's RIG/SIG coordinator, Greg D. Goss, at 1-800-USR-GRUP (512/345-5316 outside U.S.) for further information.

## SOFTWARE

### Statistical Software

- Powerful
- Fast
- Easy-to-use
- Inexpensive

**MINITAB** 

STATISTICAL SOFTWARE  
3081 Enterprise Dr., State College, PA 16801

**814-238-3280**

## EQUIPMENT



Our deal is your steal.....  
Over 500 in stock,  
more arriving weekly!

*Computerplan*

**1-800-228-8889**  
Texas or Nationally

### Sysgen Data Ltd. Specials of the Month

DG 6321 Printer w/ Sheet Feeder .....	\$350
D460 .....	175
DG 4557 Laser .....	895
DG Laptop .....	350
IAC 16 (22462) w/ TCB .....	1,395
<b>(516)491-1100 • Fax (516)491-1559</b>	

## SERVICES

### DISK RECOVERY SERVICE

When you have disk problems, call the developers of the DMS Disk Optimizer for a free evaluation of the feasibility and cost of recovering your valuable information.

**(800) 284-8333**

**DMS** Systems, Inc.

1111 Brickyard Rd., SLIC, UT 84106  
FAX (801) 484-3367

### Moving from INFOS to UNIX?

EAGLE Software  
"The INFOS Experts"  
can help!



**1-800-477-5432**

169 East Cloud  
P.O. Box 16  
Salina, KS 67402-0016  
FAX (913) 823-6185

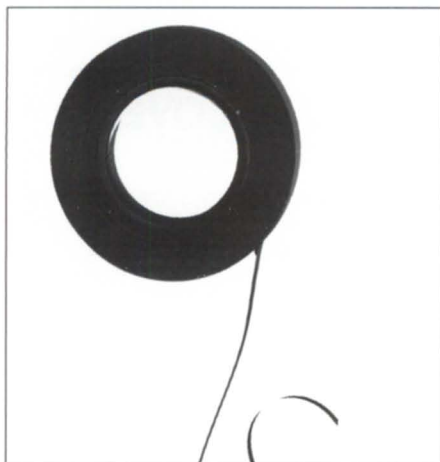
## DIAL-UP BULLETIN BOARDS

:SYSMGR BBS specializes in file transfer of RDOS and AOS[./VS] DUMP files - no messaging facilities. XMODEM, YMODEM, and KERMIT supported. 415/391-6531(one line), 2400 baud (Micom M 3124 EH), 8 data bits, 1 start /stop bit or 415/550-1454 (voice). System is MV/4000, terminal mode is CHAR/605X.

### NADGUG Software Library tapes now available for the cost of the tape!

NADGUG's software library gives you access to dozens of useful programs and macros! If you have wanted a copy of NADGUG's software library and just haven't gotten around to sending in your tape, here's a deal for you! NADGUG is now offering to its members software library tapes for a \$30 charge (plus shipping), which covers the cost of the tape. VISA, MasterCard, American Express accepted. We will also bill your company. Call today or fax your order!

**1-800-USR-GRUP** 512/345-5316 (Outside U.S.) FAX: 512/343-7633



# A complete listing of the NADGUG software library

**ACK** • Updated version 1.70. Terminal emulator/file transfer program for both AOS/VS and AOS machines. 365 blocks.

**Big Brother** • Automatic log-off program written in Fortran 77. Donated by the U.S. Forest Service. 169 blocks.

**B.J.'s BBS contributions** • About 20 items, including various programs, documentation, and macros. Some of the more interesting items include the :SYSMGR benchmark suite, a continuous incremental backup, a clean-up file maintenance program, a program to find strings in files, and a type-backward program. 6,761 blocks.

