



It's what's inside that counts. And how it can count! Sperry's new supercomputer roles off the line at Rosesulle. See page 1.



Eagle flies in supercomputer market

"It's a real shot in the arm to see the thing suddenly come to life - to see the weekend work and nightlime work come to fruition.

Dick Dostal, director, Eagle Hardware Design, Information Systems Products and Technology (ISP&T)

Building a supercomputer is an almost insur-mountable task. But after six years of care-fully orchestrated design, development, manufacturing, and test work by hundreds of hard-working and tenacious ISPGT employ-ees, Sperry's new Integrated Scientific Pro-cessor (ISP) – code named Eagle – was shipped to the first customer in June. That's cause for rejoicing in Roseville.

According to Dostai, the Eagle project almost died from lack of attention and resources in the early years of its creation but customer demand - "We need more power. When are you going to develop a supercomputer?" - brought renewed management commitment and the project was turned around

"Without the ISP our mainframe custor base wouldn't grow as much and we would start losing some of our prestige 1100 customers," Dostal said, "But now Sperry is in a position to cash in on this growing \$1.5 billion market

The market for supercomputers (customers who need hupe amounts of computer power) is growing rapidly. Supercomputer applica tions can range from weather forecasting to creating special effects and animation for



The Sperry ISP is designed to be one of

movies. Supercomputers excel at processing tremendous amounts of data at very high speeds. Once found only in laboratory environments, manufacturers are now discovering that supercomputers can help reduce the cost of technology. For example, aircraft designers can use a supercomputer to simulate all of the characteristics affecti airflow on a wing - before it is ever built General Motors uses them to simulate bile collisions in safety tests avoiding the expense of smashing real cars into concrete walls

ISP supercomputer is super useful

Sperry's supercomputer product, the Integrated Scientific Processor, fills a niche in

the market because of its unique design. The

ISP is an integrated scientific processor sub system coupled with an 1100/90 mainframe. This design combines the power and speed of a supercomputer with the versatility, ease of use, and reliability of a mainframe system.

The ISP is not the fastest or most power-"The ISP is not the lastest or most power-ful supercomputer, but its effective work capacity is comparable to the industry's leading supercomputers," Dostal said, "It can be kept 98 percent busy running calculations while all the administrative tasks are handled by the 1100/90. Other machines can't ieve those rates

And the ISP is fast. At peak performance a single ISP system is capable of 133 million Continued on page 4

Automation improves library services

bu Barbara Fischer

"To provide information that keeps employees competitive creative, current and informed."

That's the goal of the recently merged Computer Systems Division (CSD) Information Services Center (ISC) and Automated

Technical Information Center (ATIC) at Sperry Park, According to Steve Elfstrand, ISC, the amount of time one has to react to new information in the computer industry is nearing zero.

"This means that if you are not better informed today than you were yesterday, you are losing ground," Elfstrand said. In reaction to this industry norm, the CSD libraries have made some major changes to better serve the needs of the employee. Numerous resources such as

books, journals and periodicals are available for finding informa tion. For example, there are over 600 different periodicals alone housed in the ISC, located in the basement at Sperry Park, Finding the information you need often requires time spent going through stacks of magazines. volumes of periodicals, and reels of microfilm. In addition, subject categories are not always clear and information may be passed over as unimportant or missed

This is where automation can help. Automation provides access to information sources at an accelerated rate, in a fraction of the amount of time, an electronic search can find information that would have taken at least a full day of looking through card catalogs and indexes

CSD's library system has taken major strides in this direction. One service they provide is the use of electronic data bases to find information for users. A data base is a collection of information arranged specifically for Continued on page 2



Volunteers channel energy to KTCA auction

Approximately 200 Sperry volunteers participated in KTCA's annual auction which raised a total of \$335,000 for the public broadcasting television station. "Sperry Day," which was held June 7, attracted volunteers who answered phones, marked, sorted, and ran bids, and worked in the warehouse. Sperry computer equipment, time, and personnel were also donated. Midwest Regional Services Computer Center, Roseville, provided the technical support necessary to track inventory, donors, purchasers and real-time auction totals.

