

January 1994

FOCUS

The Magazine of the North American Data General Users Group

Coalescing forces

A future of software
partnerships and alliances

Plus

The company you keep

Avion family values

Unix Notebook: Fearless forecasts for 1994

Pictures from Atlanta and NADGUG 93

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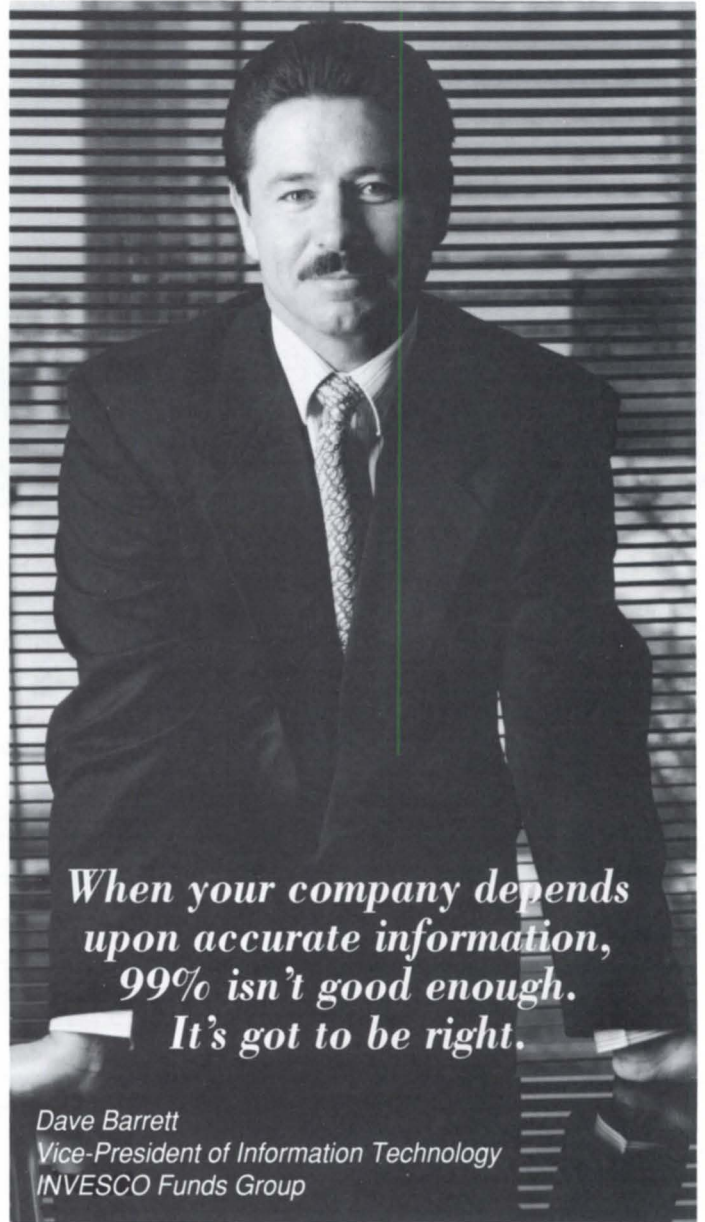
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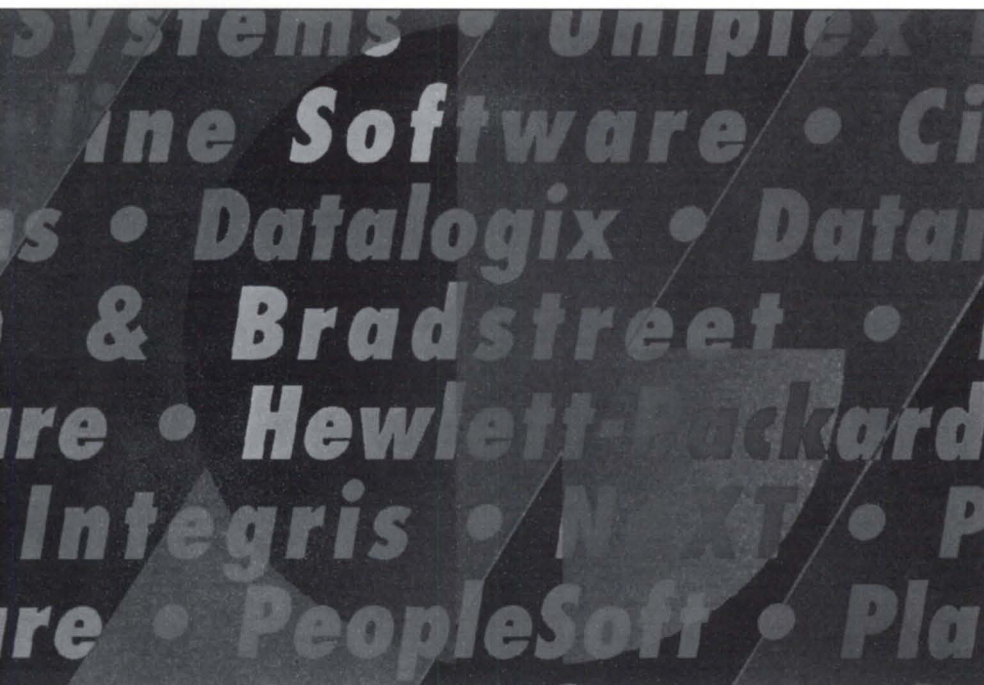
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The Magazine of the North American Data General Users Group



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Coalescing forces

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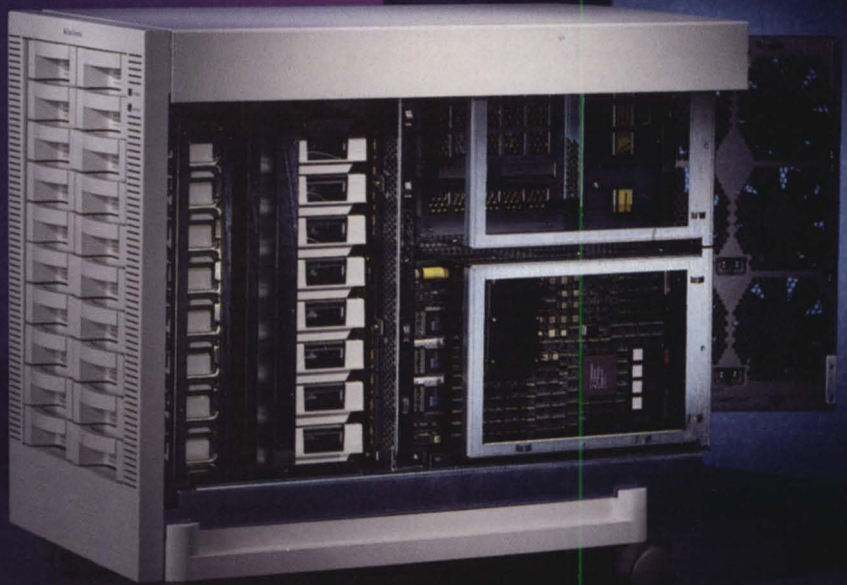
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Only 9 months to NADGUG 94

by Steve Pounds
Special to Focus

It's hard to believe we have already come upon a new year! As the new NADGUG vice president for 1994, I wanted to introduce myself to you, the members, take a look back at what we accomplished in 1993, and then look ahead to what we have in store for 1994.

I thought it might be appropriate to first give you some background on my involvement in the organization. I first heard about NADGUG when I began working in 1985 as controller with Security Forces, Inc., in Charlotte, North Carolina. My boss, Don Clark, was president of NADGUG in 1988-89. He remains an active attendee at the board of governors meetings. He was also involved in the local regional interest group, SEARIG (Southeast Area Regional Interest Group). In 1986, I became secretary of SEARIG. I have greatly enjoyed the learning experience and benefited from meeting with other Data General equipment users. I have learned so much about the computer industry as a result of my involvement in the organization.

We later formed another regional interest group, CARORIG (Carolina Regional Interest Group). I became president of CARORIG in 1989 and attended my first NADGUG board of governors meeting and the NADGUG 89 conference in New Orleans that same year.

Since I was a CPA and my background has been in financial matters, the NADGUG board decided I was a natural for the treasurer position. After spending two years as treasurer, the path has led me to the current position of vice president.

•••

In looking back at 1993, the high-

light of the year for our organization was without question the annual conference. NADGUG 93 was in Atlanta at the Inforum and Hyatt, and speaking for a moment as the organization's treasurer for 1993, I am pleased to report that the conference was a financial success, which is so crucially important to the survival of our organization.

It is so enjoyable to meet people from all over the world at the conference and learn of their experiences, both with Data General and otherwise. Our group is truly taking on an international flavor. This year, we had attendees at the conference from the United Kingdom, Germany, Canada, Australia, Hungary, Kuwait, Egypt, Russia, France, Israel, Switzerland, Saudi Arabia, Argentina, New Zealand, Netherlands Antilles, British West Indies, Malaysia, and probably other countries as well.