**CRTEEDIT** • The old RDOS screen editor ported over to VS. 49 blocks.

**DBCHECK** • Checks the open status of an Infos file and examines the checkpointing status of a file. 187 blocks.

**DUMpload** • A Macintosh program to dump and load AOS/VS-compatible dumps on a Macintosh. 137 blocks.

**ERP** • A process-termination program developed by NASA and modified by Manville. In Fortran 77. 454 blocks.

**FILEMNGR** • With this new version, you can move, copy, delete, view, and perform several other options faster. This is distributed as shareware. If you try it and continue to use it, you are requested to pay a registration fee. From Kim Geiger. 654 blocks.

**Focus** • *Focus* magazine articles. 1774 blocks.

**FTNCVT** • A Fortran 5 to Fortran 77 translator. 232 blocks.

**Games** • A collection from various places. Enjoy. 19,216 blocks.

**IMSLUTIL** • A collection of CLI macros, Cobol routines, and assembly routines callable from Cobol. By IMSL of Houston. 4,893 blocks.

**JAG\_UTIL** • JAG\_UTIL by John Grant consists of several programs: Filecount, User-space, Scan, Glossary, Laminate, and Qhelp. 4,325 blocks.

**Kermit** • A file-transfer protocol developed at Columbia University. 9,697 blocks.

**Logout** • Another auto log-out system. 178 blocks.

**Look** • Used to view text files, Look allows you to move forward and backward in a file. Donated by Data General. 202 blocks.

**Macros** • A collection of macros from various sources. 441 blocks.

**MENUDIR** • An initial user menu that can chain to other applications and features a password-control system. From the Fed SIG. 486 blocks.

**Misc Kerm** • An expanded version of AOS Kerm, this now includes other versions of Kermit including DG/One Kermit. 6,709 blocks.

**MS-DOS** • A VS program that lets you read and write MS-DOS diskettes on an MV system with a 5.25-inch floppy disk drive. 984 blocks.

**Notify and Prior** • Two contributions from Concept Automation. Notify tells you when a process has terminated. Prior lists the priorities of processes. 162 blocks.

**RDOS Kermit** • Now available. You must request the Kermit tape (rather than the library tape) to get RDOS Kermit.

**Softrans** • A file-transfer protocol written in Fortran 77 used to communicate with proprietary PC communications packages. 462 blocks.

**Spell** • Checks the spelling of a word or spell-checks documents. Submitted by Richard Kouzes. 5,108 blocks.

**TEX** • Version 2.26a is now available. TEX (Terminal Emulator with Xmodem) is a terminal-emulation program written by David Down. He has revised the TEX software to include a command language. TEX is distributed as shareware. At the end of 30 days, either remove it from your system or send the author a \$45 fee. 463 blocks.

**VT100KER** • VT100 emulator from John Grant. 1,043 blocks.

**Xfer** • A tape-conversion utility. 607 blocks. Δ

**All NADGUG members interested in receiving the NADGUG software collection should send a 1,200-foot tape to:**  
Randy Berndt, Building 4, Suite 321, 5300 North Braeswood, Houston, Texas 77096

MV/2000 and MV/1400 users should send one formatted, error-free tape cartridge. Software contributions should be sent to the same address. Be sure to include your membership number. Allow 4-6 weeks for delivery.

Thanks to Brian Johnson and :WFFCA, the library is now able to provide 1200 ft. copies to AOS/VS rev 6 users. Thanks to Kevin Danzig for duplicating MV/2000 tapes. To leave a question regarding non-standard library distribution call 713/988-5342.

Please include a self-addressed envelope with sufficient return postage. In compliance with postal regulations, do not date the postage. Either disable the date printing completely, or set the date to "--" or zeros. Tapes cannot be returned UPS collect.

# DG expands CASE solutions: Cadre joins Aviion team with Teamwork

Dallas, TX—Cadre Technologies' comprehensive Teamwork line of computer-aided software engineering (CASE) products are now available on the Data General Aviion family of servers, workstations, and multi-user systems.

Teamwork products for the Aviion platform, which were announced at Uniform, include:

- Teamwork/IM, Teamwork/SA, and Teamwork/RT—workstation-based systems analysis tools that maximize efficiency of each step in the analysis process;
- Teamwork/SD and Teamwork/Ada—workstation-based design tools that sup-

port industry standard structured design techniques;

- Teamwork IPSE\_toolkit—facilities that integrate Teamwork with other software development tools or frameworks.

