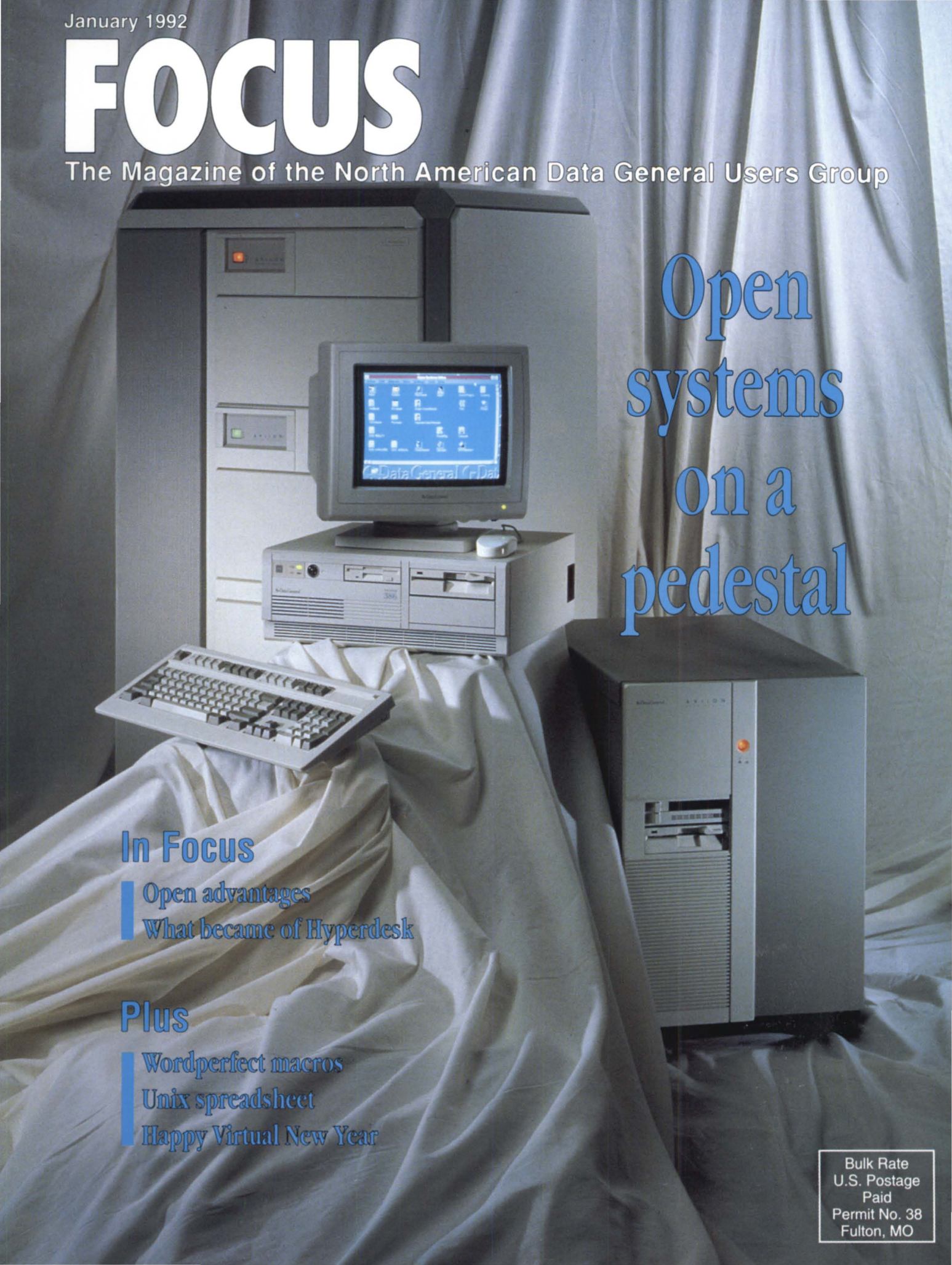
January 1992

FOCUS

The Magazine of the North American Data General Users Group



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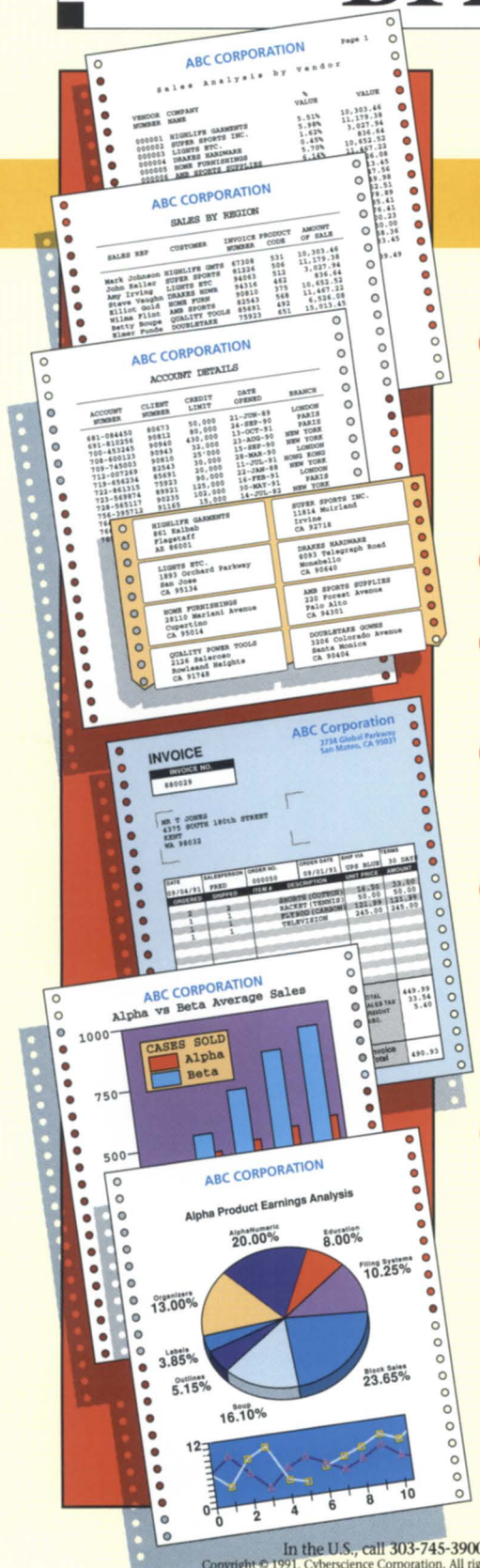

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FOCUS, the Magazine of the North American Data General Users Group (ISSN 0883-8194) is the official publication of the North American Data General Users Group (NADGUG) in cooperation with Turnkey Publishing. Editorial and business offices are located at Livingston Building, Suite 250, 3420 Executive Center Dr., Austin, TX 78731, phone 512/345-5316. NADGUG headquarters are located at NADGUG, c/o Danieli & O'Keefe Associates, Inc., Chiswick Park, 490 Boston Post Rd., Sudbury, MA 01776, phone 508/443-3330.

Postmaster: Send address changes to Subscription Department, Turnkey Publishing, Livingston Building, Suite 250, 3420 Executive Center Dr., Austin, TX 78731.

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 per person. A one-year (12 issues) subscription to *FOCUS, the Magazine of the North American Data General Users Group*, costs $48. For memberships and subscriptions outside the U.S., add $50 to defray the cost of mailing.

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.

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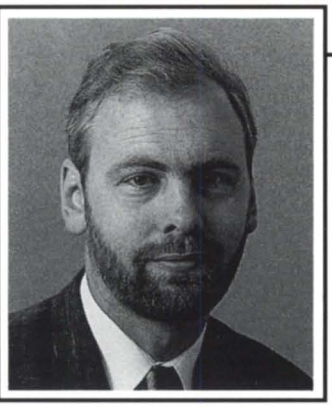

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Dennis Doyle

PRESIDENT'S PAGE

Looking ahead

Another conference is behind us. What a showplace, learning center, and communication forum it was. The city of Denver and its people were very congenial, heightening the enjoyment of the second "United for the Nineties" conference.

Many of the rough edges of blending three major Data General-related events (NADGUG, DG's national sales kickoff, and the value-added resellers meeting) that were felt last year were gone, thanks to the hard work of many people. The speakers, Educational Services seminars, presentations, exhibition hall with more than 130 booths, people networking, and social functions—all were outstanding. The banquet certainly will skyrocket the growing fame for the rock group fondly called the Talking Propeller Heads, who once again emphasized the talent and versatility of Data General marketing.

The extremely positive aura that the conference provided has started my term in office on an exciting note. The feeling of optimism for constructive, explosive growth of our membership base was greatly fostered by many events and commitments that were made or obtained during our annual series of meetings. The support offered by the DG executives for the user group has once again increased as a result of meetings held prior to Denver, as well as during the hectic week of Conference '91.

Four major goals are ahead of us in 1992:

- Increase dues-paying members by 20 percent
- Increase full-paying conference registrations by 300
- Implement the request for enhancement (RFE) procedure
- Take our user group to a true international stature.

The first two goals certainly involve the dollars-and-cents aspects of the group's financial viability and independence, but they go well beyond cash flow. Steadily increasing membership adds to our group's power base in terms of its ability to go to DG and obtain the responses that the user community needs. A growing conference expands its capabilities to serve the needs of those who attend. Our size and involvement levels also invite participation in other concrete and critical areas, such as STRs (software trouble reports) in 1990-91, and RFEs in 1992. A future issue of *Focus* will contain a follow-up about our newly defined role in the RFE process.

The fourth goal of obtaining international status for NADGUG will augment the first three at many levels. It is certainly within our means to accomplish. The time to take this step is now. The attendance of representatives from more than 40 nations at the various sessions in Denver underscores the need for a focal point for all DG users. With the support of all concerned, it will happen in '92.

Please help us reach our goals. Please give us your feedback.

Have a great 1992, as will *your* user group. Δ

EDITOR'S NOTE *by Robin Perry*

Open systems: a multifaceted issue

The two "Focus on" articles in this month's issue discuss the tremendous potential of open systems for Data General, for its customers, and for its software providers. *Focus* gives space to this topic because it is important for Data General customers to understand the company's strategy for investing heavily in open systems—especially if your organization is heading in that direction. In contrast, Brian Johnson's article raises a number of concerns related to open systems. Certainly, the issue of open systems is not an "open-and-shut" case. Discussions of this type benefit everyone involved, and give you needed information to make decisions that will affect your computing in 1992 and beyond. Δ

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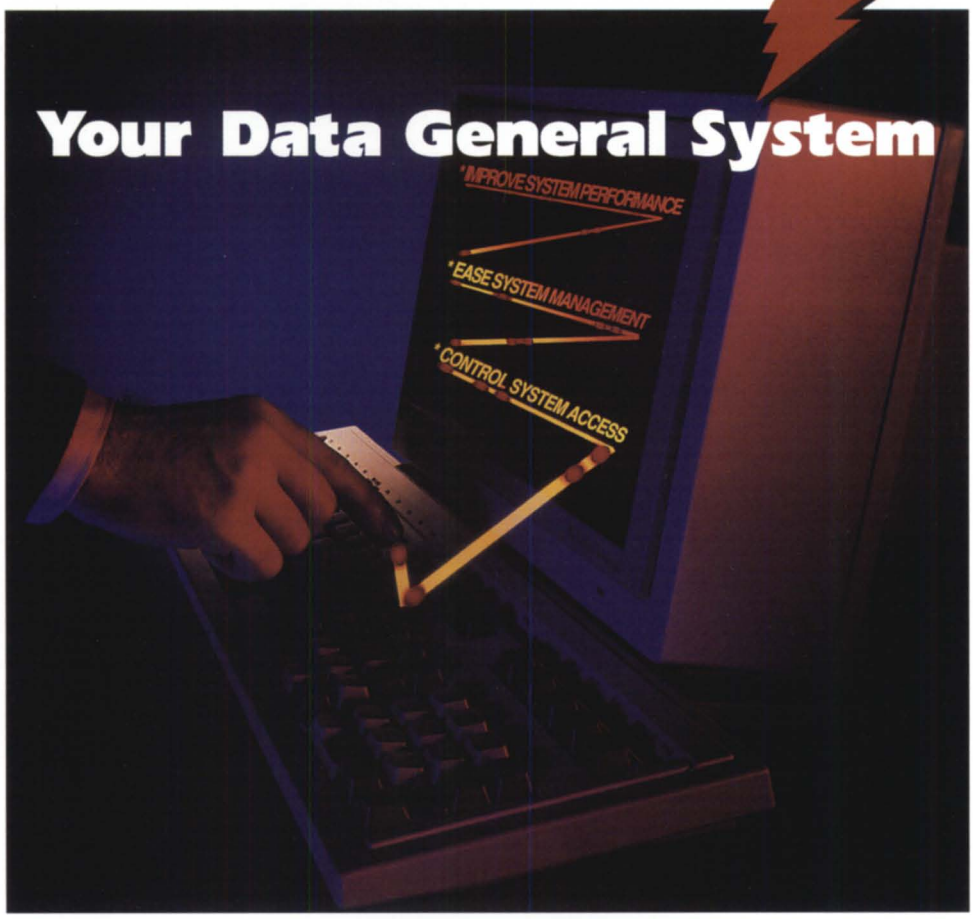

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Take me to your leaders!

by Robin Perry
Focus Staff

Dennis Doyle and Jan Grossman

Dennis Doyle

Stepping up to president of NADGUG for 1992 is Dennis Doyle, president of Dennis Doyle & Associates, a consulting firm specializing in ICobol and based in Beaverton, Oregon.

One of Doyle's goals for the year is to aggressively promote growth in NADGUG membership. In addition to increasing membership of Data General's MV users, Doyle plans to target Aviion and international users of DG equipment. He is well suited to the task of recruiting new members. Doyle began his association with NADGUG in 1981 at the Chicago conference. "It was there that the Chicago Area DG Users Group (CADGUG) was reborn, going from 3 members to over 100 in 2 years," he reports.

Doyle served as treasurer of CADGUG for two years, formed a special interest group (SIG) for RDOS and ICobol users, and has served as chair of the ICobol SIG since 1982. He was elected to NADGUG's board of directors to serve as recording secretary in 1988, and last year was the vice president of NADGUG.

While vice president of NADGUG, Doyle participated in efforts with Data General to resolve the company's backlog of software trouble reports (STRs). For the future, Doyle would like to expand the areas of joint cooperation between the user group and Data General.

Jan Grossman

New NADGUG Vice President Jan Grossman became a NADGUG member in 1982, and has been a dedicated volunteer ever since. For the past three years, she has served as conference chair. She spent one year as NADGUG treasurer and served as a vice chair on the RIG/SIG Committee. She was on the founding committee of the Minnesota Area Data General Users Group and served as its first president. She is currently the newsletter editor for MADGUG.

Grossman is the information services manager at H.A. Holden, Inc., a distributor in the electric motor repair industry. She manages an MV/15000 Mod 20, microcomputers linked to the DG, a fax server, and remote computing services. Her professional affiliations include two years respectively as treasurer and president of the Minnesota Office Systems Association and a member of the DPMA.