We also had more exhibitors and more products and more variety than ever before. And if that wasn't enough, I thought the educational sessions and seminars were better than they have ever been. It is gratifying to see that everything is going in the right direction. Our 1992-93 president, Jan Grossman (now immediate past president; she's not going away) did a fabulous job during her tenure. I'm confident as well that our new president for 1993-94, Tim Boyer, will lead us effectively as we plan for NADGUG 94 in Nashville, Tennessee. I hope that you will all make plans to be there in October at the Opryland Hotel. This conference promises to be a great one. Mark your calendars, because it's only nine months away. Δ

Steve Pounds is NADGUG's new vice president for 1993-94. He may be reached at 704/334-4751.

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News and notes from the greater Data General community

DG net loss \$60 million in 1993

Data General reported a net loss for the fourth quarter of fiscal 1993 (ending September 25) of \$37.2 million, or \$1.06 per share. The net loss for the year was \$60.5 million, or \$1.73 per share, including a restructuring charge of \$25 million.

Data General Corporation Condensed Consolidated Statements of Operations (in millions except per share amounts)				
	Qtr Ended/Year Ended			
	9/25 1993	9/26 1992	9/25 1993	9/26 1992
Revenues:				
Product	\$178.1	\$176.5	\$673.0	\$677.8
Service	100.3	111.7	404.9	438.1
Total revenues	278.4	288.2	1,077.9	1,115.9
Costs and expenses:				
Cost of product revenues	112.5	106.0	415.1	395.8
Cost of service revenues	61.8	63.9	239.6	259.2
Research and development	24.2	27.8	100.2	111.3
Selling, general, and administrative	89.4	87.8	346.8	357.5
Restructuring charge	25.0	—	25.0	48.0
Total costs and expenses	312.9	285.5	1,126.7	1,171.8
Income (loss) from operations	(34.5)	2.7	(48.8)	(55.9)
Interest income	1.7	2.3	8.1	11.0
Interest expense	3.4	3.5	14.4	14.5
Income (loss) before income taxes	(36.2)	1.5	(55.1)	(59.4)
Income tax provision	1.0	1.0	5.4	3.1
Net income (loss)	\$(37.2)	\$ 0.5	\$(60.5)	\$(62.5)
Primary and fully diluted net income (loss) per share	\$(1.06)	\$ 0.01	\$(1.73)	\$(1.91)
Weighted average shares outstanding	35.0	34.4	34.9	32.8

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MV4000 Complete	\$300

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Megatape 750 Drive	\$300
6591 2 G/B in PHU w/Ctrl	\$2,450
6125 Steamer Tape S/S	\$300

DISPLAYS

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6500 D/216 W/KYBD	\$150
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D/413-A W/KYBD USED	\$350
D/217-A W/KYBD NEW	\$380
D/217-A W/KYBD USED	\$290
D/463-A W/KYBD USED	\$350
D/412+ W/KYBD	\$275
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The company reported revenues of \$278.4 million for the fourth quarter, a \$26 million increase over its third quarter.

Commenting on the results, President and Chief Executive Officer **Ronald L. Skates** said, "While we are encouraged by the growth of our Avion product line, it has not yet been sufficient to offset the continuing revenue decline from our traditional computer line, the Eclipse MV family Whenever possible, we are continuing to adjust our cost structure to bring it more in line with revenues and margins."

The restructuring charge was due to a worldwide workforce realignment. Corporate Spokesperson **Jim Dunlap** explained, "The reason that we use the word re-alignment is that our focus is on revenue growth." Although several hundred jobs will be lost worldwide, "we're going to do some hiring in areas decidedly related to growth," Mr. Dunlap said.

Mr. Skates added that Data General's financial position remains strong with cash and marketable securities of \$192 million at the end of the quarter.

The company generated \$19 million during the fourth quarter through the sale of non-operating assets, including a manufacturing plant in Portsmouth and part of a plant in Woodstock. The sale of these assets did not have a significant impact on the results of the operations.

Eagle's customer-appreciation dinner

Eagle Software of Salina, Kansas, has built a reputation for putting on an impressive evening of fun and food during the annual NADGUG conferences. This year's event at the Atlanta Hyatt Regency (Eagle's fifth overall) featured a hospitality hour followed by dinner.



Eagle President Dave Heichel and prize winner Alan Frazer.

Eagle's new president, **Dave Heichel**, presented a slide-show update of the company's products and administrative changes.

Attendees didn't leave empty-handed; those completing customer

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6391-X D214 Monitor with keyboard	140
6392-X D215 Monitor with keyboard	150
6393-X D411 Monitor with keyboard	160
6394-X D461 Monitor with keyboard	250
6500 D216 Monitor with keyboard	210
6682 D217 Monitor with keyboard	275
6567 D412 + Monitor with keyboard	275
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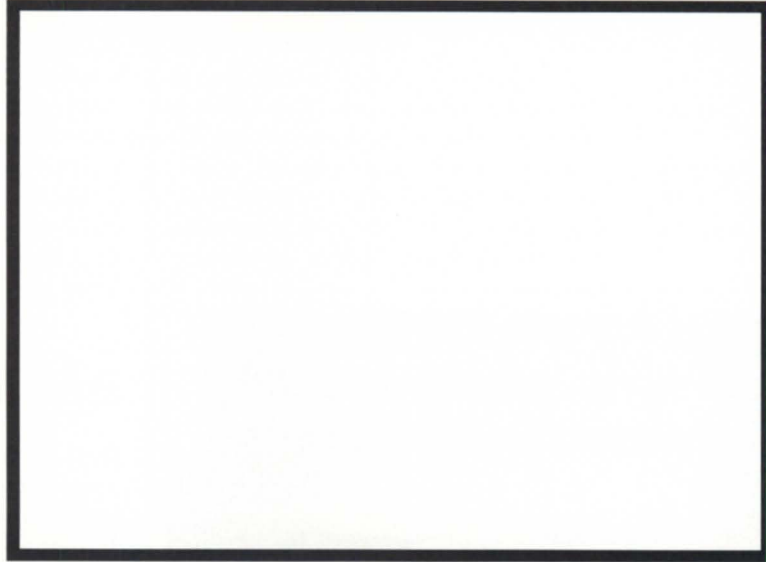
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surveys received royal-blue polo Eagle shirts. Wearing the shirt on the NADGUG exhibit floor the next day made one eligible to win a portable compact-disc stereo and an "Eagle's Greatest Hits" CD.

The lucky winner? Alan Frazer of Frazer & Associates PTY Ltd. Mr. Frazer is a reseller for Eagle Software in Sydney, Australia.

More than 20,000 sold

According to a recent **International Data Corporation** report, Data General is the U.S. market share leader in medium-scale, Unix-based systems. In the same report, IDC noted that in 1992, Data General was the fastest-growing Unix-based systems vendor worldwide.

Aviion has become Data General's leading revenue producer with revenues for Aviion hardware and systems software during fiscal 1993, the fourth full year of shipments, of approximately \$400 million, an increase of nearly 30 percent over last year. The company noted that a customer base of 20,000 Aviions, with a total value of more than \$1 billion, has been established since 1989.

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Cobol users who eventually plan to redesign their application for a 4GL will be pleased to know that Acucobol has anticipated their desires by developing a utility called Acu4GLTM that provides a seamless interface from Cobol to several RDBMS products. So, if you want to get from where you are to where you want to be, call MAC Data (1-800-878-8783).



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DAC adds MV/40000

Data Assurance Corporation, the disaster recovery hot site company headquartered in Englewood, Colorado, installed an MV/40000 Model 4 at its headquarters as part of its teaming arrangement with Data General. Additionally, a MV/20000 Model 2 has been installed in the New Jersey hot site.

The addition brings DAC's total number of installed Data General computers to 10. Each of the newly installed MVs has at least one subscriber.

Seeds for success

Georgia-based Pennington Enterprises, a \$300 million seed and fertilizer company, has licensed the use of the CDI Financial Control System, which includes general ledger, accounts payable and accounts receivable/credit modules. The software will run on a Data General Aviion 5225 quad processor.

Pennington will implement the CDI Financial Control System with Excel DM, a distribution and manufacturing software package from The Technology Group. Together, these fully integrated and interoperable products will be used by Pennington to automate business in 16 plants throughout the Southeast United States and to support coast-to-coast sales of its seed and fertilizer products. Δ

In General is compiled by Robin Perry. Please send news items c/o Focus at P.O. Box 200549, Austin, TX 78720; phone 512/335-2286 or fax 512/335-3083.

NADGUG 93 cornucopia

by Doug Johnson
Focus editor

What are you NADGUG 93 conference-goers sure to have brought back from Atlanta? No, not a cold (although that's something I did manage to pick up). It's a big, sturdy cloth NADGUG bag full of STUFF: seminar handouts, membership info, vendor brochures, T-shirts, free software packages, coffee mugs, buttons, mouse pads, keyboard wristpads, letter openers shaped like 3.5-inch diskettes, or even one of a variety of prizes given away in drawings.

"I have learned now when I go to NADGUG conferences, I pack an extra bag," said 1992-93 President Jan Grossman.

