MEASURE

Brainstorming
in Corvallis

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Customer service reps at Bell operating company US WEST use HP's NewWave Computing to speed service to customers in 14 Western states.

"Open" for business

By Karen Barchas

More and more customers are discovering that HP's NewWave Computing strategy—cooperative computing through open systems—is just the right connection.

Imagine for a moment you're a customer-service representative for your local telephone company, one of the nine U.S. regional Bell operating companies (RBOCs).

A customer calls to question a charge on her bill and inquire about a new telephone product. To obtain her billing and account information, you must log in and out of various mainframe databases. To find product information, you must flip through a paper manual. To price the product, you need to look at another manual. To place her order, you must access yet another, incompatible mainframe database.

All this while the customer—growing more irritated with your company and impatient with you—hangs on the line. All while the ticking clock translates into increased costs for your company.

There must be a better way, you say to yourself.

There *is* a better way. It's HP's NewWave Computing, and it's defined as "an environment based on cooperative computing

through open systems." And HP is delivering its benefits to customers such as US WEST—the $9 billion RBOC which provides telephone service to 14 states in the Western U.S.—today.

For US WEST, NewWave Computing has eliminated those time-consuming, exasperating searches through incompatible databases and handbooks. Now, a standards-based system of HP workstations, networking products and peripherals links the mainframe systems from many vendors.

Through one easy-to-learn, windowed user environment, US WEST customer-service representatives gain immediate, simultaneous access to the billing, inventory, service-order, product, pricing and tax information they need to serve a customer quickly, efficiently—and profitably. And the reps do all of this without having to worry about where the information comes from or how to find it.

"HP was able to provide a solution to our needs," says Fred Ledbetter, director of Information Technologies Planning and Development for US WEST's

What matters is that it's real and HP is delivering it today.

Home and Personal Services Division. "HP's commitment to open computing enables us to continue using our existing computer systems effectively without sacrificing our investment."

US WEST calls its new operational-support system "C-LINK." Other HP customers such as American Airlines, BASF, Bell South, Federal Express, Ford Motor Company, McDonnell Douglas,

Wim Roelandts

the Singapore Stock Exchange and Texas Instruments have their own names for the computing model HP calls NewWave Computing. But to these customers and others—as well as to HP employees who are migrating to networked UNIX®-, MPE- and MS-DOS®-based systems—it doesn't much matter what you *call* it.

What matters is what it does and that it's here, it's real and HP is delivering it today. What also matters about NewWave Computing is that it's the way HP hopes to achieve world leadership in providing open, easy-to-use, cooperative-computing systems.

There are two fundamental parts to NewWave Computing: *cooperative computing* and *open systems*. Cooperative computing is an environment in which users can transparently access data and services located anywhere on a network. They don't have to think about where the data or services come from.

Cooperative computing usually is based on the client/server model which separates applications into two pieces —part in the "client" area and part in the "server." (A client is a networked computer that provides resources to a single user and accesses servers. Servers are networked computers that provide specific servers to other computers.)

IBM and DEC also will tell you their computing strategies are based on cooperative computing. But IBM's

The decision to move to open systems dates to the early '80s.

approach promises cooperative computing only for IBM systems, and the reality is that customers rarely buy all their computing products from one company. DEC's approach—while it assumes a multivendor environment—integrates it all via DEC's own proprietary network. And that means customers give up the freedom to plug in the computing products that best meet their needs.

So, in theory, cooperative computing *can* exist in a proprietary (or non-standard) computing environment. But HP's position is that, in the real world, cooperative computing cannot exist without a standards-based, *open systems* environment—one in which multiple vendors' computer systems and software work together and are interchangeable.

Joel Birnbaum, vice president and general manager of the Information Architecture Group in HP's Computer Systems Organization (CSO), explains: "NewWave Computing is our way of responding directly to customer needs for cooperative computing in an open-

systems environment. Rather than being locked in to one vendor's proprietary product line, open systems give customers the freedom to choose the best products to meet their needs and reduce their costs for products, software and training."