In these times of cost reductions and downsizing, Grossman urges NADGUG members to "pull together." NADGUG, she says, "provides unique opportunities for users of proprietary platforms and open systems to share information, tips, and techniques. It is an exciting time in computing—watching the blending of the two approaches." Δ

Kansas City call for sessions

The 1992 NADGUG conference will be held in Kansas City, October 12-15. Proposals to conduct sessions at the 1992 conference are now being accepted.

The objective of the NADGUG conference program is to give attendees the knowledge they need to get the most from their Data General systems. The conference draws a diverse group of attendees from all types and sizes of installations.

Session focus definitions are applications/case studies, applications development, business/MIS management, communications/networking, and system management/performance.

If you are interested in presenting a session at the 1992 conference, please contact Debra Bedrosian at the following address:

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The deadline to submit a session proposal is February 7. Proposals received after the deadline will be considered on a space available basis. Δ

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DG ends fiscal drought

Revenues are stable, but this year there are fewer expenses

by Robin Perry
Focus staff

Data General reported four consecutive profitable quarters for the fiscal year ending September 28, 1991—ending a five-year string of annual losses at a time when other minicomputer manufacturers are faltering.

For fiscal year 1991, Data General reported net income of $85.6 million, compared to a net loss of $139.8 million in fiscal year 1990. Net income for the fourth quarter of 1991 was $18.4 million, while last year at the same time, DG reported a net loss of $89.3 million.

Revenues for the two years remained almost constant: $1.23 billion in 1991 and $1.22 billion in 1990. Fourth quarter revenues were down slightly: $295.6 million for fiscal year 1991 and $308.5 million for fiscal year 1990.

Data General reports that revenues from its Aviion family of Unix-based workstations and servers have increased in every quarter since the product was announced. Highest growth has been in the area of Aviion servers. Revenue from the Aviion line was more than $200 million in fiscal year 1991.

In 1991, Data General's proprietary MV line accounted for approximately 60 percent of the company's revenue. A company official pointed out that although MV sales declined in 1991, they declined at a less rapid rate than in the previous year. Data General's largest research and development project remains a high-end Eclipse MV minicomputer.

A footnote to Data General's earnings for 1991: The figure for net income includes a one-time gain of $13 million from the sale of DG's Japanese subsidiary Nippon Data General in the third quarter. The sale resulted in lower revenues from the Japan marketplace in the fourth quarter.

The sale of Nippon Data General was just one in a series of measures Data General took to lower its breakeven point to approximately $260 million in revenue per quarter from $365 million per quarter five years ago. These measures included reducing the workforce by one-half (from 17,700 employees to 8,500), and selling manufacturing facilities and other assets. Analysts say that Data General has already taken the steps that other minicomputer manufacturers must take in order to survive.

"We are pleased that our quarterly results again have been positive despite the continuing weak economy and the impact of the strong dollar on overseas markets," said Ronald L. Skates, Data General's president and chief executive officer. "We believe our product strategy is on target with the needs of the marketplace," Skates said, however, "We continue to be very cautious for the short term in light of current economic conditions. Our primary concern continues to be the general economic weakness in the European marketplace, which has impacted the entire computer industry." Δ

Data General Corporation Condensed Consolidated Statements of Operations
(in millions except per share amounts)

	Quarter ended		Year ended	
	9/28 1991	9/29 1990	9/28 1991	9/29 1990
Revenues:				
Product	$191.2	$196.8	$796.5	$784.6
Service	104.4	111.7	432.4	431.8
Total revenues	**295.6**	**308.5**	**1,228.9**	**1,216.4**
Costs and expenses:				
Cost of product revenues	99.2	109.6	407.9	422.8
Cost of service revenues	60.8	69.5	251.6	269.2
Research & development	25.8	34.6	102.0	140.7
Selling, general, & administrative	90.2	111.3	384.4	444.6
Restructuring charge	--	71.7	--	71.7
Total costs & expenses	**276.0**	**396.7**	**1,145.9**	**1,349.0**
Income (loss) from operations	19.6	(88.2)	83.0	(132.6)
Interest income	3.6	1.3	8.1	6.7
Gain on sale of subsidiary	--	--	13.0	--
Interest expense	3.7	2.9	12.6	10.7
Income (loss) before income taxes	19.5	(89.8)	91.5	(136.6)
Income tax provision (benefit)	1.1	(.5)	5.9	3.2
Net income (loss)	**18.4**	**(89.3)**	**85.6**	**(139.8)**
Primary earnings per share:				
Net income (loss) per share	.53	(2.93)	2.62	(4.65)
Weighted average shares outstanding	34.4	30.5	32.7	30.0
Fully diluted earnings per share:				
Net income (loss) per share	.50	(2.93)	2.45	(4.65)
Weighted average shares outstanding	41.1	30.5	36.1	30.0

In the current year the company increased the maximum amortization period of capitalized software development costs from two years to three years. The effect of this change in estimate was a decrease in cost of product revenues and an increase in net income of approximately $3.0 million, or $.09 and $.07 per share on a primary and fully diluted basis, respectively, for the current quarter and $11.0 million, or $.34 and $.30 per share on a primary and fully diluted basis, respectively, for the current fiscal year.

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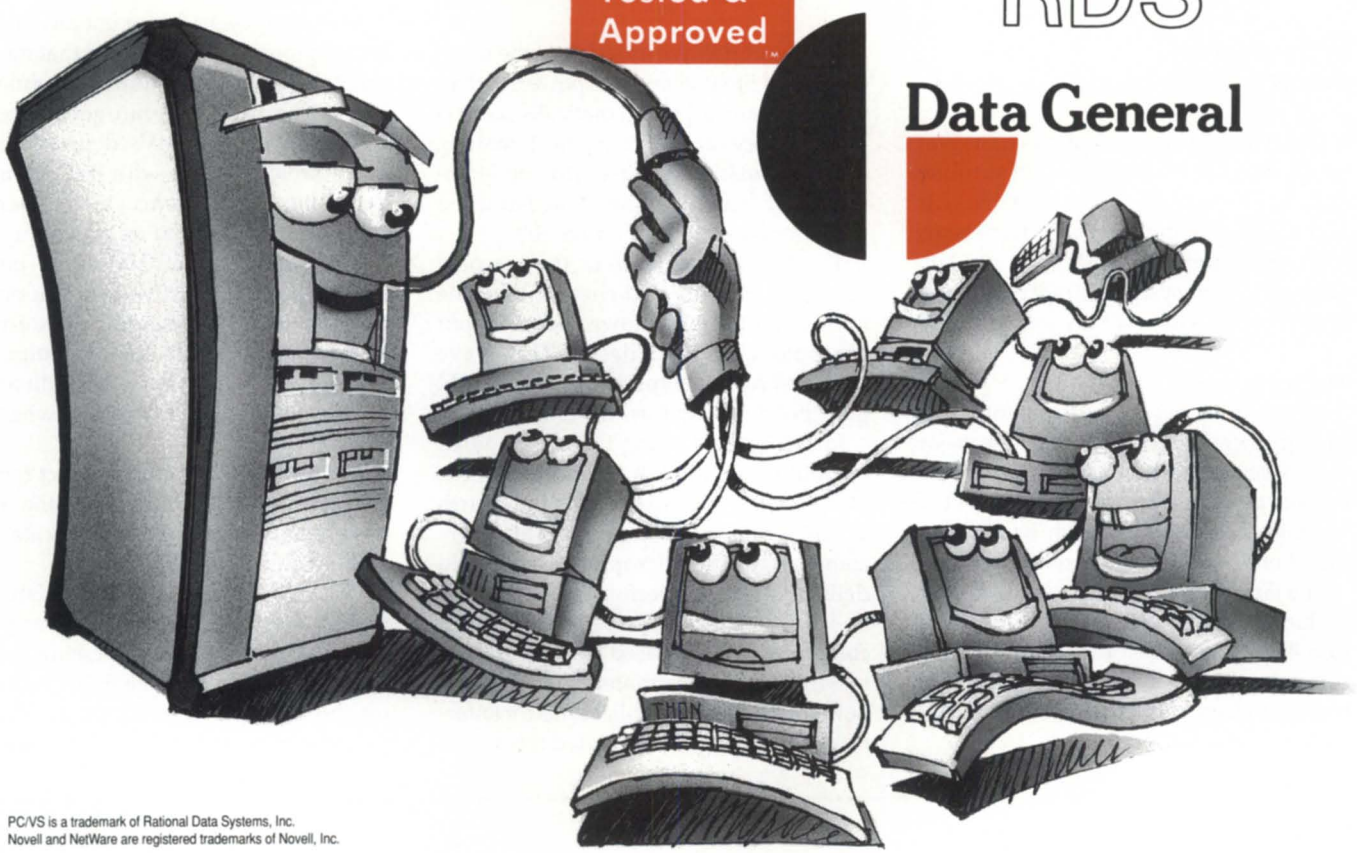

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Catching waves

SYNOPSIS

Which companies will take the best ride on computing's incoming Fourth Wave? Future systems will be standards-based and spectacularly open. Large-scale commercial applications will need symmetric multiprocessing, multitasking, scalability, and a host of other features. Data General means to pursue the wave riding a RISC-chip board.

by Donald Lewine
Special to Focus

Data General has just completed its first profitable year in a long time. In absolute dollars, 1991 was the most profitable year in the history of the company. This seems like a good time to reflect back on Data General's open systems strategy and see how it got us where we are today.

The wave theory

At the time we were formulating our strategy there had already been three major waves of computing. Each wave was marked by dramatic changes in the cost of solving problems, and each had a profound effect on the computer industry.

The First Wave was the mainframe and the birth of the computer industry. Univac, IBM, Burroughs, and others built the first computers that enabled the space age, real-time election predictions, and worldwide credit cards.

The Second Wave introduced the minicomputer. Smaller and less powerful than the mainframes, but dramatically less expensive, they enabled factory automation, office automation, and departmental computing. It was this wave that launched Data General into the *Fortune* 500.

The Third Wave gave us the personal computer. Smaller and cheaper than the minicomputer, they allowed people to put computers on their desks. This wave launched Apple, Lotus, and Compaq. IBM got a good ride on this wave, also.

In 1987, while trying to imagine what computing in the 90s would look like, Data General tried to envision the Fourth Wave. It was a vision of a world where commodity RISC microprocessors would deliver mainframe performance for a fraction of the mainframe price; a world where commercial, Unix-based systems would mean the end of proprietary lock-in, and a new era of low-cost applications for enterprise computing. We expected this world to emerge in the early 90s.

We figured that the Fourth Wave would change high-end business computing forever, causing turmoil in the industry as commodity micro-based Unix systems displaced traditional data processing systems, and the large segments of the commercial data processing market came up for grabs.

We saw the opportunity of a corporate lifetime for a company like Data General with the ability to get new technology to market quickly in the form of powerful, inexpensive, commercial computer systems. So we made plans to seize the opportunity to catch the wave.

Graceful evolution

Our strategy had two equally important components. We figured that most of our MV customers wanted graceful evolution. They wanted future generations of binary compatible MVs delivered on a predictable schedule with the best minicomputer performance, price/performance, reliability, and upgradability.

So we refocused our MV efforts, pursuing an aggressive hardware development program and implementing the software technologies needed for contemporary client/server computing. We built an organization designed to deliver what our customers wanted.

For our open systems product family, the target was the heartland of the traditional computer vendors: large-scale commercial data processing.

DG/UX was already in the lab. Designed from the ground up to support fully symmetric multiprocessing and to have the quality and reliability required for the commercial data center, DG/UX would be a cornerstone of our strategy.

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We set out to build a broad, binary compatible, general-purpose product family. This would compare to IBM's 360 and DEC's VAX, but be much broader and completely open.

A wide range of systems would be offered, from low-cost workstations to large-scale symmetric multiprocessors, all supported by a single operating system: DG/UX. We felt that this single bullet would probably be enough to differentiate us. Traditional proprietary vendors would be afraid of damaging their large installed base, and Unix vendors would continue to focus on workstations.

Our systems would be standards-based and completely open. We would use systemwide standards: from operating systems, to communications, to busses, to user interfaces.

We would build a platform for large-scale commercial applications. The system would be designed from the ground up for symmetric multiprocessing, multitasking, scalability, reliability, large user counts, and so on.

And finally, we would have unbeatable price/performance. And in the 90s that means commodity RISC micros—commodity for lowest price and RISC for highest performance. And for the last four years, we have been implementing that strategy; working hard, staying focused, and really not talking about it very much.

Denial and diversion

We expected IBM and DEC to be slow to jump on the open systems bandwagon. We thought their view of the Fourth Wave would coincide with ours, but they would be reluctant to support anything that would threaten their installed base. It was surprising when they both became early supporters of the Open Software Foundation. The OSF was created to provide all computer vendors equal access to system software. The OSF is doing a good job, and Data General is proud to be a member. But at the time of its formation, IBM and DEC were working mainly on their open systems image.

The reality was that IBM and DEC supported open systems only to the extent that they could take market share away from workstations and derive incremental business from the desktop. Their vision seemed mostly to involve denial and diversion: denial of any belief that business was going to change significantly, and denial that their organizations had to change; and diversion to focus attention away from their installed base of expensive and profitable closed systems.

The first diversion characterized open systems as the workstation wars. This diversion implicitly carried the message that open systems were irrelevant to their commercial customers. The workstation wars mutated into the chip wars. It was CISC vs. RISC, and MIPS vs. SPARC. All were designed to draw attention away from the real issue: low-cost commercial computing.

Let's look at some of the recent diversions:

On October 2, 1991, IBM and Apple announced a joint alliance. They signed the agreement in the same room in which

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the United Nations charter was signed. There was a great deal of hype and ceremony. The main products of this grand alliance will not be available until 1995 or so (unless something slips or goes wrong).

In September, 1991, DEC outlined plans to license VMS to other vendors. They seem to believe that customers are attracted to Unix merely because it is open.

On September 11, 1991, IBM announced that it would support open system standards and interfaces such as POSIX on the ES/9000. The entry price for an ES/9000 is almost $3 million. Typical systems are in the $10 million to $20 million range and above. Open systems at mainframe prices? These people just don't get it!

It is the overwhelming price/performance advantage of open systems, rather than their openness, that is so compelling for chief information officers and other information technology executives.

The open advantage: examples

Let's take a look at how dramatic these advantages are. The Transaction Processing Council has a benchmark called TPC-B, which measures transaction processing performance. In addition to measuring the performance, the cost of the system needed to deliver that performance is also published.

On November 1, 1991, the Transaction Processing Council published its latest results. A Data General Aviion AV 4620 processed 58 transactions per second on a system costing $140,318. A comparable VAX 6000-540 processed 57 transactions per second and cost $1,752,905. We are not talking about saving 5 or 10 percent. We are talking about VAX costing *10 times* more than an Aviion, but delivering no additional power. Trying to solve a problem that large by making VMS open is like Greyhound Bus adding frequent traveler points to compete with the airlines. They just are not in the same league.