More information; easier access

Continued from page 1

fast and accurate retrieval. In 1985, the ISC did over 2,000 individual data base searches.

Looking up different sources manually allows you to view only one source at a time. To refer ence others, you must pull each piece of information and then determine if they are related to cach other. If a search is done electronically, through a data base, many unique features are at the users' fingertips. You can access one or more subject headings at the same time cross-reference distinct categories or call up a general category for all information related to it. It takes the guesswork out of finding information and often provides the user with sources not available in books or periodicals Finally, data bases are excellent in providing up-to-date information on current events and technical breakthroughs.

The ISC has access to thousands of data bases covering subjects from engineering to training. Dialog and Nexis are two data base clearinghouses used by Sperry. They serve as a broker

2

for the hundreds of data bases on the market. Dialog catalogs 300-400 different data bases, with an emphasis on business theory. It offers the source of the information and a short abstract on the subject. These entries can be received in their entirety by filling of a request to the library and

In Nexis, the emphasis is on current events which makes it an excellent choice for obtaining the most up-to-date information possible on a subject. (Inlike Dialog, the full text of the source is

Automation affects both how information is load and how it is tracked. This fail, Project for (PALS) will be fully implemented in the ISC and ATIC FALS is currently operating at the currently operating at the Developed at Manetato State (Iniversity, PALS) is designed for use on the Sperry 1100 system and businesses. The PALS system was purchased by Sperry in 1983 and is marketed as a PALS can apport up to 60 PALS on the sperry to port the tracket of the part of the PALS can apport up to for the part of the PALS can apport up to 60 PALS can apport up to 60 PALS can apport up to for the part of the part of the tracket of the part of the tracket of the trac

PALS can support up to 60 million holdings and hundreds of terminals. It's a public access system because users can conduct searches without trained expert guidance. PALS enables hundreds of people to simultaneously scan a library's holdings. PALS replaces the card catlog systems. A tallows multiple access searches by the user, even in remote locations. The because it centralities recordkcepting. For instance, in a standard card catego system, each card meas be manually removed, add meas be manually removed, information concers in With PALS, one update is made to the system and all changes are automatically logged.

At both the Isk-and AIR, documents and publications will be bar-coded and checked out using the magnetic strip on the employee bodge. There is also noted and of the publicativities books and of the publicativities be requested through the system. This automatically roofflies the library and materials are sunt out or flagged for territeral when they come in, Institutions which have used PAIS report that circulation has doubled since institution.

The ATIC, located on the second floor of Sperry Park, technical reports and documents, and uncleastified documents, and uncleastified documents, and uncleastified documents, automation has also increased the services that ATIC provides Matomation has also increased the services in a start reference Network, an conline capet refertal service, is now available to employees through the ATIC.

Tel-tech Resource Network is a data base of information on people. It is a complete technical knowledge service with an em phasis on person-to-person com munication. The system is designed to help users become more effective and creative in their area of technical interest Like Dialog and Nexis, Tel-tech Resource Network serves as a clearinghouse for information But unlike them, Tel-tech brokers people rather than books and publications. The Tel-tech Resource Network files are filled with the resumes of people who want to work with industry and are experts in a given field. This expertise may be in a field rang ing from mathematics and statis tics to technological innovation.

As a request comes in, Teltech searches for a match in their files. The names and backgrounds of people filling this need are given to the user, along with a phone number. A flat fee is charged for up to three hours of consultation with this expect. All charges are handled through Tel-tech. This service allows you to have a consultant on demand for a short period of time to answer your questions.

Both ISC and ATIC have new capabilities to provide employees with the information they need. Automation is providing access to people and facts at unbeliev. able rates. The library of the future is here today.



C'mon and join the fun!