To make it easier to understand the benefits of cooperative computing based on open systems, Joel compares open systems with electricity. The electrical plug, like the interfaces among computers on a multivendor network, is the standard interface that allows the electricity to flow *from* a wide variety of power-generation sources *to* a nearly endless array of appliances. Because the connection (or interface) is standard, each new appliance (or application) can use the same connection to the electrical source, or—completing the analogy—to the computer, regardless of who makes it.

What makes NewWave Computing different from competitive strategies? The most important difference, according to Wim Roelandts, vice president and general manager of CSO's Networked Systems Group (NSG), is HP's broad, unequivocal commitment to open systems. The decision to move to open

Systems Architect Richard Webber, pictured here with colleague Marta Kosarchyn, is working on compiler technology that will improve communications.

> **"...beware of a proprietary wolf in an open-systems sheepskin."**

systems dates to the early '80s, when the company first adopted industry-standard networking and began UNIX-system workstation development.

Even today, HP's major competitors are spending the bulk of their research-and-development dollars on proprietary-computing products, pursuing standards mainly as an insurance policy, Wim says.

"Open systems have emotional and cultural antecedents at HP," says Joel. "There's always been a lab or section whose job it was to connect to IBM or DEC because we've had to assume any major customer would have one or both of these. In fact, some analysts have written that we know more about connecting to IBM than IBM itself. But I guarantee you that IBM only very recently started thinking about connecting to HP."

HP also leads many standards organizations and has driven the development of a number of industry standards. The company offers more standards-based products than any of its competitors. Indeed, *all* of HP's computing products are either standards-compliant or are being modified to become compliant.

"When you're running a race there's a big difference between being a pacesetter and coming from behind," says Bob Frankenberg, vice president and general manager of the recently formed Personal Systems Group within the Computer Products Organization (CPO).

"When you hear other companies talk open systems, beware of a proprietary wolf in an open-systems sheepskin," Bob says. "At HP, we're solving customer problems with open systems *now*, and it's the way we're taking lots of business away from our competitors."

(Bob transferred to the CPO in May from his former position as vice president and general manager of CSO's Cooperative Computing Group. Now, as part of CPO, his organization continues to be an important component of NewWave Computing. It includes the Cooperative Object Computing Division, one of the pioneers which got HP where it is today. Two other divisions that played a seminal role have become part of an expanded NSG: the Pinewood Information Systems Division and the Colorado Networks Division. Vice President Mike Leavell now heads NSG's new Cooperative Computing Business Unit. He has groupwide responsibility for the

"Open"

NewWave Computing Environment and NSG's software business.)

Another important difference between HP and competitors such as IBM and DEC is the historical precedent for cooperative computing at HP and the company's rich history in distributed computing. The company took another step in the early '80s when it began work on *RISC*, or reduced-instruction-set computing (a way of implementing instructions right in the hardware, increasing processing speed and performance), *scalability* (the ability to use the same software on different classes of computers) and *client/server computing.*

Through the merger with Apollo Computer Inc., HP also acquired Network Computing System (NCS)—a technology crucial to client/server computing that makes it possible to distribute resources anywhere on a network. A decade of experience in cooperative computing, along with technology such as NCS, gives HP the credibility that customers want—and that competitors generally can't claim. Among the "firsts" of HP's PC Central Office Program started in 1985 were minicomputer file/print servers, transparent database access, client/server electronic mail, shared object store and others.

NewWave Computing clearly sets HP apart from its competitors. Yet, at the same time, the new environment created by open systems requires unprecedented cooperation with them—or "compartnership," as Bob calls it.