But this year, exhibitors probably noticed her picking up even more free stuff than usual. You see, she was making the rounds on the exhibit floor to fill a bag to send along to Past President Frank Perry at his home in Rhode Island, "so he wouldn't feel like he missed anything." Mr. Perry, a long-time fixture at NADGUG conferences, was unable to attend this year because of a hospital stay for angioplasty surgery. The "very, very full" bag also included a personalized appreciation plaque presented at the Wednesday night banquet as part of a ceremony honoring NADGUG's past presidents

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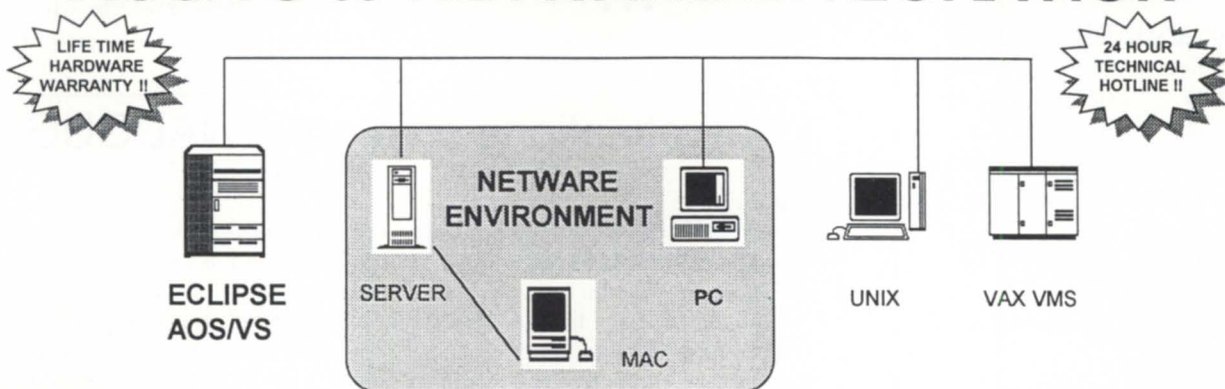
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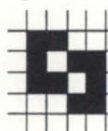
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EDITOR'S NOTE

(see photos on pages 18 and 19).

• • •

In the "Playing With Pain" category: If you saw that videotape of Data General's early-November software-partnerships announcement starring Stephen Gardner, vice president of corporate marketing, what you probably couldn't tell was that he did that recording session Tuesday evening during NADGUG 93 in Atlanta after earlier that same day falling on some stairs and injuring a knee badly enough to require arthroscopic surgery. "This will be my 8th knee operation," said Mr. Gardner, who played enough football and basketball in school to account for the other seven.

"Steve, I was wondering how you managed to stand so still and tape that video for a half-hour," commented DG public relations executive Kim Sarkisian, who set up the conference call (Mr. Gardner was limping around London, England, at the time) that resulted in this month's interview excerpts (see page 20).

"If I had moved, I would've died," he answered.

• • •

In light of the previous medically

related items, turning to the NADGUG Special Healthcare Symposium (Wednesday during the conference) seems quite appropriate here.

Even if you discount the prospect of national healthcare reform directed by the Clinton administration, hospitals and other healthcare providers face technological challenges that computer hardware and software vendors consider an exciting growth-market opportunity.

"The electronic medical record is rapidly becoming the next area of growth," said session host Del Richmond, Data General's healthcare marketing manager. Four speakers representing a variety of viewpoints outlined the state of development in this field.

Clark Bell, editor of *MODERN HEALTH CARE* magazine, touched on numerous political issues and predicted that government-mandated reforms will force hard decisions on providers. But he cautioned against waiting to embrace technology. "We shouldn't be paralyzed by all the talk going on in Washington."

Regardless of reform, Mr. Bell said,

Continued on page 35

Congratulations on a great NADGUG 93

Dear Editor:

On behalf of the Australian Data General Users Group, I would like to congratulate NADGUG on yet another very enjoyable and obviously very successful conference in Atlanta.

Atlanta was the third conference I have attended, and it appears that they are getting better and better each year. The wide range of seminars would have suited every MIS person in attendance, not to mention the size of the exhibit area and the wide range of Data General and Data General-related software and hardware products on display.

However, with Source 93 being held in conjunction with the NADGUG conference, I found that I really did not have the time to attend all the NADGUG seminars of interest to me, as well as wander around the exhibition area.

An additional day would have made all the difference, especially for those of us from overseas who mostly only get one chance per year to attend something as professional and well-organized as the Source/NADGUG conferences.

Once again, congratulations to NADGUG and DG, and I'm certain you'll be seeing this Aussie in Nashville in October 1994.

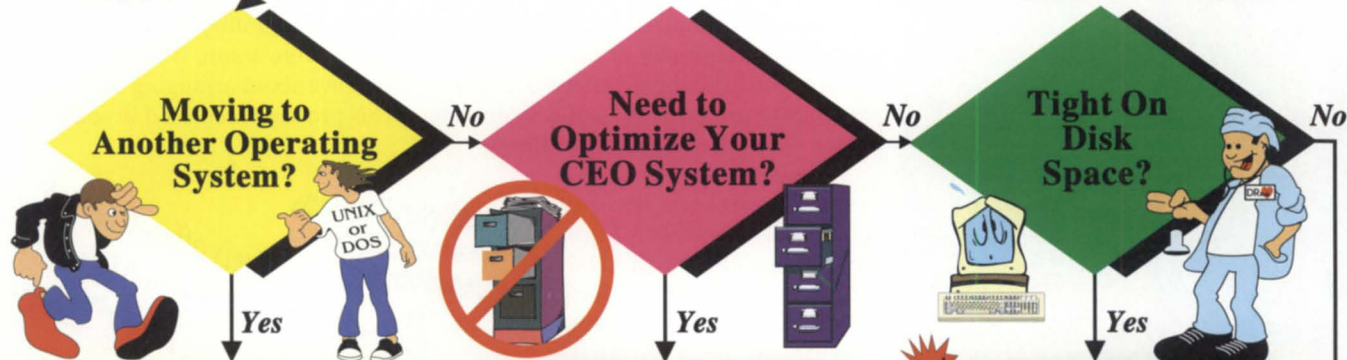
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Coalescing forces

SYNOPSIS

Data General's future will feature a host of software alliances and partnerships to help advance its position as an open systems solutions company.

by Doug Johnson
Focus editor

Something interesting is happening in the farflung and unforgiving universe of the computer industry. Formerly scattered and disparate bits of dust and matter have begun to gather and organize. Coalescing forces are taking hold, rolling back at least some of the go-it-alone philosophy of the past. If Data General were a sun, it's now engaged in the business of collecting a variety of planets and setting about arranging them in appropriate orbits to produce a splendid solar system. This process is reflected in some of the company's recent press-release headlines.

What's happening is a heretofore unseen level of cooperation between high-technology companies. For Data General it goes along with the company's evolving mission to be a comprehensive open systems products and services provider.

All companies seek their own paths to success, but now they're seeking in association with others. Perhaps "fellowship" is too friendly a word to describe alliances between companies that may still see themselves as competing with each other on another level. Maybe "ensemble" goes in well with the idea of mutual interest and complementary considerations. In any case, the measure of an individual company in the increasingly complex future will expand to include that company's associations and alliances as well as its individual identity and image. The company you keep may be as important as what company you are.

"It's a very new way of doing things, in that there is a comprehensiveness to the partnerships here that is much more extensive and much more complex than in the past," said Stephen Gardner, vice president of Data General's corporate marketing.

Strategic partnering "will become the key to sustaining a competitive advantage in the computer hardware and software industry in the 1990s," comments Bruce Stuart in the November 1993 issue of *COMPUTING CHANNELS*, the publication of the Computing Technology Industry Association. Forward-looking companies in the computer industry "are partnering to build their competitive advantage in world markets. Organizations that do not explore strategic partnering options will soon find themselves at a distinct disadvantage." How appropriate, then, that Data General Corporation of Westboro, MA, USA, went to England to make its big software alliance announcement.

Last Nov. 4 in London, Data General unveiled 21 new partnership agreements—software alliances—with leading software vendors, meaning that these companies agreed to port the latest versions of their respective products to DG's Aviion server computer family. This newly dubbed "Enterprise Software/Service Portfolio" consists of five segments. Each illustrates a particular aspect of client/server software and service: 1) Development

Sybase System 10 products
available on DG Aviion
product family

DG announces
strategic partnership
with Forte Software

Datalogix offers GEMMS
on DG's Aviion series

DG and Patrol Software
announce strategic marketing pact

DG to provide HP Openview
on the Aviion platform

tools; 2) Enterprise management; 3) Application rehosting tools and services; 4) Integrated financial software; and 5) Corporate support solutions. (For further information, see chart on page 14.)

Mr. Gardner termed the alliances a "weaving together of compatible organizations with similar business interests."

Partnerships have been growing in importance as well as in numbers recently for Data General.