Your help is needed for the Third Annual Metro Paint-A-Thon on Nay, 16, Sperry hopes to enlist 150 volunteers who are willing to scrape, prime and paint the homes of senior and disabiled adults who are unable to o hish work themselves and carry. afford a commercial painter. The Paint-A-Thon is followed by a plonic at Minnehaha Falla Pairk for all volunteers. Call 426-4602 if you'l like to help out.

Going back to school?

If you have been considering returning to school for your undergraduate or graduate degree, there are several options for the several options for the several options of the would help you in your current position, prepare you for a promotion or a complete change in careers. Whatever the case may be, you most likely have quees to you in likely have quees ourses would meet your needs. On July 30 and 31, CSD em-

On July 30 and 31, CSD emphyses will have the opportunity to explore educational options titonal schools; colleges and universities. Educational Opportunities Day will be held at the transfer of the school of the from 9 a.m. to 1 pm. and 2 to 4 pm. Employees at shepard Rold care ettend Educational Rold Jon. All employees are endicident in from 130 to 3 pm. All employees are counselors from versions schools and obtain counter buildering.

Schools that will be represented include: Anoka-Ramsey Community College; Augsburg Weekend College; College of

St. Catherine (Evening and Weekend College); College of St. Thomas (MBA program and Weekend College); Dakota County TVI; Hamline Law School; Hennepin Technical Center; Inver Hills Community College; Lakewood Community College; Mankato State Univer sity (evening program); Metro-politan State University: Minneapolis Area TVI; Minneapolis Community College North Hennepin Community College (Shepard Road only); Northwestern Electronics Institute: Normandale Community College; St. Paul TVI; University of Minnesota (Extension program, Continuing Education for Women, Institute of Technology and Graduate School); and William Mitchell College of Law

Representatives from Professional Development Services, Counseling Resources and Affirmative Action Programs will also be available with information on the tuition reimbutsement program and career counseling.

Roseville employees will have an opportunity to participate in Career Day next month. Watch for more information.



CSD EMPLOYEE PROGRAMS

Tickets remain available at CSD ticket outlets for the following Minnesota Twins games:

July 28 Aug. 2 Aug. 23 Sent. 22	Seattle Mariners Oakland A's Toronto Blue Jays Kansas City Royals	Tube Sock Night Old Timers Game Softball Night
Sept. 22	hansas City Royais	

Renaissance Festival tickets will go on sale at CSD ticket locations Wednesday, July 30. Admission tickets as well as food coupon books will be available.

The Prestige Dining Book has replaced the Twin Cities Fine Dining Book at CSD Employee Programs. This pocket-sized book offers great value in a small package. Available through July 30. Valued at 425, employees can purchase for \$15.

CSD employees have the opportunity to give the gift of life with a blood donation to the Red Cross at the following locations:

Midway	Aug. 19	10 a.m 2 p.m.
Corporate Square	Aug. 20	8:30 a.m 2:30 p.m.
Sperry Park	Aug. 21-22	8:30 a.m 2:30 p.m.
Shepard Road	Aug. 21	8:30 a.m 2:30 p.m.
	Aug. 22	Noon - 6 p.m.

ROSEVILLE EMPLOYEE SERVICES

Minnesota Twins tickets to the following games are available in Roseville:

July 28	Seattle Mariners	Family Night
Aug. 1	Oakland A's	Old Timers Night
Aug. 23	Toronto Blue Jays	-
Sept. 14	Texas Rangers	Family Day

Twin Cities Fine Dining coupon books are still available to Roseville employees at 25 percent savings. Cost of the book is \$15.

Renalssance Festival admission tickets and food coupon books will go on sale at all Roseville ticket locations. Watch the bulletin boards for more information.

Sperry's Roseville facilities, in cooperation with the Suburban Area Chamber of Commerce, is sponsoring the second annual Sperry Family right at the Metrodome on Aug. 5 at 7:15 p.m. when the Twins take on the California Angels. With each ticker purchase, employees will receive a 91 discount on a reserved set, valuable coopons from 13 suburban sear ensuraurats, free beverage cooler (to the first 200 cicket buyes) and free Taikin' Baseball' record. Check employee builein boards for more Information.