"Because HP's computer business is significantly smaller than IBM's and DEC's," says Lew Platt, executive vice president of CSO, "we *must* have a strategy that allows us to penetrate our competitors' environments. We simply can't meet our growth goals through HP accounts alone. This drives us to be

HP's NewWave Computing has eliminated the typical trading-floor chaos in Singapore.

Singapore exchange puts stock in NewWave Computing

The Stock Exchange of Singapore (SES) is one of the world's leading stock clearinghouses. In the 1980s, tighter government regulations and steadily increasing trading volume made it difficult for SES to serve its 1,100 brokers at 26 brokerage houses.

SES needed full-scale, integrated automation to provide immediate response to brokers, increase transaction volume, lower costs and achieve its goal of becoming the world's most efficient stock exchange.

HP worked closely with SES to define and develop an integrated trading system based on the HP AdvanceNet networking strategy. Included are 60 HP 9000 Series 800s serving as local-area-network (LAN) hosts at the brokerage firms and as gateways and order routers at the exchange; an HP private X.25 wide-area network to link brokerage houses to the exchange; a high-speed HP LAN; and extensive network management.

Three HP 9000 Series 800 gateway processors, two backup systems and around-the-clock support assure the trading system's reliability. Since system launch in 1989, SES has replaced the non-HP PCs it formerly used for trading activities with 1,600 HP Apollo 9000 Series 400, UNIX-system-based workstations in client/server configurations.

The SES trading system captures and time-stamps all orders, immediately confirms orders, gives brokers real-time access to market information and passes data to another vendor's mainframe computer in the back office.

Because an hour of downtime can cost $2 million to $3 million in commissions, the system also maximizes uptime, improves network control and helps SES handle a greater trading volume in less time, at a lower cost.

HP' NewWave Computing has eliminated the *chaos* typical of a trading floor and has made SES Asia's first "floorless" exchange.

more open and to join with other companies.

"For example, we joined with Sun Microsystems in the area of object management to create an industry standard for objects and their use. Together, HP and Sun represent 55 percent of the workstation market. At 55 percent, software developers will write for our systems first."

All this talk of strategy and world leadership is so high-level and so—well—*strategic.* How is NewWave Computing affecting everyday life at HP?

Richard Webber, systems architect in CSO's Information Architecture Group, describes himself as "busy trying to make these high-level concepts reality." He's working on compiler technology that will make it easier for network applications and services to communicate.

Says Richard: "In some ways I think NewWave Computing affects nearly everyone. Not because they've been told it's HP's strategy, but simply because when you go from an era of stand-alone computers to individual workstations

> **"In some ways I think NewWave Computing affects nearly everyone."**

tied together by networks, there are lots of things that need to be done to make that environment more usable.

"People all over HP are doing their own bits and pieces."

Richard believes NewWave Computing is critical to keeping HP in the computer-systems business. "My feeling is

that NewWave Computing is HP taking the bull by the horns," he continues. "It's saying we want to converge on these solutions internally and get them accepted by industry as well.

"Because of the diverse businesses we're in, we understand the markets

> **"…we shouldn't look over our shoulders because (HP's competitors aren't) standing still."**

where NewWave Computing products will be sold. I think we have a good chance of success."

Adds Bob Frankenberg, "We can participate in business we couldn't access before, increasing our potential market size by a factor of 20."

Yet, because of the complexity of cooperative computing and the many components that must be tied, major challenges remain.

Says Lew Platt, "We can demonstrate concrete examples of NewWave Computing today, "but to meet a specific customer's needs, we may be able to deliver only 70 percent—and some evolution of the technology will still be necessary or some piece may be missing. Some of it is still abstract."

"Implementing the strategy really means making the systems easy to use and making software development easier and faster, both for ourselves and for developers, who've become a key part of our strategy," adds Bob. "And once open-systems software products are developed, it means learning to compete in the new markets they create."

For example, open-systems software products such as the HP NewWave user environment require wholesale distribution and "demand-pull" advertising, in addition to the more traditional HP direct sales force and authorized dealer network. HP is addressing such challenges in part by reorganizing its computer organizations and consolidating some of its marketing functions.