The Fourth Wave predicted turmoil and change in the computer industry. I think that is exactly what we are seeing today. Three years of denial have put the IBMs and DECs of the world in a position where they are so busy defending their territory that they have stopped listening to what their customers need.

Data General, on the other hand, has faced up to the tough technology and organizational issues and is focused on delivering what the commercial world wants. Today's Aviion product line has seven models of workstations and 17 models of servers, from an entry level $3,995 desktop to a 117 MIPS multiprocessor for less than $100,000. This is mainframe performance at commodity microprocessor prices.

The AV 5240 system board contains a symmetric quad processor, a 1/2 MB cache, VME bus interface, memory bus interface, clocks, parallel and serial ports, all on a 36 x 40 cm board. A board this dense is possible only with the 88000 chip. It is the only RISC micro designed specifically for symmetric multiprocessors.

But high-end computer systems also need excellent mass storage, and in the 90s that means redundant arrays of inexpensive disks (RAID). Data General's high-availability disk array (HADA) offers 24 GB of fault-tolerant storage, hot repair, 400 I/Os per second at less than $8 per megabyte. And finally, since high-end commercial systems need a robust commercial operating system, we have DG/UX. Here is what it offers:

- Certified POSIX compliance
- Full AT&T System V.4
- XPG3 compliance
- Symmetric multiprocessing
- Commercial file system
- High availability
- C2/B1 security.

No other Unix offers all of these features, and some don't offer any of them.

This product line did not spring up overnight. It has taken years of obsessive dedication to develop, drawing on 20 years of experience. Four years ago, we set out to build the broadest commercial Unix product line in the business, offering the best performance, and we did it! Δ

Donald Lewine has been writing computer programs and building hardware for fun and profit since 1960. For the past eight years, Lewine has been with Data General Corporation, and is currently a corporate consulting engineer. In this role he has been helping develop Data General's open systems strategy. He is a founder and member of the Board of Directors of 88open, a member of the Board of Directors of Unix International, and Data General's representative to the Open Software Foundation.

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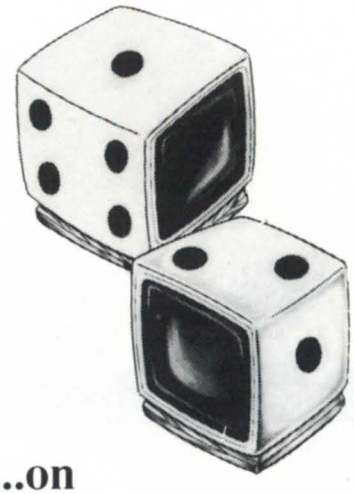

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Translators, go-betweens, mediators, and builders

by Doug Johnson
Focus staff

SYNOPSIS

Will all computers someday work and talk together seamlessly? The standards are coming together for open systems and object technologies. Next comes the software that will attempt to make it all succeed.

In a crazy world you would need separate telephone lines for every different person you wanted to call—one for your sweet mother in Boston; one for your old friend in Dallas; another for your savvy broker in New York; still another for that exclusive mail-order company in Spokane; yet another for your dentist across town.

With a tangled mess of phone lines festooning the exterior decor of your humble home or office, you'd be connected to the rest of the world, certainly, with a monument to ridiculous redundancy. Oh, and all those lines would demand different kinds of telephones, have unique dialing and operating instructions, dissimilar characteristics, distinct capabilities and limitations.

Actually, our world *is* as crazy as that imagined in our playful example, just not necessarily with telephone communications. But substitute "computer systems" in there, and without too much exaggeration you've described the present state of things: seemingly countless, diverse, competing systems that view each other much like feuding families.

Thus far in their evolutionary development, economic competition has tended to emphasize uniqueness in computers rather than standardization. "Well, that's the way computers work today," says Joe Cordo, director of marketing for Hyperdesk Corporation of Westboro, Massachusetts. "They're all different. They basically all use different means in which to communicate."

Which illustrates the problem with moving confidently toward open systems—where the optimistic computer industry futurists say we're supposed to be heading.

"I'd step back a second, and basically look at the topic of open systems," says Cordo. "Today, people talk about open systems, but generally when they speak of open systems, they're thinking of Unix systems, Unix environments. They're thinking of PCs—somehow all working together. And by that [thinking], open systems in today's terms is an oxymoron. Because if you take a look at Unix, for example, there are different versions in the marketplace."

Add it all up and you've got confusion. "There's really no standard type of technology that allows all these systems to be able to work together," says Cordo.

Shining promise

The ability to unite different computers is the shining promise of open systems. Fiercely independent individuals become more like jigsaw puzzle pieces, fitting comfortably together at their borders. In a nation of many languages you need translators, mediators, go-betweens. With diverse computer systems, you need software performing the same kinds of facilitating functions.

So imagine having something that lives transparently at the edge of your computer system and applications, and that at your bidding handles all the chores of importing data and codes, rearranging and translating what it needs to when you move across other computer systems different from yours. Then you the user call up what information you asked for, without having to worry about how all those other computer systems work.

It's beginning to happen in the context of distributed object management, together with the influence and energy of such organizations as the international Object Management Group (OMG), which in just a few years has gathered into coop-

erative membership more than 150 companies.

Leaping out front

Re-enter Hyperdesk Corporation, one of the OMG's smaller members. Spun off from Data General and founded in December 1990, this independent software company traces its origins to DG's own advanced distributed object management project, called 902.

"Back in 1990, Data General made a decision that 902 was not one of the projects that it wanted to continue," says Bill Robinson, a three-year DG veteran who worked on that project and is now Hyperdesk's vice president of research and development. "We looked for external funding, and we were lucky to find the ASCII Corporation [of Japan] willing to essentially be the investor for a startup company." The contract negotiated between Data General, ASCII, and the new Hyperdesk "allowed us to carry on the work that we started on 902," says Robinson.

In response to the OMG's first request for proposal, Hyperdesk submitted its products in February 1991. In June that year, Hyperdesk was named a finalist along with Digital Equipment Corporation (DEC), Hewlett-Packard, and Sun Microsystems to develop a standard for the OMG's object request broker (ORB). The ORB is to serve as the foundation for an object messaging standard in distributed environments.

Hyperdesk and DEC merged their proposals, which offered "dynamic" class creation. "In our system, one of the primary features is the ability to create new kinds of objects on the fly," says Robinson. Hewlett-Packard and Sun merged their proposals as well, leaving two competing submissions.

Over the summer of 1991 a merger of the proposals was worked out, and announced in the fall as the standard object request broker.

This month, Hyperdesk attempts to jump out front for 1992 by announcing a new software product, called the Distributed Object Management System, that is the first product to conform to the OMG's new object request broker specifications. "We are the first ones to market with this product," says marketing director Cordo.

Distributed computing itself has been around for some time. "There are lots of networks of computers out there," says vice president Robinson. "Object technology is relatively newer, but many of the object-oriented languages, like C++, are limited in that they only allow you to create local objects."

The advantage of Hyperdesk's distributed object management approach, as Robinson explains it, "is that one can create objects in the system, install those objects, and then various client programs that never knew of the existence of that kind of object before can participate in dialogue with those objects—for instance, a new kind of document processor—without going through a recompilation process."

Cordo adds another word to describe distributed object management: builder. "The software enables you to either build software applications—an accounting application, a distribution system, whatever you might choose; and it allows you also to build the capability for software to interact with each other, for example a spreadsheet, a word processor, and an electronic mail system."

Hyperdesk began life with a startup staff of 15. Company president Herb Osher (16 years), vice president Joseph Forgione (8 years), vice president Howell (Skip) Richards (15 years), chief architect Bill Andreas (14 years), director of business development Michael Cromer (6 years) are all Data General veterans with past involvement at various levels in object management technologies.

There are no formal plans at present for Data General to be involved in marketing Hyperdesk's new product, according to director of marketing Cordo. "However, Data General could certainly OEM our product and incorporate our technology into their product line, to enable their systems to become more open, and to be able to provide interoperability between their systems and other systems." The same would apply to other companies. Hyperdesk officials expect that their immediate market for the Distributed Object Management System will be OEMs or corporate early adopters.

Whether or not Hyperdesk becomes the computer industry's open systems leader is a matter for future retrospectives, but with computer vendors now working under standards like the object request broker, the race will be on to fulfill the promise of open systems. Δ

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Brian Johnson

SYNOPSIS

BJ ponders weirdness, and in the process extrudes a variety of sagacious observations about whither is headed the computer industry these days. The mud thickens.

HAPPY_NEW_YEAR

In past years I've usually written my New Year column for the March issue because that's the column I write between Xmas Day (XD) and New Year's Day (NYD). Things are so weird around here right now that I've decided to declare today, Oct. 17, 1991, as Virtual New Year Day (VNYD). The reason for my acronymitis will be clarified shortly.

Today is the second anniversary of the now famous Frisco Earthquake of 1989. Weird++;

Somebody from *Focus* dialed into my MV earlier today and left an anonymous message that they had dialed in to pick something up, and not finding anything, they threatened to dial back in tomorrow morning. My calendar says that the next column isn't due for another couple of weeks, but I have this nagging memory of a phone conversation a few months ago wherein I was notified of an earlier deadline due to the switch in NADGUG Conference dates. If that happened, I obviously forgot to mark my calendar. As a result, here I am dialed in from home extruding a column with "Cheers" blaring from the TV.

If you're getting tired of my recent spate of Magnum Opi, so am I. However, due to the high level of weirdness tonight I'm going to skip doing a short subject techie column and spew a bunch of recent observations about the current and future state of the computer industry on you under the guise of a NYD look at the past and future of computing.

:QUO_VADIS?

For those of us who have been wallowing around in the computer arena for 25 years, the mud is thickening. Lately, I've been spending some time trying to figure out which way the industry is really going, as opposed to what the trade rags would have us believe. A major part of my impending trip to the NADGUG Conference next month will be to obtain a significant data point with respect to Data General. Unfortunately, that's in the future, so I'm going to have to proceed without it for now.

:SYSTEMS

When I ask a gaggle of MIS executives who haven't yet waded into the Open System Swamp (OSS) what direction they think the world of Data Processing is going in, I get answers that sound something like this:

"I see a move to Open Systems. That will allow me to buy my hardware at bargain basement prices from the iron supplier *du jour*. That will also allow me to buy my software from whatever vendor I choose,

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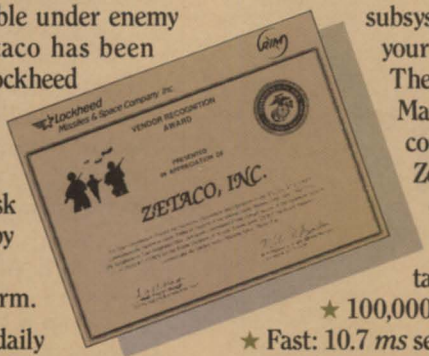

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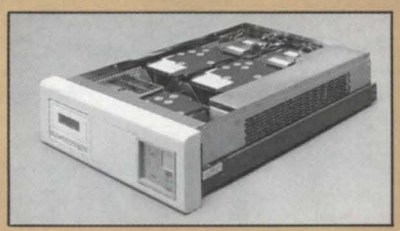

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with assurance that it will run seamlessly on whatever hardware I buy. And all of my different pieces of hardware, from PCs to workstations, minis, and mainframes will all be connected together and talk to each other, sharing data and programs."

Boy, talk about needing a reality check. These guys really believe what they read in *ComputerWorld* and *Datamation*.

:SOFTWARE

When I ask a swarm of programmers what direction the world of programming is going in I get something like this:

"I see a move to OOP with design and coding simplified due to the availability of huge libraries of reusable objects. I see lightning fast compiles on 100 MIPS networked programmer workstations, and painless debugging using window oriented debuggers on color graphics displays."

What else would you expect from someone with lifetime subscriptions to *Dr. Dobb's Journal* and the *C Language Journal*, or who thinks *Byte* magazine uses referees?

Object Oriented Cobol? Don't laugh. Next week at Comdex there will be at least one company touting that as an upcoming capability.

:FREE_SOFTWARE

In last week's *Boston Globe* there was an article relating how Richard Stallman's Free Software Foundation had finally thrown in the towel and instituted user registration and password protection on their in-house systems. Several incidents of vandalism drove them to it. Richard was quoted as saying "Everytime I think about this I want to cry." Awwww, pass me a Kleenex (registered trademark of Kimberly Clark).

I can't help but wonder how many zillions of dollars of products filled with chunks of FSF source code have been shipped.

:THE_USSR_PARADOX

When an immigrant from the Soviet Union reaches the USA, the most common reaction is to be literally paralyzed by the myriad choices available for consumer items.

I just grabbed four magazines from my non-electronic in-box and built a list of most of the jargon and acronyms mentioned. Many of them have to do with Open Systems. Here they are:

4GLs, ACE, AIM, AIX, AT bus, BLOBs, C++, CASE, CD-ROM, CISC, Client/Server, DBMS, DCA, EISA bus, EISA, ESA, Ethernet, ISDN, LAN Manager, LANs, LAT, Mbus, MCA bus, MS-DOS, NetView, NeXT Step, NFS, NT, OA, Object, OFS, ONC, OODBs, OOP, Open Desktop, Open Look, OpenView, OS/2, OS/400, OSF, OSF/Motif, OSI, Outsourcing, PCL, POSIX, Postscript, RDBMS, RDBs, RISC, SAA, Sbus, SCO JSB MultiView DeskTop, SCO Open DeskTop, SCO UNIX, SCSI, SCSI-2, Smalltalk, SNA, SNMP, SQL, SVR4, TCP/IP, UFS, Ultrix, UNIX System

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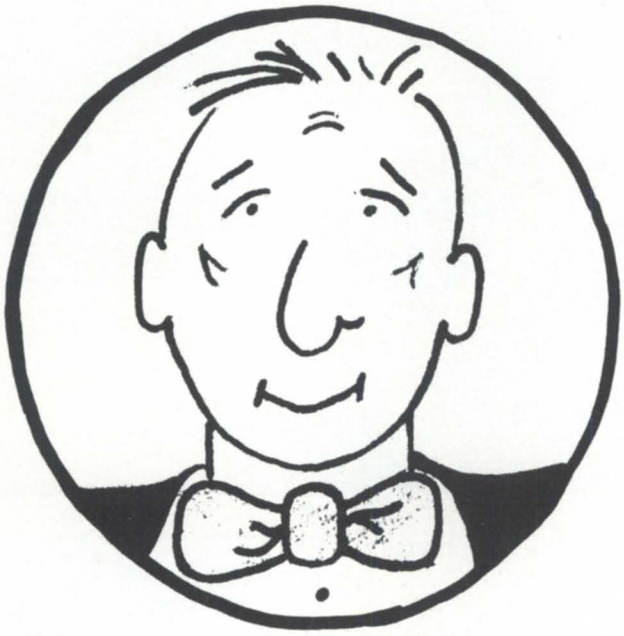

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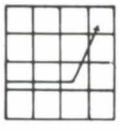

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V, Unix, USENET, UUCP, WANs, Windows, X Terminals, X Windows, X.25, X.desktop, XDOS, Xenix.