CSD AND ROSEVILLE REC NOTES

Winners for the first period of the 1986 Sperry Fishing Contest were:

Dan Deeg	Walleve	8 lbs. 6 oz.
lick Culver	Lagemouth bass	4 lbs. 4 oz.
lim Blumke	Smallmouth bass	3 lbs.
huck Bukkila	Crappie	1 lb. 7 oz.
ierry Johnsen	Sunfish	1 lb. 3 oz.

Second period of the contest ends Aug. 11.

Apple River Campground and tubing discount coupons are available through CSD Employee Programs and Roseville Employee Services.

The Sperry Canoe Club is offering a family cance trip on the Upper Namekagon July 26 and 27, and tubing on the Minnehaha on Aug. 9.

The Sperry Men's Golf League is sponsoring a medal play tournament at Meadowbrook Country Club on Saturday, Aug. 16 and a best ball tournament at Northfield on Aug. 21.

Valleyfair good-any-day tickets are available to employees for \$9.75.

Super efforts lead to supercomputer

Continued from page 1

floating point operations per second (133 megaflops). For example, the time from start to finish of a job running on an 1100/90-ISP can be six to nine times shorter than that required with an 1100/91 system.

Putting it all together

The work performance of an ISP is nothing short of avesome. However, the behind-the-scenes human effort that was regulated to build this computer market is departments and whole organizations within Sperly worked together in a changing network over the past six years to bring the Eagle program to a conclusion with the first Eagle program to a conclusion with the first clusted Sperry employees from Blue Belt, clusted Sperry employees from Blue Belt.

Nearly everyone involved in the Eagle program has a story to tell. The following people are just a sample of the many who put forth tremendous effort and commitment to make the Eagle "fly."

Bob Hilliard, plant manager, Roseville Printed Circuit Facility

"The printed circuit boards are the main building blocks of the ISP system. And the boards for the ISP are some of the most difficult to build of any current Sperry product — because of the density of the boards.

"Our job was, and is, to produce high quality PC boards with a minimum lead time, so the engineers can have the boards to debug and check out their design. If there are changes needed, they come back to us. We are a part of a cycle, so speed is very important," Hillard said.

Important, "Hillard said. Hilliard ques credit to the approximately 200 people in printed circuit manufacturing who worked hard to be responsive to the Eagle program. They made great progress in shortening the lead times in the PC manufacturing process from weeks to a number of days.

"Tm very proud of our people because they responded to the difficult challenges on this program and they've proved themselves to be dedicated and resourceful," he said.

Glenn Lucas, manager, Eagle Production and Test

System Test is the last step for an ISP before shipment to a customer site. In this area, the hardware is given final tests, updates are made and final assembly is completed.

Lucas said for the past half year, his 35 people have primarily been involved with engineering changes and rework on the first units to be shipped. Some of the System Test employees who began working on the rest employees who began working on the earliest Eggle prototype and lead units will now have the satisfaction of being on the installation team for the first three units going out the door.

"These people are very committed to getting out a top quality product on these first shipments," Lucas said. "I think that







comes from their involvement in the program since the beginning."

Dick Menth, group manager, Production Scheduling

It takes precise coordination to track the supply and flow of the parts for an ISP assembly. Each system requires more than 4.500 assemblies routed through 11 different production work centers — a total of over 300,000 individual parts.

"It was a mammoth job just to keep up with the part numbers and the documentation," said Menth. "And the design changes created a lot of extra pressure. But people really pull together around here,"

Dick Brunseli, director, Production Control/ Materials and Management, Semiconductor Operations

A new three-layer metal chip design created by Sperry Semiconductor Operations is at the heart of the ISP system. Semiconductor Operations developed these complex gate arrays (finished semiconductor devices) and produced them in large quantilies at record speed,

"A normal cycle time is 12 weeks, but we





Gilberte Gerini, Sperty July, System Support, assists Cilea Analysi Gloele Gongo on a lest nur of the Sperty integrated Scientific Processor (SSP). Cilea provides a computing service pool for seneral unwerstein en Northern Kaly, They Juwe been a Sperty customer since the 1108 System and new are one of the first SP customers.

turned prototypes in less than half that time," Brunsell said. "We coded these as 'hot lots' and they were given the highest priority through every operation."