Pricing for Cadre's Teamwork products on the Aviion begins at \$6,200 per Teamwork user and varies with the number of Teamwork components included. The first shipment was scheduled for March. Teamwork products are distributed by Cadre's direct sales force in the United States, Europe, and Australia, and also sold by distributors in the Far East and Europe.

Since the introduction in 1989 of Data General's Aviion family, more than 400 software developers have ported applications to the Aviion platform, providing more than 1,000 applications in areas such as data base management, fourth-generation languages, electronic publishing, and CASE tools.

Cadre Technologies develops, markets, and supports integrated software development products and solutions to man-

age and automate the analysis, design, code generation, reverse engineering, and test of high-performance software and systems. Headquartered in Beaverton, Oregon, Cadre has more than 15,000 installations internationally and a customer base that includes Boeing, General Electric, Nippon Telephone and Telegraph, and Lloyds Bank and Philips.

*Data General Corporation, 3400 Computer Dr., Westboro, MA 01580; 508/898-4083.*

Circle 45 on reader service card.

## Look: IDE Software through Pictures

Dallas, TX—Interactive Development Environments, Inc. (IDE) ported its Software through Pictures to Data General's Aviion family of servers, workstations, and multi-user systems. The third-party software agreement expands Data General's CASE offerings in the Unix systems environment. IDE's Software through Pictures is a family of integrated

# Data General • Buy • Sell • Trade

**Processors:**

MV40000 32MB	.....	SAVE \$
MV20000 Model 1 16MB	.....	SAVE \$
MV20000 Model 2 16MB	.....	SAVE \$
MV20000 Model 1 16MB, FPU	.....	SAVE \$
MV20000 Model 2 16MB, FPU	.....	SAVE \$
MV20000 Model 1 to Model 2 upgrade	.....	SAVE \$
MV15000 Model 20 8MB	.....	SAVE \$
MV15000 Model 8 to Model 20 upgrade	.....	SAVE \$
MV15000 Model 10 to Model 20 upgrade	.....	SAVE \$
MV10000 4MB Meter high cabinet	.....	\$6,500
MV8000-II 8MB Meter high cabinet	.....	3,200
MV8000 Model 9300	.....	950
MV7800 4MB 16 slot chassis	.....	3,900
MV7800XP 4MB	.....	9,000
MV4000 2MB	.....	1,100
MV4000DC 2MB, 120MB, floppy	.....	2,250
MV2000 Enhanced 4MB 160 MB disk	.....	5,200
MPT100 Dual floppy	.....	350
MP100 8520-D	.....	350
S-140 256KB Floating point	.....	1,500
Desktop 10 Floppy, 15MB disk	.....	875
Desktop 20 Floppy, 15MB disk	.....	1,295
S-120 256K 16 slot	.....	550
S-280 2MB	.....	1,900

**Processor Options:**

8997 Expansion chassis MV15, 20	.....	\$6,300
8819 Second IOC for MV10000	.....	1,800
8762 Expansion chassis MV10,8,4,S280	.....	3,500
8761 Floating point unit MV4000	.....	950
8749 Battery backup for MV10000	.....	1,100
8746-B Battery backup for 8762	.....	900
EXP Chassis	.....	900
8704 Floating point unit MV8000	.....	500

4543-B MCP1 8 Async 2 Sync DCH Ptr	.....	1,900
4463-ZT USAM-4	.....	275
4380 ISC-2 (Synch)	.....	600
4372-A TCB-16	.....	350
4371-C TCB-8	.....	455
4368 IAC-16 RS232, 20MA	.....	2,300
4367 IAC-8 RS232, 20MA Modem Cnt	.....	1,500
4608 10 Port term. serv	.....	2,800