Ask anybody who has actually attempted to convert their entire operation to Open Systems how they like the situation and they'll probably answer in Russian.

Want to take a test? OK, circle all of the acronyms above that correspond with products that you currently use. Not very many, huh? Me too. Now call a couple of your colleagues at other companies and ask them how many they're involved with currently. Not very many, huh? That should give you some idea how applicable most of the trade rag hype is to us everyday traditional types. Most of the articles are regurgitated press releases from doomed startups, or the ramblings of young techno-journalists who would probably trip over something if they found themselves in a real computer room. After all, who wants to read an article about "How I Wrote My nth Report Program in Cobol Using an ISAM Database."

There's something to be said for benevolent dictatorships with open borders. On proprietary systems the array of choices is much smaller. And I don't think any significant hardships or penalties are imposed on those living under the dictatorship. After all, if the hardware and software wasn't any good you could always flee across the border and switch dictatorships (oops, I meant vendors). That might be a bit costly, but you could use the massive savings from what you would have paid in system integration and support costs had you used Open Systems.

And speaking of System Integration, these guys are the tape worms of Open Systems. The only people who used System Integrators before Open Systems were government agencies. Back then they were called Beltway Bandits. Still are, I think.

:USER_INTERFACES

Q: What are the most popular software programs for Windows as of today (in terms of units shipped, not dollar volume)?

A: Wallpaper and aquarium style screen savers far outnumber the handful of Windows-based real application packages currently available.

Q: What's the chance that we'll see widespread use of X Windows in accounting applications within my lifetime?

A: Zero. Check-in at the Second Coming will be handled using Wyse-50 terminals.

:POST_SALES_SUPPORT

When your favorite Cobol program blows up while accessing an Infos data base on an MV/20000, who do you call? Easy: DG.

When your Ryan-MacFarland Cobol program running on a Packard Bell 386SX using an Informix RDBMS running on a Dell 486 server across a Banyon network blows up, who do you call? Got me. But I'll guarantee that the answer you get on the first round of calls to all the vendors will be "not our fault."

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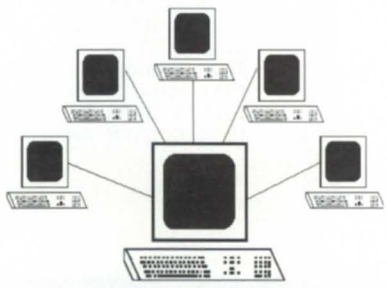

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agers of Open Shops. Woe be to the manager who keeps an electronic Rolodex.

:OUTSOURCING

If Open Systems are so appealing because they give you more control over your data processing situation, why the big interest by many companies in outsourcing their data processing operations?

Just this week I got a call from a DG customer looking for someone to bid on outsourcing their entire DG operation. In one of the trade rags I used for the acronym puddle above, I ran across a description of an outsourcing contract awarded to IBM that involved IBM, DEC, and DG machines, along with every PC and workstation in the shop.

Go figure.

:OBJECT_ORIENTED_PROGRAMMING

If you believe the propeller heads, OOP is going to change the face of programming. Just think, huge libraries of reusable objects precisely suited for our requirements and usable as-is, with no changes.

You know how to tell when a New Thing is a scam? Easy: when you start to see lots of articles by a tiny band of New Thing zealots about how the New Thing is destined to dominate the industry. I'll give you a hint: when something new that is truly worthwhile hits the bricks, you don't have to write articles in the trade rags trying to convince people that it's the coming thing. They'll already be using it.

Will somebody please explain something to me? If it is truly possible to design reusable software, how is it that the number of different G/L, A/R, and Payroll programs currently executing on this planet nearly exceeds the number of companies using them? After all, what is there to Payroll? Somebody works a couple of hours and you pay the person some money, minus some cuts to various government entities and tax avoidance scam accounts; how many different ways can there be to deal with that problem?

There is about as much chance of us all using the same set of reusable objects as there is of us all using the same text editor.

Well, friends, I'm going on record as predicting that OOP will be to the nineties what APL was to the seventies, and Pascal and C were to the eighties—only a tiny dent in the shining armor of the huge, deathless Cobol beast.

:PERFORMANCE

Hardware is getting faster exponentially. What's the only thing that's rising at a faster rate? Yep, you got it. The amount of resources consumed by the new generation of layered, compliant, windowed, clienteds/servered, networked software.

A number of so-called multiplatform products are now being developed by huge teams of programmers using massive catalogs of exquisitely rich module interface descriptions, and developing on high-powered workstations. The result? Software that requires 8 MB and 50 MIPS per user to run tolerably well on a dedicated machine, and hasn't got a snowball's chance in Hell of running in a time-sharing environment.

You see, implicit in the notion of time-sharing is that no single user consumes more than a small fraction of the system resources. That rules out a bunch of products, especially most modern spreadsheets, graphic-based products, and even the most popular multiplatform word processor.

:SHAREWARE_AND_BBSES

I recently upgraded my PC to DOS 5, and in the process I ran into a couple of products and shareware programs that ceased functioning properly.

I dutifully tried to contact each of the suppliers to find out about upgrades and discovered that all but 2 of the 12 suppliers were no longer reachable. The two still in business were both commercial products. The 10 unreachables were all shareware, most less than 2 years old. I ended up replacing all of the unreachable ones with a new batch of only commercially available products, and swearing off of shareware.

Besides the peek into the future of multivendor systems that I got, it also pointed out something about shareware that I've long suspected. Shareware is basically an attempt to market a product without spending anything on marketing. If it weren't for the law of large numbers (1 percent of the installed PC base worth of $10 licenses is nearly a million bucks!), shareware wouldn't exist.

There are a few good shareware packages, but the bulk of them aren't worth their registration fee. Couple that with the likely prospect of little or no future sup-

port, and it makes depending on a particular piece of shareware foolhardy.

A statistic to ponder, compliments of *Computer Currents Magazine*: the average life of a free BBS in California is less than six months.

:RISC_VS_CISC

Five years ago you couldn't open a trade rag without reading about the impending demise of CISC processors in the face of the blinding speed of the new RISC processors.

Haven't heard much proselytizing about RISC lately, have you? Wanna know why? All the RISC chip makers are adding new features in order to both win the gee-whiz battles, and to simplify the compiler writer's job, thereby closing the gap between RISC and CISC.

:FULL_CIRCLE

During the 80s, Distributed Processing was the rage. What is it this week? Centralized data bases residing on networked data base servers using Client/Server strategies.

What happened to cause this turnaround? Simple; a certain *Fortune* 500 company discovered that doing a change of address for a client involved updating several thousand data bases within the corporation. Every PC in their organization had set up its own mailing list data bases.

And what about this "new" Client/Server strategy? News Flash: Infos rev 0.00, running under RDOS, in the early 70s was a Client/Server design.

I predict the next big breakthrough in software design technology will be the rediscovery of Ring Buffers.

Oops, scratch that. I just found out that the U.S. Patent Office is currently evaluating several thousand applications for patents on ring buffer algorithms.

Don't laugh, it's probably true. A friend of mine who is knowledgeable on such matters said that it is now nearly impossible to write any software program that does not infringe on at least one software patent.

Mind boggling.

:WEIRD<<1024

As for future operating system developments, the article next to the reprint of the *Boston Globe* article in last Sunday's *San Francisco Examiner* was an analysis of what we can expect in terms of new operating system offerings from that weirdest of all new alliances: IBM and Apple.

Boy, talk about the perils of romance on the rebound . . . .

:unix

last, but not least, there's unix.

how this quaint, yet sleazy, little excuse for an operating system has survived for 20 plus years is beyond me. (just kidding. i know why, and it ain't suitability for a particular purpose; it's just because it's the only game in town). as an operating systems person (osp) myself, i'm embarrassed to tears that the two most visible examples of our craft are ms-dos and unix.

for 10 years now i've been reading how unix is going to take over the marketplace for commercial systems. it hasn't got real batch, a decent print spooler, system management or performance tools, or a command interface usable by normal humans. sorry, bell labs, but pipes and mixed-case filenames hardly constitute a great leap forward in technology.

other than that, unix is swell.

:WHAT'S_IT_ALL_MEAN?

Don't believe everything you read.

Before you leap, check around and find out how many others have already leapt.

Innovative new products with creative approaches to old problems will always effectively preclude universal standards. How else can we explain the Mac?

It can't get any worse. Or can it?

:TRADEMARKS

For information on who owns the trademarks for all the stuff mentioned in this column, call *Focus* magazine. There isn't enough room to list them all here without doubling the size of the article.

Oh yeah, Happy New Year. Δ

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).

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Fill in the _ _ _ _ _

SYNOPSIS

Wordperfect's macros and merges make short work of laborious forms fill-in tasks. Here's a step-by-step example of how to build a fax cover sheet.

by Kent Finkle
Special to Focus

The Wordperfect Shell menu, combined with macros and merges, allows the development of highly automated applications with very little programming. The purpose of this article is to show you how to create such a simple but useful application and allow your users to execute it with a single keystroke from a Shell menu. The application will be a fax transmittal form completed by a looping keyboard merge.

A merge fills in the variable information in a standard or "boilerplate" document. For instance, a publisher might need to send the same fax transmittal form to all her authors, varying only the author's particulars.

Where do the names come from? Merges allow the use of several sources of data, but let's focus on the merge during which the user types the names in from the keyboard. We'll call this a keyboard merge for short. In a keyboard merge, Wordperfect prompts you with words similar to:

* Name:

You enter the name and the merge inserts the name in the proper places in the document.

The simplest keyboard merge is created this way:

Log on and run Wordperfect:

) WP [PRESS NEWLINE]

Type the words:

* Dear

That is the standard part of our merge file. Now we need to insert a code to tell Wordperfect where to expect input from the keyboard:

* Merge Codes (Ctrl-Shift-F9)

Wordperfect shows you an intimidating list of Merge Codes.

^C; **^D**; **^F**; **^G**; **^N**; **^O**; **^P**; **^Q**; **^S**; **^T**; **^U**; **^V**:

Well, at least they are in alphabetical order. This is typical of Wordperfect's compact style. It's really quite easy, but the terseness can be puzzling at first glance.

We want the one that accepts data from the keyboard. There isn't one that starts with a "K", so it must be "C" for "Console" (I looked it up). Press a "C" and you will have a document that looks like this

* Dear ^C

You didn't have to enter the "^"; Wordperfect did it for you when you pressed "C." When the merge runs, Wordperfect will stop at the "^C" code and accept input from the keyboard. In this case it will be the name of the author. When finished typing the author's name, the user presses:

Merge R (F9)

Save the document as FAXFORM.

* Exit (F7)

* Save Document 1 (Y/N)? Y

* Document to be saved: FAXFORM [PRESS NEWLINE]

* Exit Wordperfect (Y/N)? N

That brings you back to the blank screen.

To execute the merge:

* Merge/Sort (CTRL-F9)

* Merge (1)

The file that contains the merge codes.

*Primary file: FAXFORM [PRESS NEWLINE]

We don't need a secondary file because the source of the data for the merge will be the keyboard, not a file.

* Secondary file: [PRESS NEWLINE]

Wordperfect will put the words "Dear " at the top of the screen and wait for you to supply the name:

* Mr. Melville

* Merge R

Simple. That's our merge. Adding a prompt is only one more step.Exit from that document without saving and retrieve the FAXFORM file again. To remind us what Wordperfect is waiting for during the merge, change the FAXFORM file:

Dear ^OEnter name: ^O^C

Notice we added a pair of ^Os before the ^C. The prompt we want to appear on the screen goes between the ^Os. Now exit and save.
To execute the merge:

* Merge/Sort (CTRL-F9)

* Merge (1)

*Primary file: FAXFORM [PRESS NEWLINE]

* Secondary file: [PRESS NEWLINE]

This time, at the bottom of the screen, Wordperfect prompts you with "Enter name:"

* Twain

* Merge R (F9)

Very nice. Again, exit without saving.

But the real advantage to this would be if we could generate fax form after fax form this way, 50 or 100 at a time.

We'll need a macro to do the loop.

* Macro Define (CTRL-F0)

Wordperfect responds:

Define Macro: LOOP [PRESS NEWLINE]

"Macro define" flashes at the bottom of the screen. Record these keystrokes, then press Macro Define again to stop recording:

* Hard Page (Control F11)

This Hard Page break will separate each fax on a separate page.

* Merge/Sort (CTRL-F9)

* Merge (1)

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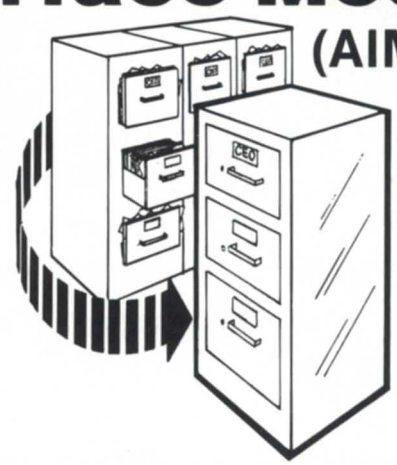

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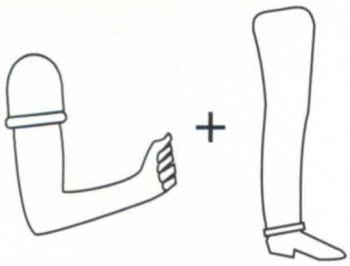

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This calls the faxform merge all over again.

* Primary file: FAXFORM [PRESS NEWLINE]

* Secondary file: [PRESS NEWLINE]

We need to repeat the merge. Add the code necessary to make the merge call a macro upon completion. This is done with a ^G pair bracketing the name of the macro to be called.

Dear ^OEnter name: ^O^C
^GREPEAT^G

We put the ^G codes around the macro name REPEAT. This calls a macro named REPEAT at the end of the merge. What does the macro do? Why, of course, the macro calls the original merge!

Exit and save FAXFORM.

Now run the merge again.

* Merge/Sort (CTRL-F9)

* Merge (1)

* Primary file: FAXFORM [newline]

* Secondary file: [newline]

When you want to stop, press:

* Merge E (Shift F9)

And the loop will end. That's the trick.

To write a longer fax form, add ^Oprompt^O^C code groupings. Your fax form could look like this:

TOWN OF NORTH ANDOVER
120 Main Street
North Andover, MA 01845

Fax Transmittal Form

^D

To:

Name: ^OSending fax to: O^^C

Title: ^OPeople enjoy seeing their title in print ^O^C

Organization: ^OWho are they with? ^O^C

Street: ^OWe're sending this through . . . ^O^C

City, St, Zip: ^Othe phone lines so . . . ^O^C

Fax Phone Number: ^Odo we really need all this? ^O^C

From:

Herman Melville
465 Second Avenue
Lansingburgh, NY 12180
Voice Phone Number: (999) 999-9999
Fax Number: (111) 111-1111

Total Number of Pages, including this form: ^OHow many pages?^O^C

Additional Comments: ^ODoes the fax require explanation? ^O^C

^GREPEAT^G

The only new code we have added is the ^D, which will merge the current system date on to the transmittal form when the merge runs.