Approximately 1,500 gate arrays go into a typical ISP system. To date, Semiconductor Operations has delivered more than 6,400 gate arrays to Roseville for the ISP.

"This program was a success story." Brunsell said. "We liked the opportunity to serve. And we want to be Sperry's largest and most successful semiconductor supplier."

Jim Hodek, product manager, Performance System Mode, Eagle Development

"This is the most intense effort that I've gotten involved in to get the product completed on time," Hodek said.

Hodek initially began working on the ISP system's performance, but later worked in a troubleshooting role concentrating on getting the machine running correctly. "The ISP is one of the most complex pro-

The ISP is one of the most complex products we've ever produced or tried to produce. "Hodek said. "It's more complicated than anything we've put out before. In terms of the hardware, it's more than twice as complex as the 1100/90 – the number of gates, the memory – it's much more advanced technologically. We've got a good product that works reliably, with good performance."

Tekla Kridle, manager, Software System Test

The System Test organization served as a Test customer" for the ISP. Their job was to test the system to make sure it does what it is supposed to chowever, for the Eagle, Kridle and her programmers tried a new testing strategy. Abder than use internally developed test programs, they acquired into computing table... even programs operating on different architectures. We've new revue lot lex customer programs

We've never used live customer programs externely effective in uncovering a large which are intermediated and a set of the which are intermediated and the set of the set of these programs would not turn on the Eagle. Development and testing personnel set many long hours thing the problems, and constrained and the set of the set

"It was a long and intensive process for a lot of people," Kridle said. "But everyone rolled up their sieeves and did what needed to be done — for 24 hours a day, seven days a week. There was such commitment to this effort. It seemed like the more progress we made, the harder people worked.

"It took a lot of organizations working together. I haven't seen this kind of focus and commitment before." Kridle said.

Randy Johnson, manager, Scientific Processing, Executive System Development

Producing quality code is a very labor intensive process. Code represents the Instructions that tail the processor what to execute. A line of code represents one unit of work. For the ISP, approximately 150 people were involved at different times with producing code for the Executive System which supports the ISP. The largest component of that system contains about 1.5 million lines of source code, and about half a million lines of code were changed or added.

"With those numbers you can begin to understand the level of effort we had to go through to achieve this quality release." Johnson said. "It was truly a massive undertaking. Many personal sacrifices were made by many people."

Brad Anderson, project manager, Marketing Services

Benchmarks are customer specified tests or demonstrations of a system to show the customer that the system is capable of serving their needs. At the Eagan Benchmark Center, four different customers scrutinized the performance of the ISP earlier this year.

Anderson said that after conducting benchmark tests on the ISP, he and the Sperry customers involved were very impressed with the machine.

"It's a significant addition to our product line," Anderson said. "It allows us to get into the scientific processing field. We now have a supercomputer that's integreted — it's easy to use. It will offer our existing customers a scientific processing capability and also give us the ability to attract new customers in areas where we haven been before."

Frank Stephens, performance consultant, System Design

With nearly a decade of work on supercomputers behind him, Stephens joined Sperry and the Eagle program a year and a half ago, to help evaluate and improve the overall performance of the ISP.

Stephens and the performance team first examined the operating system to determine a best case performance analysis of the machine. They used 200 hand-coded kernels (a small sequence of operation) to check the actual performance against the expected performance. With the kernel performance, the average overall performance was within 2 percent of expectations.

The performance team also examined the compiler and compiler generated code, in hopes of improving its efficiency. The compiler is software that generates instructions that both the ISP and the 1100/90 can understand.

"In bringing a higher performance computer to the market, the key is the mixture of hardware and software," Stephens said. "We spent a year getting the compiler as efficient as possible."