**Disk Storage Units:**

6161 147MB Disk subsystem	.....	\$995
6236 354MB Disk subsystem	.....	1,900
6239 592MB Disk subsystem	.....	5,500
6329 120MB MV2000/MV1400	.....	1,150
6363 160MB MV2000/MV1400	.....	1,400
6491 322MB for MV2500 or CSS	.....	2,900
6554 662MB for MV2500 or CSS	.....	3,900
6581 500MB R.A.M.S. Disk	.....	Call
6720 CSS2 1.0GB Disk subsystem	.....	13,000
6685 1.0GB Disk Drive A/O	.....	5,700
2351 Fujitsu w/BMX3	.....	3,200
6061/6122 Zebra Disks or Parts	.....	Offer
Zetaco ARZ and SKS subsystems	.....	Call
Zetaco Laser Disk subsystem	.....	Call

**Specials**

D 411 Terminal	.....	\$180
CSS (SCSI) Disk & Tape Subsystems	.....	Call

## International Computing Systems

P.O. Box 343 • Hopkins, MN 55343

**1-800-522-ICSC**

**(612) 935-8112**

**FAX 612/935-2580**

**Terminals:**

6053 D2 Monitor with keyboard	.....	\$100
6108 D200 Monitor with keyboard	.....	125
6130 D400 Monitor with keyboard	.....	150
6166-X D410 Monitor with keyboard	.....	165
6169-X D211 Monitor with keyboard	.....	165
6391-X D214 Monitor with keyboard	.....	200
6392-X D215 Monitor with keyboard	.....	225
6393-X D411 Monitor with keyboard	.....	180
6394-X D461 Monitor with keyboard	.....	375
6500 D216 Monitor with Keyboard	.....	380

**Tapes:**

6021 800 BPI new style	.....	\$400
6026 800/1600 BPI Brown, FCC compliant	.....	1,250
6125 1600 BPI Streamer, FCC compliant	.....	500
6311 15MB Cartridge MV4 DC/7800DC	.....	650
6341-A 1600 BPI Streaming Tape	.....	3,500
6270 15MB Cartridge for Desktop	.....	650
6299/6300 1600/6250 BPI Subsystems	.....	7,500
6586-A Galaxy Tape	.....	5,200
6590 2GB Tape Backup add-on for CSS	.....	4,700
Megatape 2GB Subsystem	.....	Call
Kenedy 9400 w/ BMX2 Subsystem	.....	Call

**Memories:**

MV40000, All sizes	.....
MV20000, All sizes	.....
MV15000, All sizes	.....
MV10000, All sizes	.....
MV9500, All sizes	.....
MV8000, All sizes	.....
MV7800XP, All sizes	.....
MV7800, All sizes	.....
MV4000, All sizes	.....
MV2000, All sizes	.....

**Call for  
our low  
prices!**

Circle 22 on reader service card.

CASE development environments that supports the complete software development process for technical and commercial applications.

The new release uses DG/UX Release 4.3 and X-Windows. Pricing for a single license ranges from \$5,000 to \$21,000, depending on configuration. Software through Pictures was available on Avion computer systems as of the first quarter of 1991. The announcement was made at the Uniform conference in Dallas.

Headquartered in San Francisco, California, IDE was founded in 1983 by Anthony I. Wasserman to develop and sell CASE software, to support integrated CASE environments, and to provide support, training, and consulting services. IDE's Software through Pictures supports standard structure analysis and design methods including object-oriented structured design (OOSD). Its open architecture allows Software through Pictures to be customized, extended, and integrated with other tools.

IDE's partners include Frame Technol-

ogy and Interleaf (technical publishing), ISE (object-oriented Programming), Saber (C and C++ development), SES (system simulation), Informix and Sybase (RDBMS), and Verdix (Ada development). IDE is a privately held company with more than 550 customers worldwide.

*Data General Corporation, 3400 Computer Drive, Westboro, MA 01580; 508/898-4083.*

Circle 46 on reader service card.