How do we get this to run from the Wordperfect Office menu? Exit from Wordperfect all the way down to the CLI. At CLI:

* Office/s [PRESS NEWLINE]

Move the highlight bar around to an empty spot on the menu and press edit. The form should be filled out this way:

Menu letter - F

Menu description - Fax form

2 - CLI command

CLI command : wp/m=repeat

Then press Exit until you are back to your menu. At this point, you can press F, and Wordperfect will walk through the macro-merge loop as many times as necessary to produce all your fax transmittal sheets.

When you press Merge E, the merge halts. At this point, you can print all or some of the sheets, one to a page, with the Print command, or browse through using the up and down arrow keys to inspect and edit your work.

Even better, you can delegate the task of preparing the sheets to someone with very little computer knowledge. All they need to be able to do is press Merge E, Merge R, and Print. The macro-merge will do the rest. If you are concerned about their ability to print, put a ^T at the bottom of the merge file. This code signals Wordperfect to print and delete the fax forms automatically as the merge goes along. This capability makes a Wordperfect macro merge the poor man's on-screen form fill-in software. Instead of fax forms, these could be any sort of forms at all.

One difficulty with extending this form fill capability is the problem of boxes.

People are used to seeing boxes neatly filled in on the endless quantity of forms that are the despair of modern life.

People like to see forms that look like this:

Fill in

A merge will push the right side of a box out of kilter, like so:

Fill in

There are several ways around this. In Wordperfect 5.0, for those lucky enough to have it, simply use a graphic box and avoid the problem completely. In Wordperfect 4.2, you can use printer advance commands and a little patience.

If you can write macro, there is a very quick kludge as well. Don't add the right side to your box on the screen when you design your form. Make a box that looks like this:

^C

At the end of the merge, use a clean-up macro. All the macro has to do is;

* Search (F2) for the upper right corner box character "┐"

Turn box drawing on

* Screen (Control-F3)

* Line draw (5)

Draw in the missing side of the box.

* Down arrow

Turn line drawing off

* Exit (F7)

That fixes the box.

Use the ESC key to run the macro many times. To calculate how many times, multiply the number of boxes on your form, say 5, by the number of forms produced in the merge, say 60. In that case, run the macro 300 times this way.

* Escape (Break Esc)

* 300

* Macro (Control shift F10)

* BoxFix [PRESS NEWLINE]

Amazingly, it takes only a few moments for Wordperfect to perform all these searches and to draw in all these lines.

When the macro finishes, your boxes are perfect and look like this:

Fill in

Macros and merges can make short work of laborious forms fill-in tasks with just a little effort. Wordperfect, especially with longer macros, can build a useful forms generation system. Δ

Kent Finkle is the computer system manager for the Town of North Andover, Massachusetts. He may be reached at 508/682-6483.

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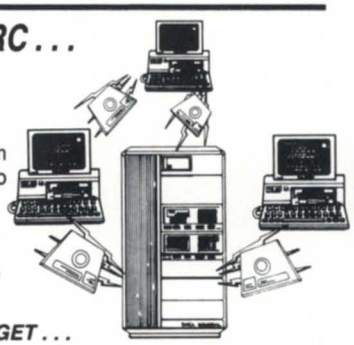

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Tactician Plus: a spreadsheet for Unix

by Joe Cannata
Special to Focus

SYNOPSIS

Possessing all of the basic spreadsheet functionality you would expect, Tactician Plus integrates well into an Aviion office environment. Basic office automation functions are not just for PCs and minicomputers anymore.

Spreadsheets have been with us for a long time, and in the PC world they have been prolific. Lotus 1-2-3, Quattro Pro, Microsoft Excel, and Access Technology's 2020 are becoming household words. Spreadsheet usage has steadily increased.

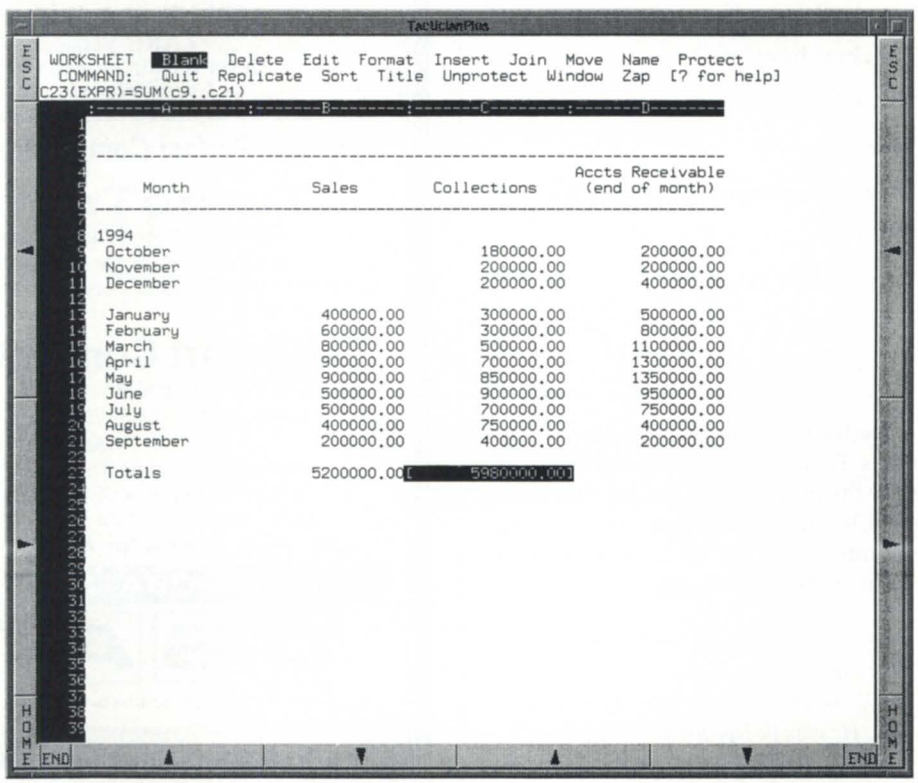
With the trend in the computer industry and business community toward open systems computing, a whole new set of spreadsheet products will be needed. A major requirement is that spreadsheets be geared toward windowed environments, as well as open systems.

One of the more popular spreadsheet products meeting these requirements is Tactician Plus, developed by Soft-Tek International of Wichita, Kansas. Tactician Plus runs on the Aviion platform, and was chosen as the spreadsheet component of the DIS-II contract won by Data General. Under the contract, DG will provide up to $127 million worth of Aviion workstations and servers to the U.S. government's Department of the Interior.

Getting to know Tactician Plus

Tactician Plus's maximum spreadsheet dimensions are 1,024 columns (through "AMJ") by 9,999 rows. Running in an X Windows environment on a RISC machine allows extra features. For instance, to position in any cell you need merely to left-click the mouse and point to that cell. Notice the arrows in the frame around the spreadsheet in Figure 1. Left-clicking on

Figure 1



one of these arrows will scroll the display one line in that direction. Using the right button will scroll the display one page at a time. The scrolling speed is phenomenal.

Except for using the right button to advance the page, all other Tactician Plus mouse operations require the left button. There are areas in the frame to take you to the home position (A1) and to the end (AMJ9999). Keyboard equivalents would be the arrow keys, and the page up/page down keys. Another advantage of running in X Windows is that you can resize the window to make more of the spreadsheet visible. One aspect you cannot control, however, is the font.

Figure 1 shows one of the three sample demo spreadsheets that come with Tactician Plus. A "/" was entered to trigger the worksheet command set to appear. As you can see, the entire list of worksheet commands are available. Commands may be selected by pointing the mouse on a command and clicking, or by using just the left and right arrow keys, or by typing the first letter of the command. The cell C23 is highlighted in Figure 1. Just above the column designators, you can see the cell's description. The area is reserved for that purpose. The space above where it says "WORKSHEET" is reserved for input, when prompted. No visible typing cursor ever appears, and this can be annoying at times. The "." invokes the external commands.

A spreadsheet with personality

Tactician Plus offers traditional functionality, but has its own approach. It is similar to Lotus 1-2-3 in some regards. You can split the spreadsheet into horizontal or vertical windows, print all or part, and configure your print output with headers, footers, and page numbers.

When using the "Format" command you see some of Tactician's personality. Options include row, column, block, global, or define. You have choices for settings like exponential, integer, text-adjust, num-adjust, width, and user-defined. After you enter those particular values, the settings come back. The first command is "Accept." No matter how many changes you make, you must remember to choose "Accept," or everything you just did will be gone. This is a little different from what other packages do.

In order to set the number of decimal places, you are provided with eight user-defined formats. Besides being able to set places, the formats establish other features. You get to the screen by choosing "Define" from the "Format" command, or in keystroke form, "/ F D".

Tactician Plus offers more than 50 built-in functions. Popular ones like SUM, COUNT, and AVG are there, as are trigonometric ones—date functions, strings, a random number generator, higher mathematical functions such as square root, standard deviation, and natural log. Also included is a complete suite of business functions such as term, depreciation, interest rate, present value, future value, payment, and compounding time periods.

The basic graphics package included with Tactician Plus provides simple color

The most popular DG Color Graphics Terminal Emulator for IBM Micros now includes

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EMU/470

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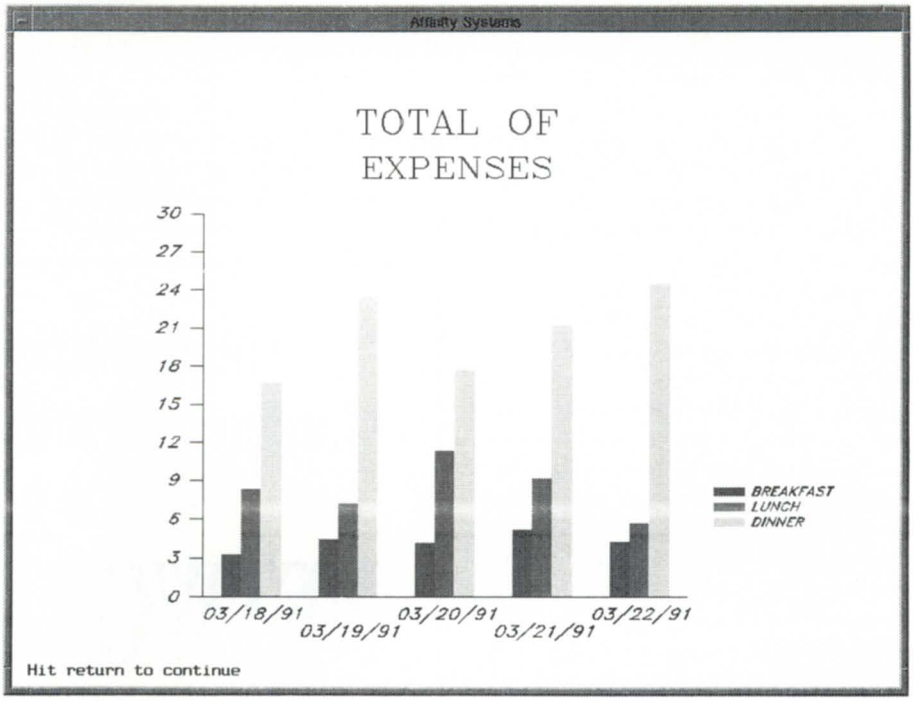
charts based on your spreadsheet data. There are five predefined graphics templates (called models) for the basic chart types. They include pie, clustered bar, stacked bar, line, and x-y plot. To produce a picture, you need a valid template name and some numeric data. Options included tick or sement labels, a legend, and a title (called the annotation). Figure 2 shows a sample clustered bar chart with all options used.

Figure 2



Warning

There is one severe limitation to the current graphics package. Once a graph is drawn, you cannot iconify or resize it. You cannot even cover it with another window. If you try to resize or cover it and then restore, the picture is partially lost and not recoverable. This is a problem if you want to compare graphs side by side. Output may be redirected to a disk file or graphic device in lieu of the screen. Soft-Tek International is currently looking to overcome this limitation.

An optional add-on package for Tacti-

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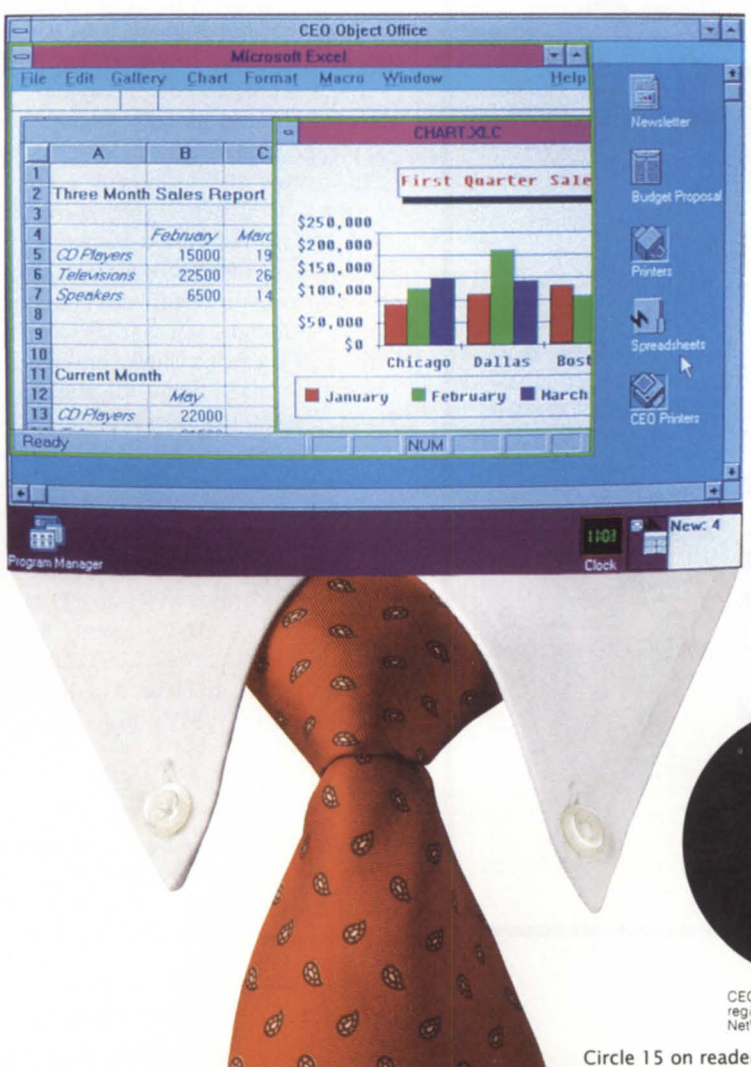

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cian Plus is called GRAFSMAN from Soft-Tek International. I am told this product provides enhanced graphics and extended functionality. I have not seen it, as it is not part of the DIS-II contract. Therefore, I cannot report on its content other than in general terms.