"One of the places that we have a lot of time and attention over the past three or four years, for example, is working with the data base companies," said Mr. Gardner. "To really become a true partner to them, and not just another hardware vendor. We've worked hard with companies like Sybase and Oracle, Ingres and Informix, Progress, the three major Pick providers, Vmark, and others to make sure we didn't just provide their data bases. We had people inside Data Gen-

eral who knew how to make their data bases absolutely sing on top of an Avision system. Or who knew how to back up their data bases on one of our Clarion storage tape devices better than anyone else in the industry."

Data General's most recent corporate profile includes the following mission statement: "Data General is an open computer systems company specializing in servers, storage products and services for information systems users worldwide. Data General's people and partners are committed to helping customers achieve success in their enterprises." The future that incorporates such a mission will include seeking out the right partners.

"There is a real mix, there's no question about it," said Mr. Gardner. "And some of them we really had to go searching for, because we had customers that we either anticipated would have a need for a certain type of product, or who had told us they had a need

Continued on page 16

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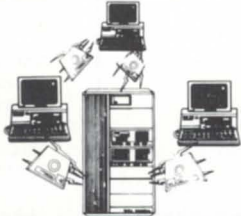
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DG software alliances

With annotations by Stephen Gardner, vice president of Data General's corporate marketing

DEVELOPMENT TOOLS

Company	Software/Service	Availability
Centerline Software, Inc.	CodeCenter	Q2 1994
	ObjectCenter	Q2 1994
Forte Software, Inc.	Forte	mid-1994
Next Computer, Inc.	Nextstep* (PDO)	Immed./Q1 '94 for PDO

"The new relationships we announced were all aimed at companies looking for a way of easily developing the newer client-server applications that will drive their businesses in the future, and who didn't want to spend a whole lot of money maintaining different types of source code."

ENTERPRISE MANAGEMENT

Company	Software/Service	Availability
Hewlett-Packard	OpenView with OS/EYE*NODE (Digital Analysis Corp.)	Q1 1994
Patrol Software, Inc.	DDS/Patrol	Immediately
Sterling Software, Inc.	CONNECT: Queue for Unix scheduling	Q1 1994
	for Unix workload balancing	Q1 1994
Tivoli Systems, Inc.	Tivoli Management Environment	mid-1994
Computer Associates, Inc.	Unicenter*	Q1 1994

"This is where you're more concerned about controlling and managing the enterprise than you are about building it. You're concerned about

things like security, how do I maintain security across the enterprise, both within a system and across a network. You're concerned about keeping track of what's online and what's offline, what's working and what's not working.

APPLICATION REHOSTING

Company	Software/Service	Availability
Cincom Systems, Inc.	Supra Starter Pack (joint program)	Immediately
Datamatics Ltd.	xPORT	Q4 1993
	dBRIDGE	Q4 1993
Information Builders, Inc. (IBI)	EDA/SQL, Focus (joint program)	Immediately
Information Management Corporation (IMC)	Open TransPort	Q1 1994
Integris	UniKix (North American distribution agreement)	Immediately
Syncsort, Inc.	Syncsort	Q1 1994

"Companies would use these tools and services when they found themselves in a position of having an application that was still functioning pretty well from a business point of view but it was running on a platform that was either too expensive or too difficult to maintain. We provided a whole set of tools, of certain capabilities, aimed at different legacy backgrounds, whether people were coming from IBM or from Wang or whatever, over to the open systems world."

INTEGRATED FINANCIAL SOFTWARE

Company	Software/Service	Availability
Datalogix International	GEMMS (integrated w/ Oracle financials)	Q1 1994
Peoplesoft, Inc.	Human Resource Mgt. System Financials	Q1 1994
Platinum Software Corp.	SeQueL to Platinum	Immediately
Symix Computer Syst., Inc.	SYMIX Solution	Immediately
Concepts Dynamic, Inc.	Control Series*	Immediately
Computer Associates	Masterpiece*	Q1 1994
Dun & Bradstreet	Smartstream 2.0	Immediately

"Here's a new class of software, which has coalesced over the past 24 months from three or four different disciplines. One is financials—the classic general ledger, accounts payable, accounts receivable, etc. The second is manufacturing—classic process manufacturing or discrete manufacturing resource planning solutions. And the third is human resource management systems. And increasingly, modern software companies are providing integration of those three functions into a set of complementary packages."


CORPORATE SUPPORT SOLUTIONS

Company	Software/Service	Availability
Saros Corp.	Enterprise Document Mgr.	Q1 1994
Sybase, Inc.	System 10 Tools	Q4 1993
	Replication Server	Q2 1994
Uniplex Ltd.	OnGO	Immediately
Oracle Corp.	Oracle Parallel Server*	Q1 1994

"I know of very, very few open systems customers who aren't using a relational data base as the core of their applications. But it also includes things like document-management systems, which provide a cross-corporation way of managing huge portfolios of documents. It includes office automation, because that allows things like electronic mail and document creation and storage all to be brought together. It includes imaging solutions that are not solutions by themselves, but which provide the infrastructure for you to create something around the corporation."

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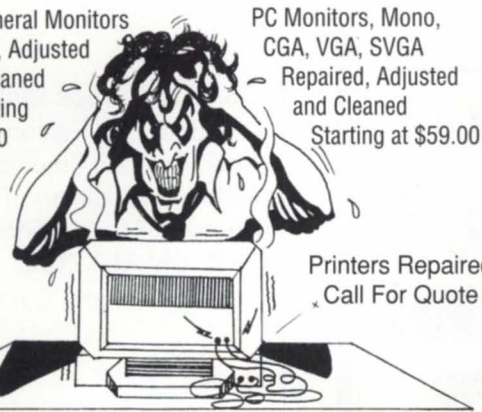


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Continued from page 13

for a certain type of product. Part of our job as a vendor is to go find the partners that have it."

Looking ahead

International Data Corporation (IDC) in a recent report advanced the opinion that Data General must continue to take best advantage of opportunities presented with its new and current software partners and maintain the advantageous commercial qualities of its Aviion product line if the company wishes to maintain the momentum it has gained in what IDC calls the "Unix midrange market." Since Aviion's introduction in 1989, Data General's growth has exceeded that of the overall Unix midrange market and seized a respectable position. Aviion server revenues, at more than \$300 million in 1992 had grown by a factor of four since 1990. One thing to keep in mind about computer markets, though: what's "midrange" to IDC and other analysts is something else to Data General.

For Data General, the \$100,000-to-\$1 million price range for Unix servers is more high-end, not midrange. But however you label it, in that price class "we have number-one market share in the U.S., and number-five market share worldwide," said Mr. Gardner. DG also stakes its claim as the most rapidly growing Unix server in that category. IDC's report numbers were "all based upon last year's products," he added, meaning 1992, the most recent numbers available.

Data General's future in the Unix market, midrange and otherwise, according to Mr. Gardner, is "on complex commercial customers who are facing significant application transaction loads or response-time requirements. However you measure performance, we're interested in customers who have significant performance challenges and very large data bases, and fairly complex networking environments."

And what's considered to be a "large" data base these days?

"We have one customer today who is already running 800 GB online," said Mr. Gardner. "And I fully expect them to be running close to a terabyte (1 TB) online by the time your article publishes. That's a big data base, by anybody's definition. Our average AV 9500 system in the past quarter shipped with over 15 GB of disk attached to it."

DG is looking at customers, Mr. Gardner said, "who typically have somewhere between 4 and 50 GB online. We're well prepared to be dealing with customers with requirements much larger than that."

Making sense of it all

In the wide, wide world of Unix there are some 14,000 applications on the market. Most of those, however, "have limited interests for us as a server company," said Mr. Gardner. "But within the 3,000-plus that we offer, if we can't offer some logical schema for classifying application types and tool types so that people can make some

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sense out of it, people are just going to be confused. And when people are confused, they don't make commitments to change." △

Aviion family values

Atlanta, GA—Data General extended its open systems offerings with the introduction during NADGUG 93 of the Aviion AV 5500, the newest member of the Aviion family of Unix-based servers. The AV 5500 is a low-end server priced below \$15,000 for a single-processor system with 32 MB memory, a 520 MB disk, and a CD-ROM drive.

"Our intention is to achieve a leadership position in the enterprise server marketplace," said Joel Schwartz, vice president of DG's Aviion Business Unit. "This powerful new low-end server, combined with our recently announced midrange and high-end servers, and the associated software and storage solutions available for the Aviion platform, enable us to meet all of an organization's enterprisewide computing needs.

"The AV 5500 offers the same design philosophy for high availability, multiprocessing, and attention to commercial needs that have made Aviion one of the fastest-growing Unix platforms in the commercial marketplace," said Mr. Schwartz.

Available in single- and dual-processor models, the AV 5500 is designed for distributed enterprise computing, smaller enterprises, and for powerful, flexible clusters of servers. The system is targeted for user populations ranging from 20 to 125. It is upgradable from a single to a dual-processor system by adding a customer-installable daughterboard.