## Marc Alan releases PCBB Basic 1.00

Lincolnshire, IL—Marc Alan Software, Inc. announced the completion of its beta program and the initial release of PCBB Personal Computer Business Basic version 1.00. PCBB allows Data General users running double and triple precision Business Basic under RDOS and AOS to port their source code onto personal computers operating in single and multi-user DOS environments. Binary compatibility allows data and index files to be moved and

utilized without modification.

PCBB features on-line help, debugger, and an editor that offers the look and feel of an interpretive environment. Another feature, Compiler Driver, expedites the process of compiling source code without the creation of batch files. Utilities are also included that maintain Data General compatible screen files, param, logical data base, and index file structures.

Purchase of PCBB includes a royalty free right to reproduce and distribute executable files.

*Marc Alan Software, Inc., 22096 North Pet Lane, Lincolnshire, IL 60069-4113; 708/634-9447.*

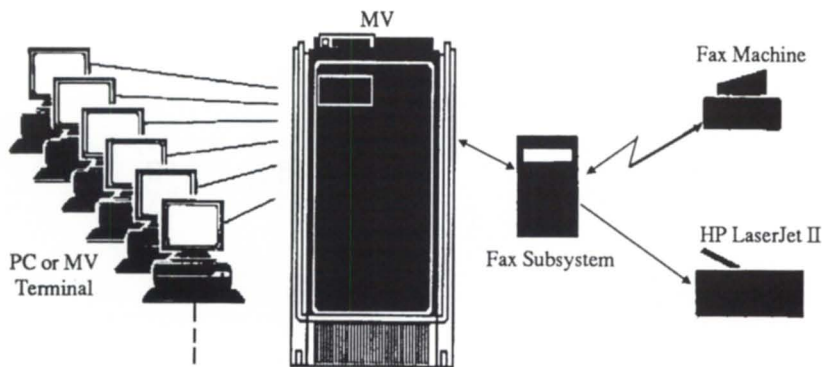
Circle 47 on reader service card.

## Plus III Software announces Terramodel 6.0

Atlanta, GA—Plus III Software Inc. announced the release of Terramodel 6.0 for

## DG FAX Server!

### CAI's RUSH



Let your Data General MV system serve the FAX needs of your entire computing community. With CAI's RUSH, a single Fax subsystem can send and receive faxes for all your terminal and PC users, includ-

ing access control, scheduled calling and chargeback auditing. WordPerfect and CEO integration, ASCII text support. Tremendous cost savings with Fax management.

Call today to learn more!



**Concept Automation, Inc. 1319 Moran Road Sterling, VA 22170**  
703/450-6000 703/430-6185 (fax)

Circle 8 on reader service card.

FOR ALL YOUR HARDWARE NEEDS  
CALL

## ELLEN MOORE

MORE COMPUTERS, INC  
869 SAVAGE RD.  
BELLEVILLE, MI 48111  
FAX# (313)699-4161

**(313) 699-0259**

FOR ALL YOUR HARDWARE NEEDS  
CALL

## ELLEN MOORE

MORE COMPUTERS, INC  
869 SAVAGE RD.  
BELLEVILLE, MI 48111  
FAX# (313)699-4161

**(313) 699-0259**

Circle 25 on reader service card.



the DG Aviiion workstation, a development expected to increase speed and performance.

The new release addresses previous problems with software capabilities limited by project size. With the extended DOS enhancement to Terramodel 6.0, project size will now be a limitation of hardware, not software. Terramodel was created to run independently on all CADD packages.

Enhancements made to Terramodel 6.0 incorporate the remainder of the COGO A/PLUS commands, such as pre-defined areas, mapcheck, centerline inverse, lot data, listing unused points, and EDM topo. Other new module features include: creating parking stalls, user-defined linetypes, sets from breaklines, and multiple copies of selected polylines in two directions; and reading HPGL plot files.

Plus III Software, Inc., One Dunwoody Park, Suite 250, Atlanta, GA 30338; 800/235-4972. △

Circle 48 on reader service card.

(continued from page 48)

cuse, New York. CSI, based in Atlanta, has provided maintenance for Data General systems since 1987. Delta Computec specializes in third-party service/maintenance of computer systems and peripherals.