Data base files

A powerful aspect of Tactician Plus is the ability to read data base files. Using the external "R" command, you may read directly from five popular Unix data base products: Informix, Oracle, Ingres, Progress, and Unify. The native query language of each of those systems is used for access by Tactician Plus. Scripts containing queries could be used to extract information. Interactive queries may be accomplished with Unify, Progress, and Informix. Using them would take you right out to the data base query prompt, and from there it is simple.

Informix requires that three variables be set. Ingres requires that executable files be in PATH. Oracle requires a "@" preceding script file names. Progress requires two variables be set. Unify also has a three-variable requirement. These are all well documented in the manual.

You can use the "W" external command to write to a data base. The manual suggests that only "skilled data base users" perform this operation. You should heed that warning in a production environment, since you would not want novices dumping data to your data bases. With all of the products, a range must be specified, and a "hit any key to continue" message will eventually appear after the operation is successful.

The rest of the story

One other useful feature of Tactician Plus is the ability to define up to 10 function keys. This is done as part of the "Configure" command, sub command "Function Keys." You type the keystrokes, which are saved in a parameter file. The only limitation I found involved the ability to record the ENTER key. If you hit ENTER it is interpreted literally, and you ruin your function key definition.

In creating macros, however, you may use the "~" character to represent an ENTER. Macros not only can contain directives such as ENTER or GOTO, but they can also contain arithmetic and spreadsheet commands. Macros may be invoked either on the Unix shell command line "$stact -m macroname filename" or by typing the "%" character interactively.

This overview of Tactician Plus is meant to make you aware of the product, as well as introduce you to some of its features. Basic office automation functions are not limited to PCs and MVs anymore. Tactician Plus integrates well into a Data General AV office environment. Existing spreadsheets in Lotus 1-2-3, DIF, 2020, and Multiplan can be read in, helping tie together your PCs, MVs, and Aviion workstations. Δ

Joe Cannata is a training specialist for Data General Educational Services in Norcross, Georgia. He may be reached at 404/441-2515.

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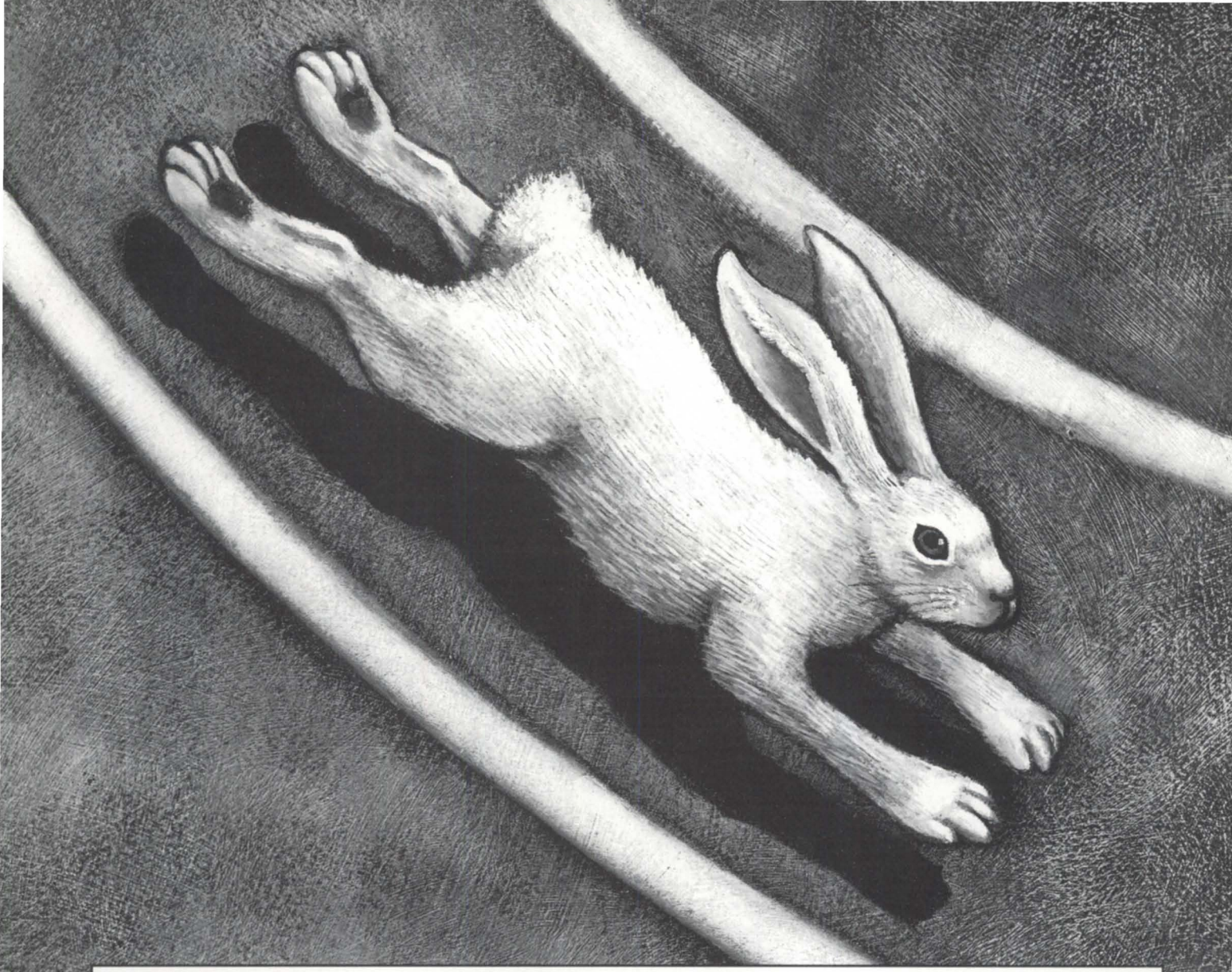

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Circle 42 on reader service card.

David Novy

Unfinished business

by David Novy
Special to Focus

SYNOPSIS

Previous article topics never die; they just return for updates. Along those lines, here's more about AOS/VS sort emulation, as well as a checklist of the advantages to be gained and the exhilarating speed and personal fulfillment in store for you with new Unix workstations and X technology.

Since this is the new year issue, I'll use this month's column to complete some unfinished business that my articles generated during the past year. I now know that the people who read *Focus* magazine are not shy about commenting on articles regarding matters that concern them. It tends to make you humble to know that if you make an incorrect statement in a *Focus* article, you will quickly hear from a concerned user.

Regarding my article on Unix emulation of AOS/VS sorts, I heard from the developer of Sort/Merge for DG/UX. It seems that Sort/Merge has been part of DG/UX ICobol for some time. However, the demand for Sort/Merge was great enough that it is now being sold as a separate product. I have not evaluated the product yet because you need DG/UX Revision 4.3 or greater—I have to remain at DG/UX Revision 4.2 for a few more months because of a special piece of code that I run on my Aviions. It appears, however, that DG did a thorough job of porting Sort/Merge to DG/UX. In addition, the developer told me that if you feel the need for speed when sorting, DG/UX Sort/Merge will significantly outperform Unix *sort*.

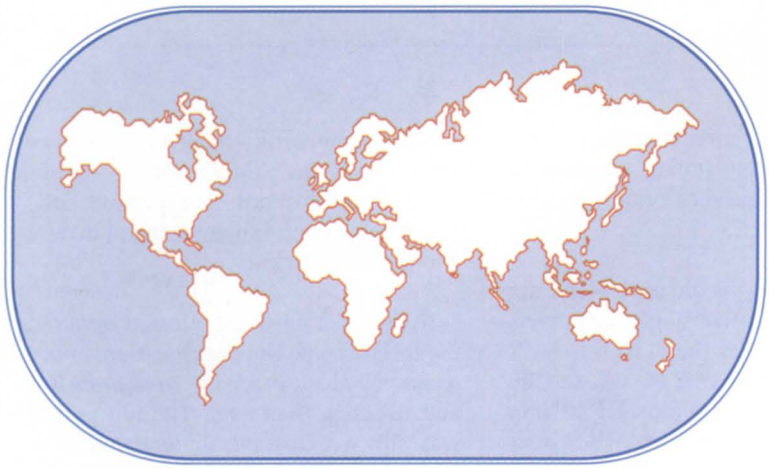
I also received a comment from an AOS/VS II NFS developer. He acknowledged that running *ls -l* on an AOS/VS II NFS volume is a bit slow. The problem is being worked on in development. He also confirmed my observation that after running *sort* on a file in an AOS/VS II NFS mounted volume, you receive an error message when attempting to run AOS/VS II SED on that file.

Because of the complexity of AOS/VS II NFS, a substantial period of time is required to open a file for a write. In order to improve performance, when an NFS file is opened it is held by the opening process for five minutes. If this is too long for you to wait, then you can use the NFSCACHE command to change the timeout value. It appears that DG development decided that you would not generally want to use a file on a DG/UX machine and then less than a minute later want to run AOS/VS II SED on the same file. I do not see why you would have much need to do so, either—except when writing an article for *Focus* magazine.

X Hour plus 1

A couple of months ago, I wrote about using X terminals. Since then, I have been evaluating the use of Unix workstations as X servers. (Using a Unix workstation as an X server in effect turns it into an X terminal.) The results have been encouraging beyond my wildest expectations. The reason why is as follows.

In my department there are many 11 MIPS, 22 MIPS, and 28 MIPS workstations. These machines were considered very fast and rather expensive less than nine months ago, but today they are no longer adequate for the tasks for which we purchased them—mechanical computer aided design and ray trace rendering. What is unfortunate is that although these machines are inadequate, it will be two more years before they can be fully depreciated. In addition, they have excellent graphics processors and 19-inch, 1280 x 1024 RGB monitors. In order to improve the compute performance of these machines, I run them as X servers connected to 55-plus MIPS client hosts. When I do this, the old workstations have a minimum 100 percent speed increase and are no longer obsolete. As in the previous article, I want to be sure to mention the old caveats for



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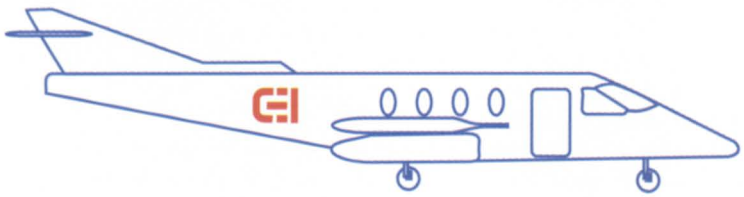

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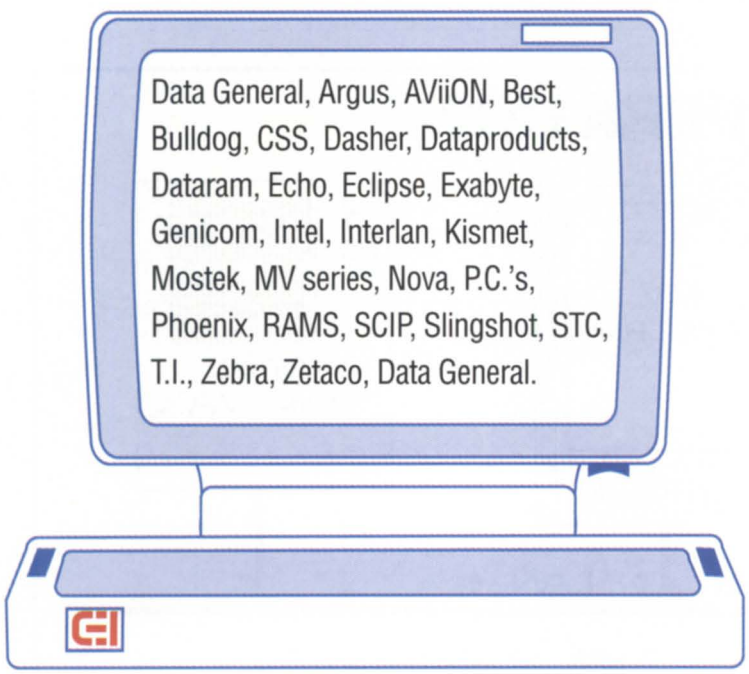

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using X terminals and X servers: make sure the network is not overloaded, and watch the load on the host machine.

Using slower Unix workstations as X servers has some significant advantages:

1) The need to add more memory to the X server workstations in order to reduce swapping and thereby improve performance is greatly reduced; 16 MB of memory appears to be more than enough for a workstation used as an X server. Before I started using the older workstations as X servers, I was contemplating increasing the memory on each of 15 workstations from 16 MB to at least 32 MB. Now, all I need to do is increase the memory on three or four host servers.

2) Using Unix workstations as X servers makes the system more dependable. If a server goes down, the Unix workstations can still be used as standalone systems. (Notice that I am *not* commenting on whether or not the file servers break down. A good system manager will use disk mirroring, RAID technology, spare parts, and uninterruptible power supplies to ensure that file servers remain operational.)