The result is a compiler that can usually achieve at least 85 percent efficiency versus hand coding. And because of that efficiency, the ISP is more adept at using a maximum amount of its computing power.

"The ISP will not match up with a Cray XMP or a Control Data 205 (other leading supercomputers) in highest peak power. But the ISP is able to use a greater percentage of its peak power in solving real-world problems," Stephens said.

Frank Stodola, group manager, Language Development

According to Stodola, the reality of the Universal Compiling System (UCS) for multiple languages and a common code generator for Fortran for both the ISP and 1100/90, have put Sperry in the forefront of compiler technology.

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Badge readers control access: improve security

The first step of the implementation of Sperry's electronic access system has been ongoing at the Sperry Park facility in Eagan for the past few weeks, and according to Tom Kunz, manager of CSD Facilities Protection, the system is doing what it is intended to do.

"We have been getting employees accustomed to using the system and inaccurate data is being weeded out," Kunz explain ed. "As we get all of the bugs out of the system, it will become even more evident how this system gives us better control

and enhances our security." Though the badge readers are new to most Sperry employees, those who work at Earle Brown Tower have been using a similar system for the past two years. That system was developed by Rich Mayville, hardware engineer, Test Equipment Services Engineering, Information Systems Products and Technology (ISP&T).

We needed a security system for the Mercury project and used an internally-built microprocessor system with a bar code for access," Mayville said. That system served as a model for what has now become a corporate-wide system

Mayville explained that the original system has been adapted to a Sperry PC and that the magnetic strip is now being used rather than the bar code. Software for the system, which will strictly control security requirements for each individual building, is being developed by Clint Myhre, a software engineer in the Test Equipment Services

department at Roseville. The system which is now in place at Sperry Park consists of the readers and turnstiles. Employees' badges have a magnetic strip on them which contains security information such as a location code and social security number. When the strip is run through the reader, the data is picked up and fed to a PC which contains a data base for each building. If the information on the magnetic strip is acceptable. the reader allows access and the turnstile is activated. If the strip contains unacceptable information, access is not allowed.

When incorrect information is contained on the strip, an en coder will be used to correct the data quickly and easily

All of the data from the various PCs in the Twin Cities is kept in a central data base of an 1100/92 in Roseville where up-dating can be made. The software that is being developed will be used by each facility to regulate its particular security needs. Besides providing a highly sophisticated security system internally, Sperry's access control system enhances the 1100 system for current and potential customers

Electronic access systems have been in place at Sperry facilities in Blue Bell, Pueblo and Salt Lake City using outside vendor equipment. Defense Products Group is the first in the Twin Cities to have the corporate-wide system but plans for implement tation of the same system by the end of the fiscal year are being made at Semiconductor Operations, Waters Edge, Mendota



Employees at the Sperry Park facility have been using the electronic access control system for the past few weeks. The system is designed to provide better security for erry's farilities and its erreins

Heights Reconditioning Center and Roseville Operations, accord-ing to Dennis Sanftner, manager of Security at Roseville

"We're very happy with this system and especially proud since it was developed at Sperry," said Sanftner. "It gives us better control so that only current, authorized Sperry employees are allowed in Sperry facilities."

Both Sanftner and Kunz em-phasized that the system will in no way be used for any type o time-keeping purposes. It is only pany and its employees. Em-ployees are also reminded not to tamper with their badges or run their bank cards through the readers since that will invalidate the data contained on the cards



The following article was submitted by Steve McLoone, the Sperny Fitness Center manager at Roseville and a fitness specialist employed by Health Fitness Consultants, a division of Abbott Northwestern Hospital.

Monitoring Your Heart During Exercise

Why Should I?

Your heart is a muscle that needs strengthening like any other muscle. To determine if you are exercising your heart at a level that is both safe and beneficial, your body has a built-in system to tell you: your pulse.