## Conference dates change—better skiing predicted!

The 1991 NADGUG conference will be held November 18-21 in Denver, Colorado. The conference dates were changed from October 21-24, due to a conflict with Comdex.

Comdex was originally planned for the week of November 18. However, that time slot was taken by another party, so Comdex changed to the week of October 21 in order to keep its Las Vegas location. Because a number of people who attend the NADGUG conference also at-

tend Comdex, and because Data General plans to have a major exhibit at Comdex, NADGUG decided to change its conference dates.

Watch *Focus* for more information about the largest annual gathering of Data General users, vendors, and resellers.

## Rave expansion doubles space

Rave Computer Association is relocating its offices, a move that will almost double the size of its facilities.

By mid-March, the company's new address will be 36960 Metro Court, Sterling Heights, MI 48312; 313/939-8230.

Formed in 1988, Rave has 17 employees, and branch offices in New York, Rhode Island, and North Carolina. Its primary business is refurbishing Data General and Sun Microsystems equipment for resale. △

- **How much memory do I need?**
- **How many disc drives do I need?**
- **How many users can I support?**
- **What's my response time?**

**:PERFMGR** can help you find the answers to these and other questions about your configuration.

Includes a tutorial on AOS & AOS/VS system performance measurement and analysis.

**AOS/VS :PERFMGR** \$750  
**AOS/VS II :PERFMGR** \$750  
**10 DAY TRIAL COPY** **FREE!**

# :SYSMGR

Software for System Managers  
 A Division of B.J. Inc.

109 Minna Street, Suite 215  
 San Francisco, CA 94105  
 (415) 550-1454 Fax (415) 550-1072

Circle 34 on reader service card.

## DG & COMPATIBLE BUY • SELL • LEASE

<b>CPU</b> MV/15000, 20000 MV/10000 MV/8000 MV/7800 MV/4000, 4000DC MV/2000 NOVA 4-C, S/20 S/140, S/280, C350	<b>COMMUNICATIONS</b> IAC-8, IAC-16 TCBs COM BASIC I/O ATI-16, AMI-8 ALM-8, ALM-16 MCP-1 W/TCB
<b>MEMORY</b> for all MV & ECLIPSE for all NOVA & MICRO	<b>DISK / TAPE</b> 354, 592 MB 96, 192 MB 73, 147 MB 10, 12.5, 20, 25 MB 6231 CART N/E 6026, 6123, 6125 6299, 6300, 6021
<b>PRINTERS</b> 4320 55CPS LQ GENICOM 3318 Data Prod B300, B600 OKIDATA 192, 292 HP LASER JET	<b>CR'T'S</b> 6053, D-100, D-200 D-210, 211, 410, 460 D-214, 215, 411, 461 D-216, 412, 462, 470
<b>DESKTOP</b> DG/10, 20, 30 PKG DISK UPGRADES USAM-4, USAM -1 CARTRIDGE TAPE MEMORY	<b>COMPATIBLES</b> ZETACO CDC FUJITSU SCIP DATARAM STC

## SPECIAL AViiON

**AMES SCIENCES, INC.**  
 Rt.1, Box 78 Chancellor Point Rd., Trappe, MD 21673  
 (301) 476-3200 • Fax 301-476-3396

Circle 1 on reader service card.

## SERVICE

### Data General Terminal Repair

**D100, D200, D210  
 D211, D214, D215  
 D216, D450, D461  
 D462, D410, D400  
 D411, 6053, D412**

**\$95 Flat  
 Rate**  
 most repairs



**COMPUTER  
 MAINTENANCE  
 CORPORATION**

609 North 4th Street  
 Stillwater, MN 55082  
 (612) 439-0279

Circle 7 on reader service card.

# Data Specific

## Asparagus wilts

Data General quietly dropped a high-profile product development agreement with **Nippon Telegraph & Telephone (NTT)**. The fruit of the so-called Asparagus project, announced in October of 1987, was to be an integrated digital communications system centered around DG superminicomputers. The decision to terminate the project was made jointly by Data General and NTT, said Stephanie Bigusiak, senior manager of public rela-

tions for DG. An evaluation by the two parties determined that changing market potential did not justify continuation of the project, Bigusiak said.