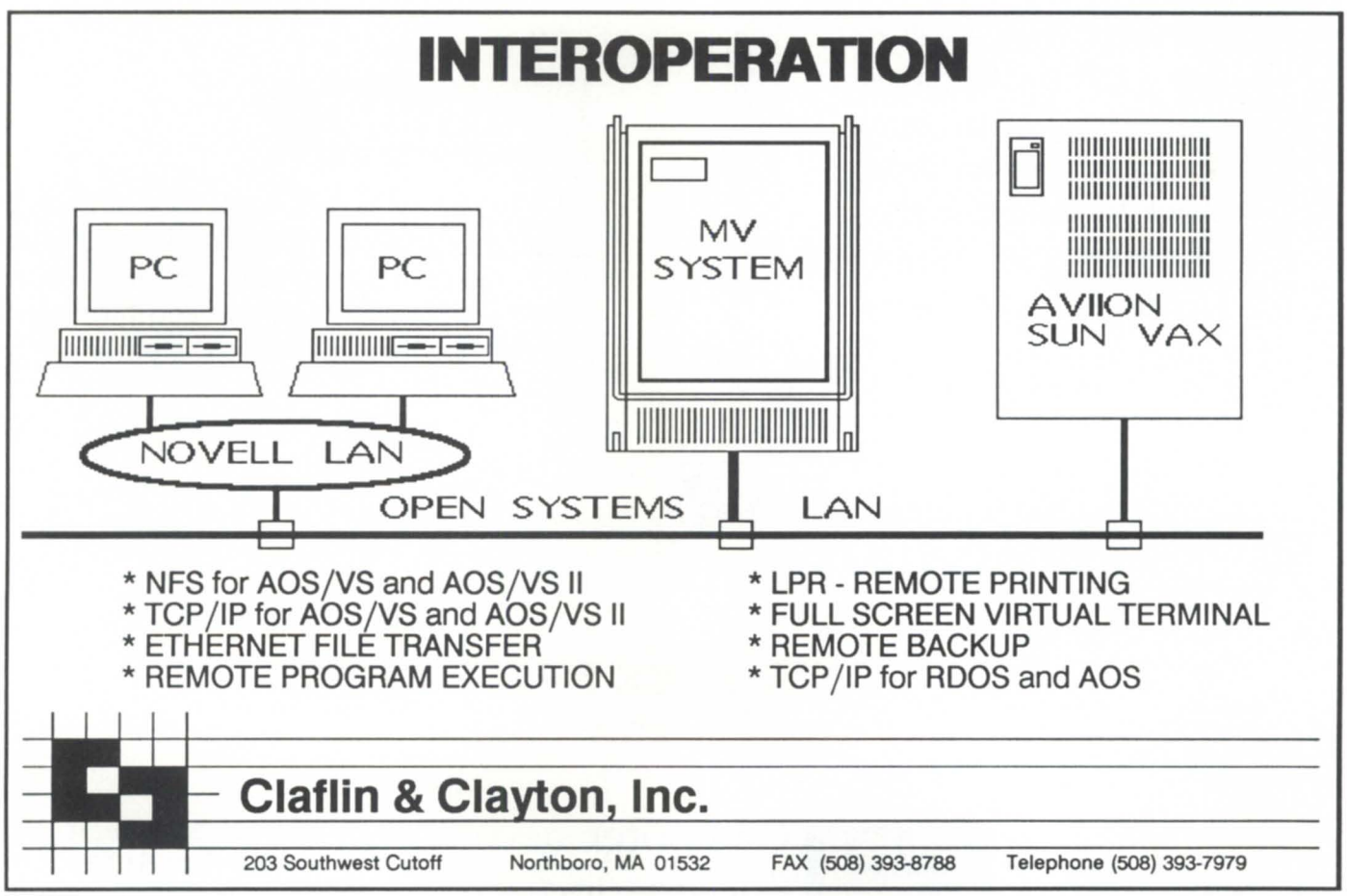
3) You can extend the life of slower Unix workstations by purchasing more powerful host machines as the need arises. (It appears that during 1992 we will see the introduction of the 300-plus MIPS Unix file server, and the 100-plus MIPS Unix desktop machine will be the new standard.)

4) Expensive computer software can be better utilized. If there is an expensive software package that requires a powerful machine to use effectively, you can purchase a compute server (do not put an expensive graphics head on this machine) and license this machine for the use of the expensive software. The older machines have graphic heads capable of running the new software, but they do not have the speed required to fully utilize the capabilities of the software. With the server supplying the required speed and the Unix workstation providing graphics capability, you can fully utilize expensive software with a minimum investment in new computer hardware.

In case you have not guessed by now, the speed of new Unix workstations and X technology have made my work more fun and fulfilling than ever. The fun part is watching my customers interact with the speed of their rejuvenated workstations, knowing that next year the performance of the systems will be even better.

Have a happy holiday season. It is time to close the "Unix notebook" for a while and enjoy the holidays with friends and family. Δ

David Novy is a technical computing specialist at 3M in St. Paul, Minnesota. He is past chairman of the AOS/VS special interest group and current chairman of NADGUG's SIG/UX.



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A Programmer Calls His Dog.

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WITH COBOL

```
IDENTIFICATION DIVISION.
PROGRAM-ID. CALLDOG.
ENVIRONMENT DIVISION.
SELECT ANIMALS
   ORGANIZATION IS INDEXED
   ACCESS IS DYNAMIC
   KEY IS ANIMAL-TYPE
   ASSIGN TO BEASTS.
DATA DIVISION.
FD ANIMALS
   RECORD CONTAINS 16
   CHARACTERS
   DATA RECORD IS ANIMAL-REC.
01 ANIMAL-REC.
   03 ANIMAL-TYPE PIC X[8].
   03 ANIMAL-NAME PIC X[8].
PROCEDURE DIVISION
START.
   OPEN INPUT ANIMALS.
   MOVE 'DOG' TO ANIMAL-TYPE.
   READ ANIMALS INVALID KEY
   DISPLAY 'BAD ANIMAL'
      LINE 10 POS 1.
CALL-SPOT.
   DISPLAY 'HERE' LINE 10 POS 1.
   DISPLAY ANIMAL-NAME HIGH
      LINE 10 POS 16.
   CLOSE ANIMALS.
   STOP RUN.
```

WITH SYSTEM Z

Is System Z 4GL COBOL?

System Z allows you to combine familiar COBOL syntax with ultra high-level keywords that define entire processes. Development time is cut to a fraction. Z lets you concentrate on the functionality of the program rather than the tedious definitions and procedures.

ZBASE includes a database manager with relational functions and a data dictionary that interacts with the compiler. The need for file or data definitions in the program is totally eliminated. A powerful editor is built into the Z compiler so that errors are identified and explained as you create them.

ZIP, a utility of System Z, allows you to develop queries, menus and reports with no programming knowledge. However, for the more experienced user, the source code generated by ZIP can be enhanced or modified for more complex applications.

Eliminate Machine Dependence

Programs developed with System Z are not dependent upon the hardware or operating system they were developed on. The executable code can be "copied" to other systems with no change or recompiling. For example, you might have a program developed under UNIX and then decide to install it on a DEC VAX under VMS or a PC under DOS. Graphics, function keys and other conventions previously accepted as "machine dependent" are portable.

Performance + Productivity + Portability

System Z cuts development time by 90% without paying the price of slower response times and greater memory and disk requirements. Incredible as it seems, Z programs actually run **faster** than those developed with BASIC or COBOL and require only a fraction of the resources that third generation languages need.

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Doug Kaye

More about Netware for AOS/VS

SYNOPSIS

Our columnist continues his question-and-answer format in examining the PC-integration product Netware for AOS/VS. Learn the cans, can'ts, how abouts, supposes, when wills, and how doeses concerning availability, requirements, applications, adapters, terminal emulation, documentation, printing. . . you name it.

Last month, I answered the most common first questions about Netware for AOS/VS. This second and final set of questions and answers deals with the specific functions and configurations of this new product.

1. **Can I store MS-DOS programs on my MV family server?** Using Netware Services you may store any MS-DOS, OS/2, or Macintosh files, including programs, on your DG mini. PC/VS allows you to store only MS-DOS data files.

2. **Which products support Macintoshes?** Neither PC/VS nor PC*I support Macintosh clients. Netware Services release 1.00 implements the Netware 3.01 functionality, which supports all Macintosh/Appletalk services through a service protocol gateway (SPG), a group of small programs running on a Netware 2.xx file server, or *bridge*, located somewhere on your LAN (local area network). The SPG modules are included with the Netware for AOS/VS Client Kit, RDS part number A160. Release 2.0 of Netware Services for AOS/VS will include direct support for Macintoshes without the need for the SPG.

3. **How about OS/2?** Only Netware Services supports OS/2 clients. The OS/2 requestor that runs on the OS/2 client is included with the Netware for AOS/VS Client Kit.

4. **Can I run multi-user MS-DOS applications?** PC/VS does not support shared access to (or locking of) files. PC*I and Netware Services provide comparable support for applications that require these services. Typical multi-user applications are DBase IV and LAN versions of Wordperfect and Lotus 1-2-3. The only applications that should not be expected to work under Netware for AOS/VS or PC*I are those that require some portion of the program to execute on the server as a value-added process (VAP) or Netware loadable module (NLM).

5. **Why can't I run VAPs or NLMs on my MV family server?** While the functionality of most VAPs and NLMs can be recoded for Netware for AOS/VS, VAPs and NLMs cannot be run as is. VAPs are server-based programs written specifically for the Intel architecture and to run under the Netware 2.xx operating system. Likewise, NLMs are written to execute under the Netware 3.xx operating system. While Netware for AOS/VS provides services and application program interfaces (APIs) comparable to those under Netware 3.xx, they are not identical. Nor is the MV family architecture capable of running programs written for or compiled to the Intel 8x86 instruction set.

6. **What APIs are available for Netware for AOS/VS?** The Netware for AOS/VS Software Development Kit (SDK) includes documentation for C-language interfaces to the Netware Transport protocols (IPX, SPX, and Netbios), as well as the Netware Services API that allows MV-based programs to access the same services available to Netware client-based client applications.

7. **When will Netware for AOS/VS 2.0 be available?** This next major release is currently scheduled for the middle of 1992. It implements most of the functionality of native Netware 3.11, and will be shipped at no charge to all licensees who have current software support subscriptions (SSS).

8. **What MV family resources are required to run Netware?** You should plan on at least 3 MB of main memory, in addition to that in use for other AOS/VS system and application processes. That will provide efficient scheduling of the core Netware processes without memory contention. In addition, you should configure approximately 128 KB of main memory for each highly active Netware user. Processes supporting inactive users may be swapped to disk by AOS/VS. Netware Transports will require approximately 10 MB of disk space on your MV family system. Figure another 20 MB for Netware Services. Additional disk space requirements will vary depending upon your intended use.

9. **What is required on the client PCs?** The client portion of Netware for AOS/VS is identical to that used by native Netware. For MS-DOS clients, for example, approximately 50-75 KB will be required, most or all of which may be in "high" memory, the area

above 640 KB and below the 1 MB boundary.

10. **Can I use Microsoft Windows?** Yes, since Netware for AOS/VS is indistinguishable from native Netware from the client's perspective, the Netware drivers for Windows can be used with Netware for AOS/VS.

11. **What LAN adapters can I use on my PCs?** You may use any LAN adaptor that supports Netware. This includes virtually every LAN adaptor on the market today. One particular exclusion is the Data General PMLC ethernet board for microchannel machines, for which no Netware-compatible driver is available.

12. **Suppose my LAN is not ethernet?** If you are using another topology such as Token Ring or Arcnet, you can install a native Netware file server or bridge to link your LAN to an ethernet segment. There is very little performance penalty when going through a bridge. The Netware bridge software is included with native Netware and the Netware for AOS/VS Client Kit.

13. **When will Token Ring be supported without a bridge?** Netware Transports 2.0 is expected to include support for the Data General Token Ring controllers under AOS/VS II only. This is expected to be available in mid-1992.

14. **Does Netware for AOS/VS support diskless workstations?** Yes, diskless PCs can be booted just as with native Netware. This typically requires a special EPROM to be installed on the workstation's LAN adapter.

15. **What about terminal emulation?** Netware Transports include MS-DOS software and the MV-side support for basic emulation of Data General D211, D410, and D460 terminals as *virtual consoles*. These emulators are intended for occasional use only, as their AOS/VS overhead can be quite high. For high-performance emulation over the LAN, we recommend either RDS's Popterm/410, which provides emulation of a D410, or EMU/IPX, which emulates the D460 (graphics) and D470 (color) terminals. All of these emulators share the LAN adapters, drivers, bridges, and routers that are used for the PC side of Netware. However, Popterm/410 and EMU/IPX use a separate "ITC" (intelligent terminal controller) or "LTC" (L-bus terminal controller) on the MV side to provide high-performance support for up to 128 or 64 terminal sessions, respectively. The performance of Popterm/410 and EMU/IPX connected in this manner is typically much better than a standard terminal connected to an IAC at 9600 baud.

16. **Does Netware for AOS/VS support Netware Virtual Terminal (NVT)?** No. The protocol used by NVT is designed for a Unix environment, under which individual characters can be moved between processes at reasonable speeds. NVT under AOS/VS would not yield acceptable performance.

17. **What documentation is included with Netware for AOS/VS?** Netware Services include detailed manuals for installation, system administration, concepts, utilities, and system messages—about 1,700 pages in all.

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18. **Will I have to make any changes in my existing Netware setup?** Typically, yes. If you are not using ethernet or an ethernet derivative such as Thinnet or 10baseT, you will have to install a Netware bridge to convert from your LAN to and from ethernet to reach your MV family server. The bridge software is included in the Netware for AOS/VS Client Kit, and requires a dedicated 80286 or 80386 computer and two LAN adapters. This may be required even if you are using ethernet. A standard Netware ethernet installation uses a packet type that Novell refers to as "802.3". These packets cannot be used on certain mixed-vendor LANs, so Netware for AOS/VS uses a packet type of "8137". You may either convert all the workstations and native Netware servers on your LAN to use 8137 packets (using utilities supplied with Netware for AOS/VS), or you may install a bridge as described above to translate 802.3 packets to and from type 8137.

19. **Can I use CLI commands with Netware for AOS/VS?** No, only PC/VS allows you to issue CLI commands from your MS-DOS workstation.

20. **How does printing work under Netware for AOS/VS?** Netware for AOS/VS supports the standard Netware print utilities such as CAPTURE, NPRINT, PCONSOLE, etc. Print jobs are sent to Netware print queues, which may reside on your MV family server. From there they will typically be forwarded to standard AOS/VS print queues, and from there to your printers. Once they leave the Netware environment, print jobs will appear to the Netware utilities to have been successfully printed.

21. **How does Netware deal with file conversions between AOS/VS and MS-DOS?** It doesn't. Data from your MS-DOS, OS/2, or Mac workstation are stored under AOS/VS in its native format. Likewise, files created by AOS/VS users will be stored as usual. If a file created on one system is to be used on another, it is beyond the ability of Netware for AOS/VS to provide appropriate conversions. PC/VS will convert AOS/VS text files to and from MS-DOS text file format.

22. **Can I access PCs from AOS/VS consoles?** No. Netware for AOS/VS is strictly a *client-server* product. Your MV family computer can only play the role of server. Using PC/VS, however, it is possible to send MS-DOS commands to a PC from an AOS/VS console or program.

If you have more questions than these, please call or write. I'd be glad to answer them personally and include them in a future column. Δ

Doug Kaye is president of Rational Data Systems, Inc., and may be reached at 1050 Northgate Dr., San Rafael, CA 94903; 800/743-3054.

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Bits and bytes from the bulletin board

CEO printing problem

From: Kim Blackwell

Is anyone having the problem of not having their text attributes printed when printing with a point size other than 10 or 12? If the problem is resolved, what did you do to correct the problem? I am currently running revision 3.20 of CEO.

From: Arlene Blouch

I didn't have any problems with 3.20, but have had since upgrading to 3.21. Text attributes (most notably bold) are dropped on the older style laser printers. I got a replacement copy of CEO Formatter from my local DG office. While doing that, I got a replacement for CSA Janitor (the Janitor truncated events that spanned multiple days). I have not fully tested it yet, but with over 500 CEO users, I'm sure I would have heard something.

Wordperfect 5.0 and CPU load

From: Brian Pencak

I am looking for some input or opinions on [Wordperfect] 5.0. We are running an MV/40 Mod 2 with 160 MB of memory, and it looks like 5.0 would kill it with a gigantic increase in CPU usage compared to revision 4.2. We expected the memory increase and are able to handle the new load, but do not think we are able to take the new load of CPU usage. Does anyone have any ideas?