The AV 5500 joins the recently announced AV 8500 2-and 4-processor midrange servers, and the AV 9500 high-end servers, which scale from 2 to 16 processors. △

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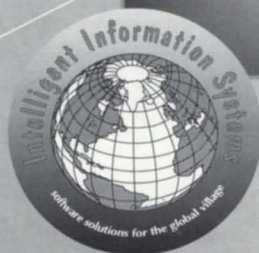
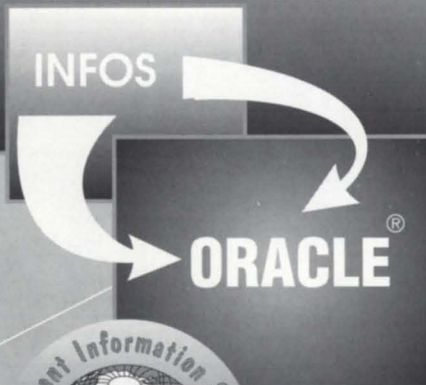
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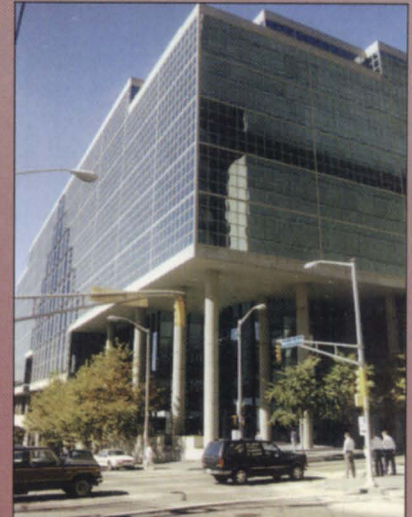
Pictures from



NADGUG past presidents (clockwise) Brad Friedlander, Mort Kahl, Dennis Doyle, Lee Jones, and Don Clark



NADGUG booth: Joe Camata, Calvin Durden, Brad Friedlander



Atlanta Inforum



Banquet entertainment: Rupert's Rythm Section

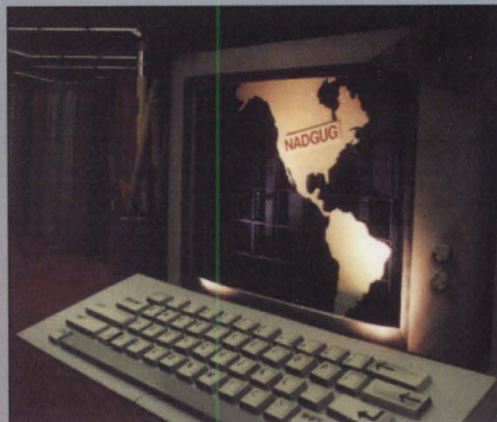
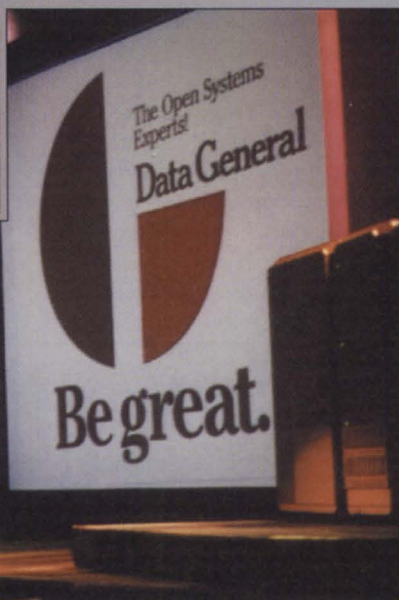
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Data General's Steve Baxter, banquet



1992-93 President Jan Grossman



Anniversary displays



Data General CEO Ronald L. Skates, general session



Data General's Gordon Haff and an Aviiion-Clariion exhibit



1993-94 President Tim Boyer

The company you keep

by Doug Johnson
Focus editor

(Excerpts from an interview with Data General's Stephen Gardner, vice president of corporate marketing)

Partnerships: not a new idea

We've had partnerships in this industry since the mid-1980s. But most of the 1980s partnerships were single-dimension, where you had two technology providers coming together. Now the partnerships are moving into multi-

ple dimensions. Marriages of complementary capabilities are starting to occur, which are much more driven by customer business needs than they are by technology.

• • •

What's important to the customer is that the Data General sales and technical staff are working with the software company sales and technical staff—and in all probability not with one software company sales and technical staff but with two or three—to create a solution that will ultimately solve a business problem, more effectively



than our competition can. And that is tough. That is really the challenge of not just selling in the 90s, but delivering real honest-to-God solutions in the 90s. It requires a lot of expertise on our people's part, and it requires some really committed partners who share a common business vision of what our customers want.

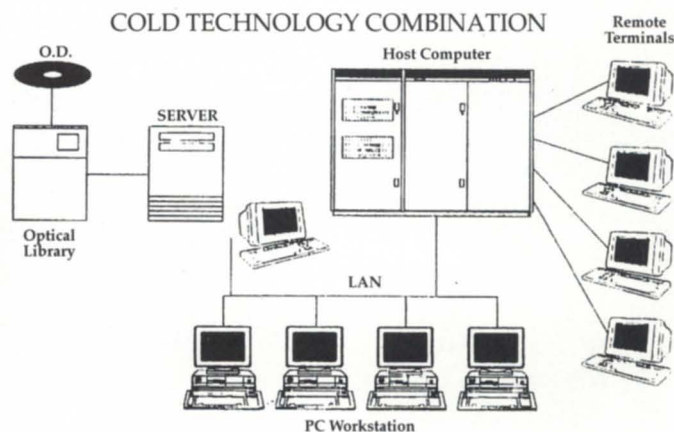
Customer customization

Customers are now saying, "Look, I want to have a basic corporate financial package, and I expect the companies that I am dealing with to provide

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me with the core components of that basic financial package. But I know that in today's technological world, I should be able to customize that package to my needs, without going through an extraordinary amount of pain, and having to end up supporting something unique for the rest of my life. There should be a good toolset that is very open and very flexible." Well, the customers are absolutely right. They should be able to get core pieces, as well as the customization on top of the core pieces, but [at the same time] not destroy the openness of the system.

Into a new realm

We had two things to announce this fall. One was a new line of hardware, the AV 5500. And the second was these 21 partnerships. Announcing the AV 5500 was a very straightforward thing for us to do. We've been announcing products for 25 years. And so to announce another very fine product in a family of very fine products, we know how to do that very easily.

Pulling together 21 different companies, getting their business people and technical people to enter into the right relationships, agree on how we were positioning their products and our products; that was a very complex thing to do. But probably in the long term, it was as important, if not more important, than the hardware announcement. Because those relationships will determine, in the long term, whether or not we're providing our AV 5500 or our AV 8500 or our AV 9500 to a larger set of customers with these new relationships. And if these relationships don't work, we'll really have a limitation on the amount of hardware we can sell.

Data General and Hewlett-Packard?

I think it opens eyes, because it breaks all sorts of preconditioned assumptions. . . gee, Hewlett-Packard and Data General, they'll never work together. Well, this is a very different industry than it was five years ago, certainly, and really a very different industry than it was 12 months ago. The industry is changing incredibly quickly.

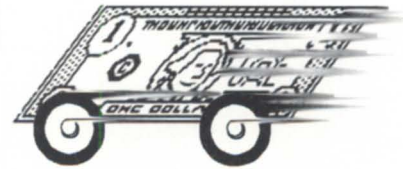
Hewlett-Packard has a very good, we felt superior, network-management architecture. We felt that it would im-

prove our Aviiion server line to have that network-management architecture be available to Aviiion customers. They clearly felt it was to their advantage to have it on the Aviiion line these things always occur because there's a mutual interest, not because there's a single-sided interest. But we fully intend to compete with Hewlett-Packard when it comes to server selection with our customers. We think we can beat them. But on the other hand, we have a very good storage-management product, Clariion. We provide the Clariion with IBM servers, with Sun servers, and who knows? At some point in the future we may well provide them with Hewlett-Packard servers. So it's an industry where the old barriers about not doing business with competitors are largely gone.

How is today's fast Aviiion growth similar to or different from mini-computer growth in the 1970s?

There are a couple of major differences today. We're growing very fast, and the way we're doing it is we're taking market share away from other people, as well as participating in the market growth, which is the inevitability of growing faster than the market.

The second thing that's different is that we're a 25-year-old company now, and so we're managing not just an explosive growth, but we're also managing the maturation of some more traditional businesses, and we have a second explosive-growth business, Clariion, which we are also trying to make sure not only serves the Aviiion business, but serves the broader market at large. And so there are a lot of challenges in balancing the portfolio of businesses, keeping commitments to your established customers, who are using a product that is in a phase of market maturity. Although we're still adding new products to the line and still taking the old MV Eclipse line forward, its growth rate is obviously at best flat and has been actually negative over the past several years. At the same time, we're managing explosive growth within the Aviiion and the Clariion lines. So the big difference is managing a portfolio of products within a company and just having an entire company that's exploding skyward. But it's still fun. Δ



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David Novy

Fearless Forecast II

SYNOPSIS

Having established that his computer-industry predictions a year ago for 1993 turned out rather on the accurate side, our columnist charges ahead to forecast what's in store for 1994.