During exercise, your pulse rate will be much higher than it is at During exercise, your pulse rate will be much nigher than it is at rest. Through an exercise evaluation, a professional can determine what your heart rate range (called "target heart rate zone") should be. Your exercise target zone may also be determined by subtracting your age from the number 220 (220 is the maximum number of times a heart can beat in one minute) to get your approximate maximum heart rate. The exercise target heart rate is 60-85 percent of your maximum heart rate. Your previous exercise habits, your present physical condition, and any medical limitations are also considerations for determining your target heart rate.

How Should I?

The best way to take your pulse to determine if you re exercising in

your target heart rate zone is to find it on the radial artery at you wrist. Place your index and middle fingers side by side on your wrist, just below the base of the thumb and press very lightly. Another place is to press lightly at the inside of your elbow, just above the ekin crease

Do not use your thumb to check your pulse because it has a strong pulse of its own and may confuse you. Count the number of beats you feel in 10 seconds, and multiply that number by six to get your exercise heart rate for one minute. To take a resting pulse, count the beats for 30 seconds and multiply by two or take it for a full minute.

It is not advised to use the carotid artery at your neck for deter-mining pulses. According to recent studies, palpatation or pressure on the carotid artery has been shown to cause cardiac slowing and occasionally produces cardiac abnormalities.

When Should 12

Before you begin exercising, count your resting heart rate. A normal Before you begin exercising, count your resting near rate, periodically results rate is 60 bots per ministe. During exercise, periodically check your heart rate to see if it is in the target zone. Readjust your activity level, in necessary, be that solving down if your pulse is too high or increasing the intensity if your pulse is too hor to heep it within the target tools benefit. After exercise, leady you pulse more table your pulse is also your pulse is not not not more table your pulse. The pulse is not not not not more table your pulse is not not not not not not not down. Keen a nected of your resting heart parts and your pulse. down. Keep a record of your resting heart rate and your recovery heart rate and you should notice a change in them. Both rates will be lower after consistent exercise patterns due to the effect of train-ing upon the heart muscle. The heart is stronger and doesn't have to beat as often to accomplish its duties. This is concrete evidence to show you improvement in your level of fitness!

ISP supercomputer

Continued from page 5

"We are absolutely state-of-the-art." Stodola said. "This first release already optimizes and vectorizes code that other compilers can't."

Stodola said the project was particularly challenging because they had to deal with so much that was new — a new compiling system, new array syntax and a new architecture.

"I'm very proud of the many people who put in long hours to make this program a success...There was a time on Saturdays

SERVICE AWARDS

TWIN CITIES DPG

35 Years



30 Years David Dzieweczynski



Donald Goers



Robert Green Clinton Haggerty Dorothy Hanson



Walter Holgerson



Bernard Jansen





James Peterser Glynn Sabourir Richard Sander





Donald Wilson

25 Years Robert Chapman Donald Naaktgebore Herbert Pearson Dexter Pehle Farl Vraa

20 Years James Frazier Bonnie Hamm Nancy Hansbrough Donald Hendricks Eugene Johnston Thomas Knops Denis LaCroix Lawrence Longley Norman Nack when we were getting tired of ordering out for pitza," Stodola said. "It was quite a challenge, but there's nothing like succeeding."

Jackie Kessler, product director, Scientific Systems

Kessler joined Sperry two and a half years ago to assist in the definition and development of the ISP. The Eagle project represents her fourth involvement in machines of this class. Having once been a supercomputer user herself, Kessler is in a good position to judge the ISP in the marketplace.

"Supercomputers haven't been fun to use," Kessler said. "But anybody that uses a main-



Denorris Ew Albert Firth







James Larson



Louis Schlueter



Ernest Unruh

25 Years Kenneth Gibson Emil Kazeck Gordon Lindquist Homer Long

20 Years Flossie Ardoff John Bauer Stephen Branch Bruce Cadwell Duwiyne Campeau Neil Cummins Michael Eastman Richard Eide Burnell Eidem frame can use this machine (ISP) with no difficulty at all.

The ISP is a 'user' supercomputer and that's the number one issue. Not only are 98 percent of the machine cycles available to the user, but this machine is the first user friendly supercomputer to provide all the mature mainframe facilities that scientific users need — such as software support for application development, data base management and interactive supercomputer processing.