From: Matt Koch

We have Wordperfect 5.0, but have not installed it for general use—yes, because of the increase in CPU usage. I did some tests using a 4.2 document and the same document after it had been converted to 5.0. I found that 5.0 needed 10 times the CPU for the same operation as 4.2. (i.e., retrieving a document used 5 percent of CPU with 4.2, and 50 percent with 5.0). The same

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held true for scrolling through the document, etc. Are these figures in line with what you found?

From: Brian Pencak

My co-workers did the 4.2 vs 5.0 comparison and found at least an average increase of 4 times concerning CPU consumption. Their tests were of basic functions: Entering a 2-, 10-, and 75-page document and repositioning to the bottom; running thesaurus and spell check.

From: Jerrold Rappard

We recently loaded 5.02 CEO-integrated. We are a CEO shop, so some users traded off CEO's word processor for Wordperfect. According to the documentation, Wordperfect uses more CPU but less disk I/O. Our users like Wordperfect so far, and I haven't had any problems.

From: Brian Pencak

Two of my co-workers were in Denver for the NADGUG conference. They talked to WP and DG, and both parties agree that WP 5.0 is a CPU hog, and both said that a release should be forthcoming [this spring] that is to address the problem. We are a CEO shop also, and support 350 users on an MV/40 mod 2, and from our testing it seems impossible to support the same number of users without degrading performance if you upgraded to 5.0. I am hoping that the new release will improve the CPU issue, because I like 5.0 and I know our users would fall in love with it.

TAR/CPIO size limits

From: Steve Williams

We have an MV/15000/20 linked by LAN to an AV 6220 and AV 6240. We would like to copy our entire "live" system (1.2 GB) and have been trying to get a tape created on the MV that is readable on the AV. The story so far: 1) TAR gives a "hard write error." DG says to upgrade the microcode on the 2 GB drive. This works OK. (By the way, all machines have 2 GB carts); 2) TAR gives "maximum number of records written" at exactly 1 GB of files. DG says "try CPIO." 3) CPIO gives "maximum number of records written" at 330 MB!

From: Steve Williams

Well, I've answered my own question thanks to several calls to DG. Seems that TAR/CPIO on AOS/VS II 2.02 has a logical limit of 65 K tape "records". Maximum "record", i.e., block size on TAR is 16 KB and maximum block size on CPIO is 5120 bytes. This equates to 1 GB and 335 MB max! Word from DG is that this is fixed in the next release. Δ

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.

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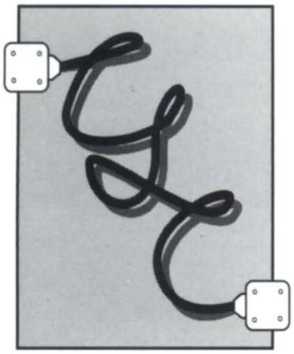

CSC and the STR process

SYNOPSIS

DG's STR backlog was reduced by one-third. That's great news! The CSC, with NADGUG's help, has implemented steps to further trim the backlog, and prevent it from getting out of hand.

by Bryan Scoggins • Special to Focus

One of the functions of the Customer Support Center is the management of the North American Software Trouble Report process. The Software Problem Management Department (SPMD) is responsible for the administrative processing of North American STRs. All STRs are acknowledged and screened for appropriateness and duplication. Some STRs are answered immediately and closed. The remaining STRs are forwarded to the appropriate development organization. SPMD provides STR status to customers when they call, and also mails them a letter once development answers the STR.

Recognizing that Data General's STR backlog was larger than we would like it to be, we have recently put emphasis on closing STRs. The number of STRs currently open reflects this effort. Although the number of STRs remaining open has decreased by one-third, we realize that keeping the volume reasonable and manageable is an ongoing process.

One of the processes implemented is to review all STRs that are older than 12 months, and which were reported against a revision other than the current one. The SPMD is contacting all customers with STRs in this category to determine if problems still exist and if they are reproducible under more current revisions of software.

Another process that we have implemented is looking at product life cycles. By analyzing usage, the number of RFEs (requests for enhancement) and STRs, Software Development efforts, and the company's strategic direction, we may decide to no longer support a product. In this case, all STRs for that product will be closed and letters will be sent to the customers.

While we are excited about focusing our efforts on current products, we feel it is important to have feedback. For customers who have received answers for closed STRs but do not feel their cases should have been closed, there is an appeal process. Customers should call the Customer Support Center, refer to the STR number, and inform the SPMD individual about wanting to appeal the closure of the STR. Reasons for the appeal should be given to the SPMD at that time. The SPMD individual will keep a record of all STRs for which appeals have been requested and present them to the Appeal Board.

The Appeal Board consists of representatives from Sales/Systems, NADGUG, Marketing, and Customer Services. The Appeal Board meets periodically to review all contested STRs. The Appeal Board's goal is to ensure the best interest for the entire Data General community. SPMD will inform the customer, as well as Software Development, whether the STR is to be reopened or left closed.

Implementing this process will enable Data General to focus its software development efforts on problems in current revisions of software, and problems that customers are currently experiencing. It will also enable us to keep the STR backlog manageable.

If you have questions about this process, please contact Cathy Paulson in the Customer Support Center at 404/381-3036 or 800/344-3577. Δ

Bryan Scoggins, a 12-year Data General veteran, is the manager of Software Support for the Customer Services Division. His positions with Data General have included Software Development, Systems Engineering, and Area Software Services manager. He has been responsible for software support for eight years.

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The latest products for DG systems

4 GB disk subsystem for the MV

Westboro—Data General announced the Model 6792/6794, a prepackaged disk subsystem designed specifically for the MV family. This subsystem offers I/O improvements over earlier, CSS2-based disk packages and RAMS disk subsystems. Priced at $45,100, the subsystem includes four 1.0 GB full-height 5.25-inch Winchester disk drives, and an intelligent host adapter. The compact peripheral chassis houses the four 5.25-inch disk drives in 8.75 inches of rack space.

The subsystem offers a peripheral bus data transfer rate of 5 MB/second and a 15 ms average seek time. The intelligent host adapter for BMC systems provides synchronous operations, multiple command queuing, seek optimizations, and retry management. New in this system is transparent remapping at the manufacturer and again as errors occur within a system.

The 6792/6794 subsystem is supported by AOS/VS rev 7.69 and AOS/VS II rev 2.03 on the MV/9300, MV/9500, MV/9600, MV/15000, MV/18000, MV/20000, MV/30000, MV/40000, and MV/40000 HA.

Data General Corporation, 3400 Computer Drive, Westboro, MA 01580; 508/898-4246.

Circle 50 on reader service card.

Print spooler for multi-vendor Unix networks

Reston, VA—Systems Center's Unitech Software Division introduced PRINT.UNET, a full-feature network print spooler for heterogeneous Unix environments. The new software simplifies print queue management, optimizes use of shared printer resources, and provides security functions.

PRINT.UNET provides a consistent graphical user interface and a command line interface that looks and feels the same for each Unix operating system and printer type on a network. The OSF/Motif GUI facilitates submitting, modifying, and checking print jobs.

Pricing is based on the computer class of the largest CPU in the LAN, and by the number of nodes, starting at $5,000 for a 10-node network.

Systems Center, Inc., 1800 Alexander Bell Drive, Reston, VA 22091; 703/264-8000.

Circle 54 on reader service card.

Updated Cobol applications generator for Aviion

Xenia, OH—Flexgen version 2.3 for Cobol developers and end users is now compatible with the Data General Aviion system, announced SINC, Inc.

Using Flexgen, developers and end users may create Cobol applications that compete with the look and feel of programs written in a 4GL. Features include:

- Productivity gains—color, field-entry characteristics, auto look-up windows, and auto browse mode;
- Structured Cobol code—selecting features for automatic generation of structured Cobol code (the same applies for adding reports, updates, and extracts to an application);
- Reports and forms—the ability to ESCAPE and mix 4GL features and Cobol procedural code automatically;
- Easy-Query—an interactive guide for building a query that generates a Cobol object program.

SINC, Inc., 1299 LaVelle Dr., Xenia, OH 45385; 513/372-4334.

Circle 52 on reader service card.

Budtool and Zetaco for Aviion

Livermore, CA—Delta Microsystems announced an agreement with Zetaco to

distribute Delta's Budtool software for Data General Aviion platforms. Budtool, an automated backup and retrieval product available for Sun workstations since 1989, has been ported to run under the DG/UX 4.3 operating system. Zetaco plans to port Budtool to DG/UX 5.4 shortly after its release.

Budtool offers an easy-to-use graphical interface. Yearly backup schedules may be set in a one-time operation, with all file histories maintained in a readily accessible data base.

Zetaco will resell Budtool for DG Aviions for backup to 8 mm, DAT, and QIC tape devices. The product will be sold directly by the sales staff at Zetaco's headquarters in Burnsville, Minnesota.

Delta Microsystems, Inc., 5039 Preston Avenue, Livermore, CA 94550; 415/449-6881.

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Unattended 8 mm tape backups and storage up to 200 GB

Boulder, CO—The STL-8000 Tape Library, announced by the Spectra Logic division of Western Automation, provides on-line random access to as much as 200 GB of uncompressed data on 40, 8 mm tape cartridges—in 7 inches of rack space. Interchangeable carousels allow for capacities greater than 200 GB. OEM prices range from $14,500 for quantities of 100 or more. A suggested list price of $28,500 includes one tape drive.

The STL-8000 offers two control interfaces: standard SCSI-2 media changer commands, and Serial SCSI Control Language (SSCL), Spectra Logic's RS-232C robotics control language, designed to simplify connectivity. Configuration may be with one or two EXB-8200, EXB-8200SX, EXB-8500, or EXB-8500c (for up to one terabyte of compressed data) Exabyte 8 mm tape drives.

The STL-8000 is intended for a variety of platforms, including LAN, mini, and mainframe installations supporting Unix and other environments.

Spectra Logic, a division of Western Automation, 1700 North 55th Street, Boulder, CO 80301; 303/449-7759. Δ

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Data Specific

CEO: 10 years old and still growing

Data General's CEO office automation software hit the 10-year anniversary mark in 1991. Did you know that CEO is available in 20 languages and it is used by 500,000 people worldwide?

CEO provides word processing, electronic mail, filing, printing, and a host of other features. Over the next several months, you can expect new revisions of CEO and CEO Object Office. CEO 3.30, scheduled for February release, will include many file system enhancements including in-box handling, which allows an enabled CEO user to handle your CEO in-box in your absence; expanded sharing capabilities (36 users sharing a private drawer instead of a maximum of 12); improved system security; automatic log-off; and a lock command to lock and unlock your display via a password.

Later this year, CEO Object Office 3.10 will add new PC to Aviion connectivity options.

Brand-new song and dance routine

In past years, Data General has taken a lot of heat from customers for its lack of market presence. Well, look out world! Data General has done a complete turnaround in the marketing department.

Attendees at the NADGUG conference combined general session witnessed a combination video, audio, and live spectacle they will not soon forget: a preview of Data General's newest "pizza box" commercial, and a video tour of the Data General booth hosted by a formally attired song and dance team rendering an original tune about the glories of Data General equipment. Although the song was not memorable, the message was: Data General is hot!

Pizza box delivers

Computer industry marketers recognized Data General's efforts over the past year. During the Fall Comdex conference in Las Vegas, ***Adweek's Marketing Computers*** magazine held its first Marcom (marketing communications) Awards breakfast. The pizza box campaign for the Aviion computers won a Great Idea award. DG's Vice President Corporate Marketing **Stephen Baxter** was pictured in the November 1991 issue of the magazine.

NPA West offers software training

NPA West offers software training courses geared to Data General users. Newly added classes include "Using the Command Line Interpreter (CLI)," and "Writing CLI Macros." Other classes are offered in system management, using CEO, and beginning Unix. Classes are taught by **William H. Evans** and **Joseph St. Laurent**, former Data General employees with extensive experience in software and education. For more information contact **Robert Rosenstein** at 800/999-4672.

User notes

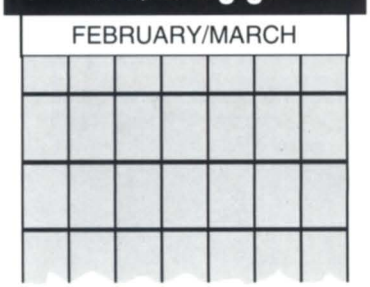
Seen at more hamburger joints than Elvis

Upon arriving at the NADGUG conference in Denver, **David Novy**, *Focus* columnist and leader of the Unix special interest group, got in a car and drove—through a snowstorm—to Raton, New Mexico. It was the final state he had not set foot in. Novy celebrated by eating lunch at a fast food restaurant, then turning around to drive back to Denver the same day.

The trek began some years back in Peoria, Illinois, where Novy was born. "And I've been seeing how things play everywhere else ever since," he says. He started getting close to his personal milestone of visiting all 50 states about five years ago, after managing to win or arrange free trips to Alaska and Hawaii. A job interview took him to Idaho. His current employer, **3M**, sent him to Texas. Visits to other states, like Louisiana and Florida, were achieved by attending NADGUG conferences. He couldn't find anyone to send him to Delaware, so he made a deliberate trip there. Novy has most recently been sighted in Minneapolis, Minnesota.

Δ

RIG/SIG gigs



February 7
Call for Sessions
Deadline to submit session proposals for the NADGUG 92 conference, to be held October 12-15 in Kansas City.

March 5-6
Data General Users Group (United Kingdom) annual conference
Location: Metropole Hotel, NEC, Birmingham
Contact: Sheila O'Reilly, DGUG Administrator, 081-847 3206.

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.

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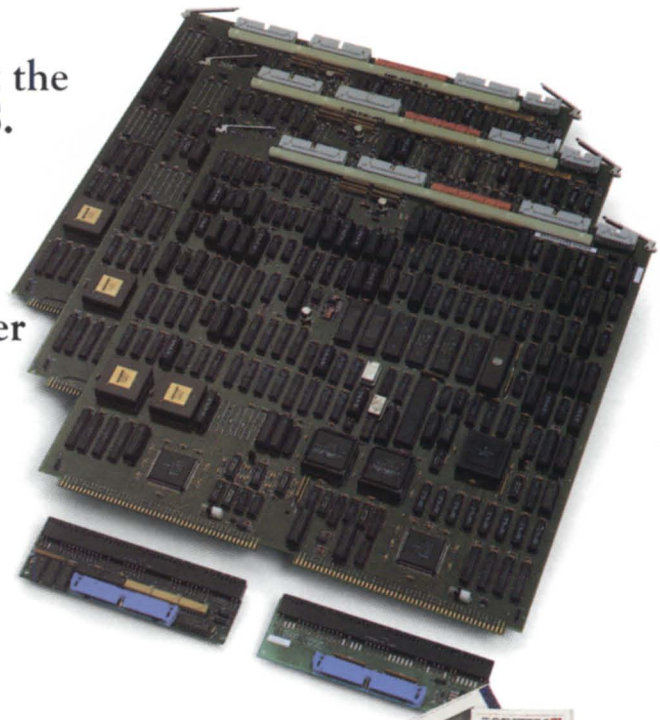

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