Before I make my Fearless Forecast predictions for 1994, let's backtrack to see how well I did for 1993. I made seven predictions for calendar 1993:

- 1) **1993 prediction:** Microsoft Corporation's Windows NT will enter the marketplace and enjoy a rather impressive market penetration.

What really happened: Microsoft's Windows NT *did* enter the market, but only as a server. Performance of Windows applications on the current version of Windows NT is slower than for regular MS Windows 3.1, and Windows NT needs 20 MB of memory to run efficiently. **Prediction grade—FAIR.**

My forecast for 1994 is that the performance of Windows NT will continue to improve, and a client version will become available. However, I do not believe that Windows NT will seriously penetrate the desktop market. It requires too many resources for the advantages it provides.

- 2) **1993 prediction:** Consumer purchases of PCs will be decided by ease of use, low cost, and software availability. I predicted a great future for the Apple Macintosh.

What really happened: Apple is suffering severe financial difficulties. Sales have plummeted. MS Windows 3.1 is more difficult to use than Apple's System 7, but the Macintosh's ease of use is not sufficient to overcome the price advantage of PC hardware. In addition, Macintosh software costs more than similar software on the PC. **Prediction grade—FAIR.** People want ease of use, but they aren't willing to pay an extra \$1,000 per machine to obtain it.

As for 1994, the personal computer arena will go crazy. Windows NT is being ported to numerous RISC Unix platforms. This will allow people to run both Unix and Windows applications simultaneously. Sun Microsystems has developed the Windows Applications Binary Interface (WABI). This will allow users to run existing Windows applications directly on Unix workstations. Both Windows NT and WABI will allow users to run Windows applications on non-Intel-based platforms. If either Windows NT or WABI is successful, this will reduce the cost of computer hardware even further. Users want good software applications, and there is no vendor loyalty for computer hardware. If good PC applications can run on PCs and Unix workstations, then PC microprocessor vendors will be forced to reduce their prices in order to generate sufficient volume to be able to survive.

- 3) **1993 prediction:** There will be extensive use of LAN Manager and Novell Netware on Unix platforms.

Reality: Both Netware and LAN Manager run on Unix platforms, but they are too slow for anything but casual use. If you really want to run Netware and LAN Manager, then do it on a PC server. One important piece of news is that Microsoft will no longer support LAN Manager functionality on OS/2 or MS-DOS platforms. If you want LAN Manager functionality, then Microsoft wants you to use Windows NT. Microsoft is also currently adding Netware functionality to Windows NT. **Prediction grade—FAIR.**

1994 prediction: Demand for Novell Netware on PC

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UNIX NOTEBOOK

servers will surge. Since Novell now owns Unix, there may be (finally) an effective version of Novell Netware running on Unix file servers. Until then, however, if you want to use Unix file servers, then run Sun PC-NFS.

4) **1993 prediction:** RAID technology (redundant arrays of inexpensive disks) will become very important in 1993.

Reality: RAID technology is everywhere, and Data General has one of the best RAID offerings on the market today with its Clariion disk and tape arrays. **Prediction grade—EXCELLENT.**

As for 1994, RAID technology's importance will increase even further. Just remember that even though the mean time between failures (MTBF) rate of a RAID system can be measured in millennia, the useful life of the disks making up the array is about five years.

5) **1993 prediction:** By the end of 1993, all major computer vendors will distribute their hardware and software documentation on CD-ROM.

Reality: The last major vendor to supply its documentation on CD-ROM—Data General—will have begun documentation support on CD-ROM in December 1993. **Prediction grade—EXCELLENT.** (Okay, I gave myself an easy one.)

6) **1993 prediction:** The two Unix groups—the Unix Systems Laboratory (USL) and the Open Systems Foundation (OSF)—will work to overcome their differences.

Reality: Novell purchased the Unix Systems Laboratory and has been actively working to bring agreement among the various Unix vendors. OSF is not much of a force today. It is being offered only on workstations from Digital Equipment Corp. However, many OSF concepts, such as the Motif Window Manager and the Distributed Computer Environment (DCE), have been accepted as de facto standards. **Prediction grade—GOOD.** I admit that Novell's purchase and the Unix industry's fear of Microsoft helped my prediction come true.

7) **1993 prediction:** During 1993, workstations will attain capabilities of 200 MIPS (million instructions per second). The value of MIPS ratings will decrease, and the importance of the Transactions Per Second (TPS) rating will increase.

Reality: 200 MIPS workstations and 800 MIPS file servers are reality. The importance of the Transactions Per Section benchmark has increased to the point that the Transaction Performance Council (the developer of the TPC transaction performance ratings system) is developing a new rating—the TPC-C benchmark. This benchmark will actually try to compare the transaction-per-second throughput ability of the various relational data base vendors in an actual distributed environment. The current TPC-B benchmark does not accurately measure distributed throughput performance, and the TPC-A benchmark is not practical to conduct on machines that can perform several hundred TPC-A benchmarks per second. **Prediction grade—VERY GOOD.**

As for 1994, Data General has already announced a 1,600 MIPS, 1,000 TPC-B benchmark machine (the AV 9500 server), which will ship during the spring of 1994. Major mainframe

vendors are porting their products to the new high-powered Unix workstations. By the end of 1994, Unix file servers will outperform the fastest mainframe machines at a substantially lower cost, and with no sacrifice in security or ease of use.

My prediction batting average for 1993 was good (one POOR, two FAIRS, two VERY GOODS, and two EXCELLENTS). In addition to the expansions on my 1993 predictions, and while swelled with pride, I would like to add the following prognostications for 1994:

- 1) The use of workgroup software and product information management software will explode in 1994.

By the end of the year, every major manufacturing company in the United States will be making extensive use of such software. Within three to five years, everyone in a major U.S. manufacturing company will have workgroup and/or production information management software on the desktop. The demand for this software is being driven by customer demands for shorter development cycles and improved product quality. What is unfortunate is that Data General has almost no presence in these marketplaces.

- 2) The performance of Microsoft Windows NT will improve, but it will not have great success penetrating the personal computer desktop market.

The successor to Windows 3.1 will be MS Windows 4.0, which will offer a 16-bit operating system, but will not need MS-DOS in order to function. The porting of Windows NT to Unix RISC workstations and the use of WABI will reduce the importance of Windows applications on Intel-based hardware. Windows NT will enjoy excellent success in penetrating the file server market. A clear winner in the war between Unix and Windows NT for the file server market will not be decided during 1994, but a leader will emerge.

- 3) The market share of the Apple Macintosh will continue to plummet.

The only thing that can save Apple at present is the successful porting of the Macintosh operating system and Macintosh applications to a RISC platform. Apple cannot remain competitive if the Macintosh continues to be based on the Motorola 68xxx processor architecture.

- 4) Data General will become a recognized leader in the commercial Unix file server market.

The capabilities and performance of DG/UX is two years ahead of its nearest competitor.

- 5) My out-on-a-limb prediction for 1994:

For users needing more horsepower for their Infos applications, the majority will purchase a third-party Infos look-alike on an Avion, rather than buy an MV upgrade.

Best wishes for 1994.

△

David Novy is a technical computer 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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Boulder, CO—Wild Hare Computer Systems, Inc., announced that its *Choice!* and *Axis* Cobol environments now support relational data base management systems (RDBMSs) embedded SQL (structured query language) from Oracle and Informix. The added compatibility gives ICobol applications programmatic access to relational data base management systems through industry standard SQL.

Embedded SQL support is available in *Choice!* and *Axis* for no extra

charge, and works with standard Oracle and Informix products.

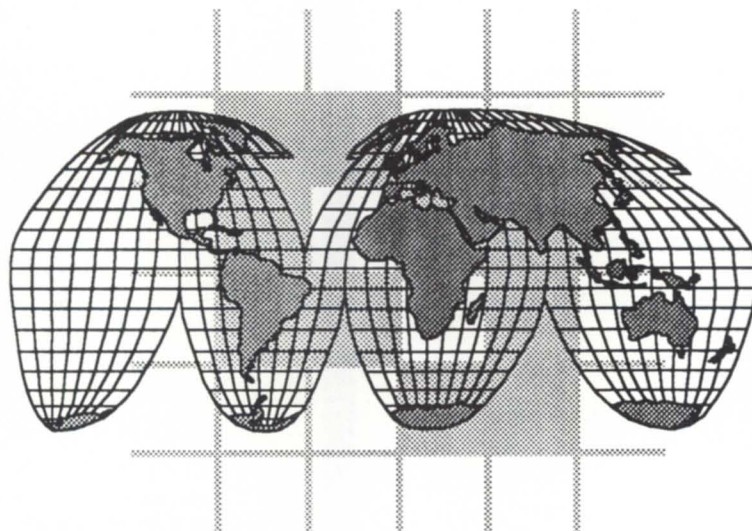
Enhanced versions of *Choice!* and *Axis* will support Monarch Software's Open File Manager (OFM) product. The interface from *Choice!* to OFM is scheduled for release in the first quarter of 1994. Pricing is not yet available. Initial release of the product will be for Data General's Aviiion line of Unix-based computer systems.