"This is not an exotic machine in any sense. It is intended to get the business of science done while permitting the maximum productivity of the scientific workforce."

> JACKSON 10 Years Kay Kielblock

Nell Fiden

Ralph Havne

Patricia Nelson

Jerry Rademach Beverly Radike Stephen Roberts Refugio Robles

15 Years Linda Blake Curtis Kueb Richard Mie

Donald Reck

John Roshi Alice Vikre

10 Years

Philip Brulle

Glenda Berkhei

Jamie Davidson Michael Fabland

Gary Glowacki Steven Hallquist

Roy Hultberg Gary Johnson Peter Reppleo Raymond Koehik John Malaney

John Matchey Pamela Mogen Stephen Payne Aaron Peterson James Roffe

Catherine Roth Margaret Strong Donna Tomczak

Joel Wing

5 Years Devid Arvid

Devid Arvidson Gregory Behling Judith Bruner Stephen Fanelli Robert Garneti John Haugen Raymond Kelly

Michael Logen Mark Mansee

Carolyn Matthews Mark Pikula Joseph Senden Steven Smith

TWIN CITIES

Sendra Mann Carleen Oelker Debra Schley Lori Truong

RETIREES

Elliott Adams Donald Anderson Bruce Beaver Vernal Bennud Frederick Benson Ed Bock Thomas Bouteau Buth Boughton James Batton



Duris Central John Charlos John Charlos Barrol Charlos Barrol Charlos Robert Cherne Alexand Charlos Robert Cherne Alexand Charlos Echari Teacharlos Echar Teach

Franklin Vanderholf William Wallece Paul Welshinger Emanuel Zarembinski

SMG 10 Years Jon Stender 5 Years Kathleen Byer

CLEAR LAKE

5 Years

Twin Cities News July 1986 7



10 Years Robert Alban Patricia Bailey Gary Ballanger Lola Beckwith Stephen Capron Stuan Fritz Joann Grasz Richard Herwig Charles Jarboe Jean King Berbara Langenberger Paul Merk

Paul Mack Robert Moyer Larry Olmsted Steven Platz Annemarie Pratt Jerome Raveling

Jack Prichols Edythe Pearson Donald Schelander Clifford Sheets

15 Years

5 Years

Jean Baker Arthur Brown Roger Hastings John Imsdehl Noel Johnson Timothy Joliffe Patricia Landerholm Jeffrey Moryn Helen Olson Peggy Pasillas John Rodman Mark Russell Martha Shaleen Danny Squires

TWIN CITIES INFORMATION SYSTEMS

30 Years



Jurtis Otristerisen



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COMMUNITY INVOLVEMENT



Painting, Carpentry/Remodeling — A South Minneapolis residence and group home for mentally handicapped women needs a group of "handy people" to help remodel. Times can be arranged to fit your schedule.

Child Chauffeur — Children and young teens in foster care need reliable people to transport them to child abuse support groups. Must have your own car. A number of time slots are available to fit your schedule at various locations in the metro area. Mitleage reimbursement and a nationally recognized defensive driving program are provided.

Christmas in July — Renew your holiday spirit in July. Two Saturdays in July have been designated as special times to reach out to lonely elderly persons and show that someone cares. Take a picnic lunch and visit in St. Paul or Minneapolis. Or, if you prefer, help prepare the lunches.

Special Friend — Be a listener, share smiles and tears, enjoy recreational activities and build a friendship. This is an opportunity to be paired with a young woman who needs an adult friend and role model.

Naturalist Aide — Sign up for adventurel Participate in a wide variety of activities such as teaching low-impact camping, or helping groups look for signs of wildlife while hiking through the woodlands at a St. Croix Valley site.

FOR MORE INFORMATION, CONTACT THE REGIONAL COMMUNITY RELATIONS DEPARTMENT AT 456-4803 (SPERRY PARK) OR ROSEVILLE COMMUNICATIONS AT 635-7775.

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