## Aviion in the running

Data General will provide Aviion servers as part of a \$15 million contract awarded to **Computer Sciences Corporation**. CSC is one of two finalists for the Army's Reserve Component Automation System (RCAS). RCAS will automate the administrative and mobilization capabilities of the **Army Reserve** and the **National Guard**. The award is the first phase of a competitive runoff for a contract with a potential value of \$1 billion. The first phase lasts one year, during which the finalists will develop and demonstrate their system designs.

## Infos experts

On-line as of January 1 is **Expert Systems, Inc.**, a company providing performance consulting services to AOS/VS, AOS/VS II, and Infos users. Expert Systems specializes in the recovery of corrupted Infos files. **Milton Larson**, president of the company, was formerly employed by Eagle Software as vice president of product development. Expert Systems is located in Salinas, Kansas; phone 913/823-5600.

## Delta Computec buys CSI

**Computer Support Inc. (CSI)** was acquired by **Delta Computec, Inc.** of Syra-

*(See In General, page 47)*

# User notes

## Back to BBasic

Based on interest shown at the 1990 NADGUG conference, the Business Basic special interest group (SIG) decided to become more active. The Business Basic SIG is an organization of vendors and users who use Business Basic. There is no requirement that members use Data General software or hardware, just that they use Business Basic or a compatible product.

The group plans to coordinate enhancements, syntax, and de facto standards between software vendors, publish a newsletter, and improve communication and information sharing among BBasic users.

Officers of the group are **George Henne**, president, and **Calvin Durden**, vice president. Membership dues are \$10. For more information, contact George at 416/694-5777.

## Unix workshop

Plans are underway to hold a DG/UX workshop at the 1991 NADGUG conference in Denver. Anyone interesting in helping out with the seminar may contact **David Novy** at 612/733-3320.

### RIG/SIG gigs

MARCH /APRIL


#### March 19, 1991

**LA EDGE (Los Angeles End-Users of Data General Equipment)**

Time: 7 p.m.

Location: Brookside Country Club

Topic: Word processing and spreadsheets

Contact: Mark Speer, 818/897-7777

#### April 15-16, 1991

Office automation workshop sponsored by OASIS (office automation special interest subcommittee)

Location: Stouffer Concourse Hotel, St. Louis, MO

Topics: Retraining users, beta site testing, controlling users, data bases on the MV, managing CEO on multiple MVs, managing WP Office on multiple MVs

Cost: \$250 for members, \$285 for non-members, \$50 for DG personnel

Contact: Peggy Whitt, 205/544-3001

#### March 12, 1991

**Chicago Area Data General Users Group**

Networking/Interoperability seminar

Time: 1 p.m.

Location: Schaumburg Embassy Suites

Description: Interoperability demonstration, vendor and end-user presentations.

Contact: Carol Switzer, 815/753-1455

#### March 12, 1991

**Chicago Area Data General Users Group**

Spring dinner meeting

Time: 6 p.m.