Wild Hare's Cobol development environment allows VS Cobol users to move their applications from a Data General MV system to a Unix system without re-engineering, loss of functionality, or retraining of end users.



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Monarch's OFM is designed to play a key role in these situations by offering high-performance, reliable file management that gives users Infos-like functionality under DG/UX. Included in OFM is automatic file and record locking, plus greater data reliability and recoverability than under Infos.

Wild Hare Computer Systems, Inc.,
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Sybase on Aviiion

Emeryville, CA—Sybase, Inc., announced that its System 10 product family will be available on Data General's family of Aviiion systems and servers.

Sybase System 10 is a modular product family created specifically for enterprisewide, client/server computing. It consists of five product categories with 11 products. The System 10 products are: OmniSQL Gateway, Sybase SQL Server 10, Open Client 10, Open Server 10, Embedded SQL 10, Backup Server 10, SQL Monitor 10, SA Companion 10, Replication Server, Navigation Server, and Configurator 10. The SQL Server 10 product was scheduled to be generally available on the Aviiion family by the end of 1993. The SQL Monitor, SQL Debug, and SA Companion products will be available early in the first half of 1994. The Replication Server software will be available early in the second half of 1994.

SQL Server 10, which comes bundled with Backup Server, will be available at prices ranging from \$1,995 to \$256,160 in the U.S. depending on the number of users supported. Pricing for SQL Monitor, SQL Debug, SA Companion, and Replication Server on the Aviiion will be announced later.

Sybase, Inc., 6475 Christie Avenue,
Emeryville, CA 94608; 510/596-3500.

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B-1000 1000LPM BAND S/S	1,400
4364 600 LPM BAND S/S	1,000
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emulation of the newest DG terminals: D463, D413, D217, and the D430C. To support these emulations, EMU/470 includes double-high/double-wide characters, selectable 25th line, host-programmable function keys, line drawing graphics, VT320 emulation, 135-column compressed mode, Tektronix emulation, Unix mode, and ACM, ACM2, and FG/BG color modes.

Additional enhancements include more than 190 macro-definable keys; enhanced networking support with the inclusion of Novell's TELAPI and IBM's RCP/IP; expanded command language; and many other options to increase usability.

Enhanced file-transfer features include: file capture (and transmit) of text and binary files, plus protocol transfers

using Xmodem, Ymodem, and Kermit. Rhintek supplies (at no additional cost) the Data General half of the Xmodem and Ymodem protocol along with several CLI macros that make file transfers easy. High-end file transfers are supported using Data Bank Associates' Turbostran.

EMU/470 version 5.0 is available for \$249 plus shipping. Outside the U.S. the current price is \$269 US. Current license holders may update to the new version for a \$49 fee, which includes the new manual.

Rhintek, Inc., P.O. Box 220, 8835 Columbia 100 Pkwy., Columbia, MD 21045; 410/730-2575.

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Client/server RDBMS and systems management



Cupertino, CA—Compuware Corporation announced the availability of Ecochargeback and Ecoscheduler, client/server products for Unix and relational data base environments, and systems management.

Ecochargeback agents collect data base and Unix accounting information and store this resource usage data in a centralized accounting data base. System administrators can then retrieve and report on information from this data base by user, data base, application, workgroup, or server, or use the data base for pinpointing areas of a client/server system in need of performance tuning.

Ecoscheduler allows users to schedule batch jobs for an enterprise based on calendar events, the status of other jobs, and resource utilization in an open systems data center.

Ecochargeback Version 1.0 supports Oracle running on Unix servers, TCP/IP networks, and Unix, PC, or terminal clients. Pricing starts at \$8,000, based on specific configuration. Echoscheduler Version 1.0, scheduled for production shipment in January 1994, starts at \$8,000, based on configuration.

Compuware Corporation, 31440 Northwestern Highway, P.O. Box 9080, Farmington Hills, MI 48333-9080; 313/737-7300.

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FOCUS MAGAZINE NADGUG's monthly publication is devoted exclusively to users of Data General equipment. FOCUS is full of technical articles, product reviews, user profiles, and announcements of the latest products — no matter what kinds of systems you're running, FOCUS has the information you need!

ANNUAL CONFERENCE AND EXPOSITION NADGUG's Conference and Exposition is part of the largest annual Data General gathering in the world. In conjunction with DG's Sales and Systems Engineers meeting and SOURCE, the annual VAR conference, NADGUG provides Data General users the ultimate forum to confer with everyone who is anyone in the Data General community. Join us in Atlanta, October 25–28, 1993, for NADGUG's 20th Anniversary celebration!

ELECTRONIC BULLETIN BOARDS NADGUG's member bulletin board system is run by Rational Data Systems, with US Robotics modems for service from 1200 to 9600 baud. Dial 415-499-7628 to communicate with other users and to download/upload programs and utilities!

NADGUG members can also access Data General's DASH, or Direct Access for Support Help, Bulletin Board. Dial 800-327-4272 for on-line sign up today!

SOFTWARE LIBRARY NADGUG now has two software collections available for members. Both the AOS/VS and UNIX library tapes are full of programs, utilities, and macros — for any Data General system!

NADGUG MEMBER DIRECTORY The annual directory provides members with a personal guide to users with similar hardware, software, and system needs. This year's directory will present for the first time a Product/Service section.

REQUEST FOR ENHANCEMENT PROCESS Through NADGUG's Special Interest Groups, members have the opportunity to review and prioritize specific product Requests for Enhancements (RFEs). In addition, at NADGUG's annual conference, SIG forums review product enhancements and present them to the development teams with their recommendation for inclusion in the standard product or for follow-up.

REGIONAL AND SPECIAL INTEREST GROUPS RIGs and SIGs are two of the most effective ways that NADGUG promotes the free-flowing interchange of valuable information. RIGs are organized by people who are interested in getting together on special occasions or on a regular basis. SIGs are put together by people who want to share information about common products, technologies, or applications. Join one today!

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RDOS and onward 

Boulder, CO—Wild Hare Computer Systems, Inc., and Data General have joined forces to help RDOS users run their existing applications on newer, more power DG platforms such as MVs, Avions, and DG's line of personal computers.

Data General is recommending that RDOS users who want to upgrade their computer systems to one of DG's newer machines use Wild Hare's *RDOS/Sim*, a full-featured emulation system that runs Nova 4 or Eclipse RDOS object programs directly on different DG platforms with no conversions, translation, or recompilations. Languages supported include Algol, DG/L, Assembler, Fortran 4 and 5, BBASIC, XBASIC, and ICobol.

RDOS/Sim runs RDOS program save (executable) files unmodified on MVs, Avions, and PC, just as they ran on Eclipse and Nova systems, ensuring

compatibility with the original Eclipse or Nova system. The Nova 4 hardware instruction set and standard RDOS system calls are supported, including RDOS overlays and system-independent read/write line handling.

RDOS/Sim supports RDOS rev 5, 6, and 7 program and data files, and adds many new extensions to RDOS programs, such as calling native programs from the CLI or user programs.

DG and Wild Hare have teamed up to offer special package pricing, starting at \$4,450, including media conversion, installation, system instructions, data transfer, testing, all software licenses, 90 days' free support, a single-user VISION 486 PC with 4 MB of memory, and a 130 MB hard disk, Microsoft Windows, and MS-DOS 6.0. Wild Hare and DG also are offering an upgrade package to the MV/3200 and to the Avion AV 4300.