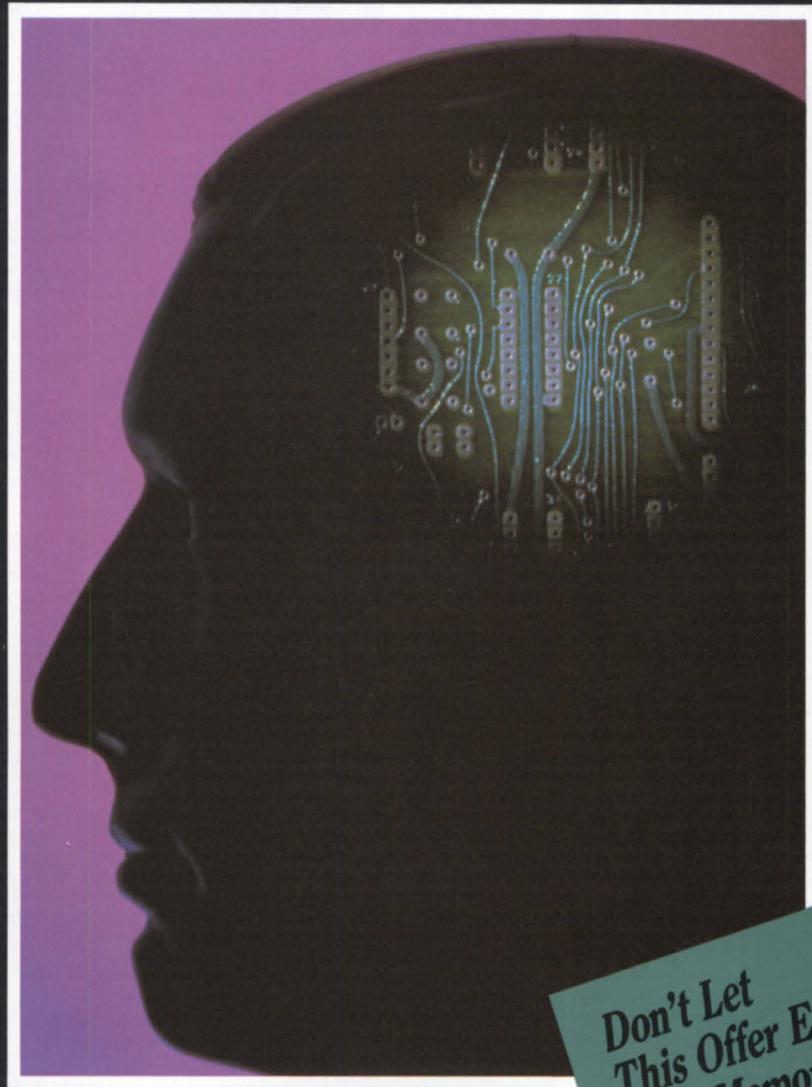
Location: Schaumburg Embassy Suites

Topic: Roundtable discussion on networking/interoperability

Contact: Carol Switzer, 815/753-1455

This calendar is for notices of regional interest groups (RIGs), special interest groups (SIGs), and NADGUG events. If you would like your group's meetings posted here, please send a notice to *Focus* magazine, Livingston Building, Suite 250, 3420 Executive Center Dr., Austin, TX 78731; fax 512/343-7633. We must receive your notice by the 5th of the month, two months prior to the actual event.

# Fix Your Mind On Free Memory.



**Don't Let  
This Offer Escape  
Your Memory!**

Digital Computer Consulting is freshly stocked with the Data General hardware you've been looking for - at prices you've been waiting for.

Call for complete details on our Free Memory Giveaway.

DG is a trademark of Data General Corporation

**BOSTON**  
P.O. Box 1472  
Marshfield, MA 02050  
Tel. (617) 837-7255  
FAX (617) 837-9641

**BALTIMORE**  
3757 Church Road  
Ellicott City, MD 21043  
Tel. (301) 750-7200  
FAX (301) 750-7202



**DIGITAL COMPUTER CONSULTING, INC.**

Circle 15 on reader-service card.

# Zetaco Peripherals Support You, No Matter Which Road You Choose.



As you face the choices of the 90's, Zetaco helps maximize your peripheral investment by providing standards-based data storage devices that can travel with you. Unlike drives with proprietary interfaces, Zetaco's SCSI-based peripherals avoid roadblocks, and smooth the way for easier integration with future MV's and AViiON. The Zetaco drives you add today — whether magnetic disk, optical disk, 8mm or DAT tape — can still be used in the future, no matter which road you choose. Call us today for detailed information.

**ZETACO**

The Network Storage Company

Division of the Carlisle Systems Group

6850 Shady Oak Road  
Eden Prairie, Minnesota 55344 U.S.A.  
FAX 612/941-1395  
Phone 612/941-9480



MIGRATING TO AVIIION

Circle 41 on reader service card.