Wild Hare Computer Systems, Inc.,
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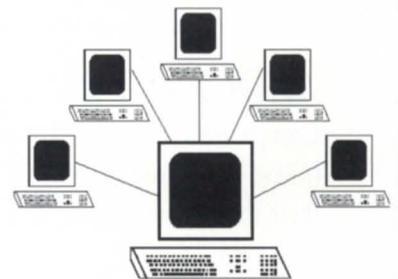
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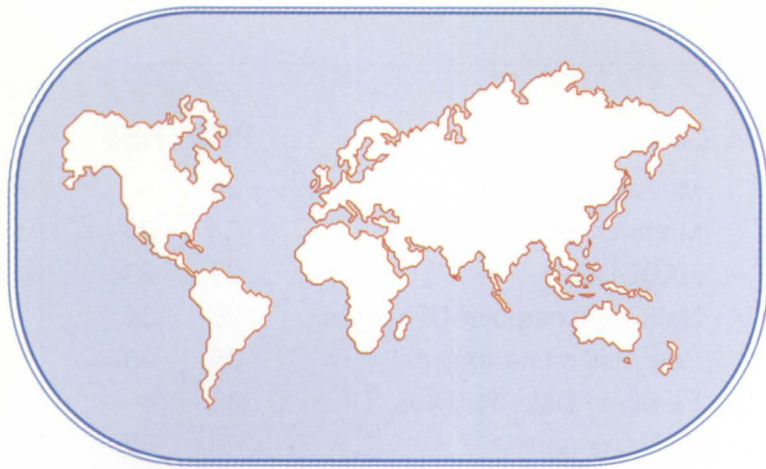
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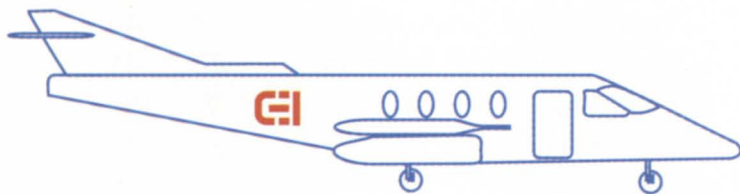
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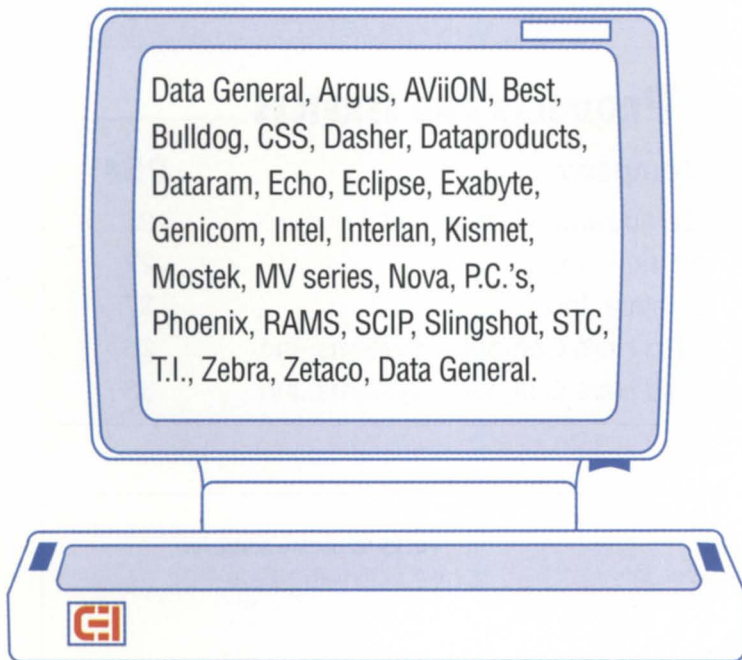
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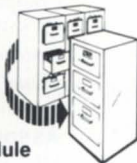
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Continued from page 10

providers are seeking to streamline recordkeeping, monitor procedures, and control costs. Future healthcare alliances, public or private, will place a premium on forming networks and managing information. "I think we're at the point where we're weighing the choices," Mr. Bell said.

Erica Drazen, Vice President with Arthur D. Little, Inc., drew on her more than 20 years of consulting experience in the healthcare industry to outline progress in new technologies for healthcare documentation. Doctors have resisted computers in the past, she said, but today they're "computer-insistent." Information, available across integrated computer networks will be the key to making managed patient care work. "We're not waiting for technology," she said. "We can do this today."

Debra Kohn, a registered record administrator with DAK Systems Consulting, spoke of merging *all* patient records—diagnostic, clinical, and financial—into a truly paperless, multimedia system. Various approaches will include traditional patient care and financial systems available today (Meditech, HBO, TDS, etc.), integrated data bases, managing digital text, and document imaging.

A variety of hardware and software vendors are looking to participate in the healthcare industry's expected growth, and Data General will be among them with its Aviiion family of systems and servers. (Example: Credit Valley Hospital in Mississauga, Ontario, now about 80-percent paperless using a medical-records system running on a client/server configuration of Aviiions and PCs.)

"You optimize all these approaches to get to where you need to be," Ms. Kohn said.

Stephanie Massengill, president of Imaging Concepts, Inc., looked ahead to the growing challenge of long-term healthcare documentation management. "We are retaining these documents longer and longer, so we're adding to the problem," she said. And a computerized system must not simply transfer the problem from one area to another. "You can achieve most of the benefits of this technology, even if you're not ready to destroy the paper," she said.

•••

Data General's most recent corporate profile statement, as outlined by President and CEO Ronald L. Skates during the Monday (Oct. 25) general NADGUG session: "Data General is an open computer systems company specializing in servers, storage products and services for information systems users worldwide. Data General's people

and partners are committed to helping customers achieve success in their enterprises." Previewed during the session was a new advertising campaign in which DG will seek to gain increased name recognition. Ads will feature famous people and variations on the slogan, "Be Great." Better public visibility can only help in getting past that pesky "Data General who?" question. Δ

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DASH Items...

SYNOPSIS

Notices and queries posted on the DASH (Direct Access to Support Help) bulletin board.

Category: DG/UX

Author: KELLY ANDERSON

Subject: *Lost print jobs*

I have several printers that lose print jobs if they jam or are turned off. The spooler acts as though the job is printing. I have used *nohup* to keep the port up and changed the *stty* to (ixon ixoff -ixany). The cable has pins 6, 8, & 20 jumpered and 4 & 5 jumpered on the printer side. The printers are configured for *xon/xoff* flow control. I would like to know if there is any additional *stty* setting I am missing.

Reply by: DG CUSTOMER SUPPORT

The *lp* spool looks at DTR pin 20 at the start of a job. If the DTR is not asserted, the spooler will either disable the print queue or retry later depending on the fault recover setting. If the pin is strapped high, the spooler will have no way of knowing the printer is offline and will send the job. The printer, being offline, will ignore the data.

The way to correct the problem is to properly configure the cable. Pin 20 on the cluster port is used as a printer-ready signal DTR. This should indicate the printer is either ready or not ready. *Xon/xoff* is looked at only when the printer is opened by the interface file. The interface file opens the printer at the start of a job and closes it as soon as the job has finished. Any *xon/xoff* characters received outside this time are ignored. If the printer goes offline when between jobs and sends an *xoff*, it is not seen by the spooler. That is the reason DTR has to work properly.

Author: DOUG POULIN

Subject: *Determining when you're in batch*

Does anyone have a simple way for a script to determine whether it is run-

ning in batch (some kind of environment variable) so that commands that expect a terminal (*stty*) can be bypassed?

Reply by: MICHAEL DEANGELO

We use this logic in our *.cshrc* for the same purpose:

```
if ($?USER == 0 || $?prompt == 0) exit
stty crt crtbs crterase intr '^C' erase '^H'
kill '^?' echo
```

Maybe something like this will work for you. It is basically checking to see if the *\$USER* variable or *\$prompt* variable are set.

Reply by: TOM HENDERSON

You can use "test" (or []) with the -t option in a shell script.

Subject: DG/UX 5.4R2.01

CD-ROM problems

We have an AV4600 with DG/UX 5.4R2.01 with several CD-ROMs. When we mount a CD-ROM with Rockwell extensions, we cannot access all the files on the CD-ROM. This problem did not occur with DG/UX 5.4.2. Anyone know this problem?

Reply by: DG/UX DEVELOPMENT

Do you mean rock ridge extensions? Rock ridge changes the filenames from the standard ISO names to the ones that are listed in the system use areas of the particular directory entries. How would you characterize the files that you cannot access? There was one patch made to this area of the code for rock ridge, and it involved scanning directories. It was DG/UX 5.4R2.01.p31 (it was to also solve a panic, but it involved the scanning of the directory block and the misuse of a field in it).

Category: Languages

Author: STEVE MASON

Subject: *ICobol carriage control*

Does anybody know the patterns used by ICobol (1.31, 1.5, 1.6, 1.71) for carriage control using "WRITE MY-REC BEFORE ADVANCING" and

"WRITE AFTER ADVANCING"? I am looking for the patterns for *ff*, *cr*, and *nl* so other programs can scan the file and locate the end of line, page breaks, etc. We have had some inconsistent results.

Reply by: DG CUSTOMER SUPPORT

From your ICobol rev numbers, I assume you are running VS/ICobol. Page 6-7 of the "Using Interactive Cobol on AOS/VS" manual (069-224-02) lists the record layout for the different types of WRITES and how they differ on each platform (VS, DG/UX, MS-DOS). The main thing to remember is that the print files are not "normal" data-sensitive files. They happen to contain the same delimiters (nl, cr) but the record layout is entirely different.

Category: Utilities

Author: RICHARD J. PADRNOS

Subject: *Not a "typewriter"?*

I have been attempting to perform backups using *tar* in script files. I believe the backups are working. I keep getting the error message: "UX:stty: ERROR: Not a typewriter."

I am new to the DG world and not familiar with this type of message. The only explanation I can think of for this is that my new system doesn't think I'm working it any harder than a typewriter.

Reply by: ELLIOT LAVY

This sounds like the error message from trying to set terminal characteristics when standard input is not a terminal. Look for *stty* commands in the script or in something called from the script. Depending on how you're calling your script, maybe "/etc/profile" or "\$HOME/.profile" is being run. It's not uncommon to find *stty* commands in those files. Δ

DASH runs on an Aviiion 5200 server located at the Customer Support Center in Norcross, GA. The bulletin board is available 24 hours per day, 7 days per week, free of charge. DASH is accessible via Internet address 128.222.159.141, or by calling 1-800-DASH-CSC (1-800-327-4272) for the modem rotary.



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