Today, HP is in a leadership position in cooperative computing based on open systems. As Richard Webber says, however, "We may have some advantages over our competitors now. But we shouldn't look over our shoulders, because they're not standing still."

For HP to keep that leadership position, the entire organization—from engineering to manufacturing to marketing, from the labs to sales, distribution and support—must pull together, HP executives agree. HP must continue to distinguish itself by providing the best quality, responsiveness to customer needs and support—*and* by leading rather than following standards efforts.

But then, none of this is new for Hewlett-Packard. ■

Simon Forsyth and Julie Parker (from left), "green team" volunteers at the Bristol site, plant wildflowers with Helen Hall of the Avon Wildlife Trust.

EARTH UPDATE 1991

By Kevin O'Connor

Since *Measure* first reported on HP and the environment (March-April 1990), the issues have become more significant while HP people have taken new steps—from grassroots initiatives to policy formation—to prevent and solve environmental problems.

This report on the environment, like its predecessor, is an overview, not a comprehensive catalog of activities. It's an attempt to highlight a few ways HP is addressing complex and critically important issues.

Guiding HP's present-day environmental activities is a policy statement

that HP's executive staff announced in 1990. The statement addresses employee health and safety; environmental protection; regulatory compliance; product design, manufacturing and disposal; resource conservation and pollution prevention; and communication. (Local environmental, health and safety departments (EHS) or entity communicators can provide the full statement.)

"If HP is going to succeed in the '90s, we'll have to integrate EHS considerations into every aspect of our business,

including every step in the product life cycle," HP President and CEO John Young said at the company's 1990 environmental, health and safety conference. "We will have to prevent problems from occurring ... it's no different from our approach to quality. It's significantly cheaper to do it right the first time."

This approach is one that more and more customers expect from manufacturers. Beginning in December, Germany will require manufacturers to accept their packaging from customers for recycling or reuse. A proposed law in Germany that's likely to pass in some form could require manufacturers to accept old products from customers. Similar legislation is being debated in other countries, including the U.S.

Environmental concerns, as well as changing customer expectations and other competitive issues, are motivating HP entities to build EHS considerations into product design, manufacturing and disposal. A "product stewardship" program facilitated by the Corporate EHS department promotes these practices companywide and encourages environmental-impact considerations from the start of the product-development process.

Hold the bleach

Until recently, the traditional white, bleached box was the standard way to ship HP products. Entities now are switching to a "kraft" container, bleach-free and brown like the natural wood pulp it comes from. Not only is the kraft package at least 10 percent less expensive than its white counterpart, it's pro-duced without generating dioxins (a family of carcinogenic chemicals) that are a by-product of the chlorine-based bleaching process.

The Vancouver (Washington) Division, the North American Distribution Operation, the Santa Clara (California) Division, the Support Materials Organization and the San Diego, California, site were among the first entities to make the switch; other HP entities are following.

Kraft boxes will be the new HP standard for most products—except for medical supplies that must be shipped in white boxes—by the end of 1991.

Reusing cartridges

The most successful product line in HP's history is a worldwide standard. But what about all those empty HP LaserJet toner cartridges that seem destined for the landfill? Now customers can recycle them.

In most cases, customers can, at no cost, send empty toner cartridges to HP collection centers. The cartridges are disassembled and the parts are either reused in "new" cartridges, or sold to a raw material recycler.

The recycling program—piloted in mid-1990—is now available in Canada, Germany, Switzerland, Austria, the Netherlands and the U.S., with more locations to come. So far, more than 200,000 toner cartridges have avoided the local landfill.

Pollution prevention

HP has reduced by more than 61 percent the amount of hazardous waste it generated in manufacturing between 1983 and 1989 in the U.S. Source reduction—such as changing processes to avoid generating waste—and more efficient waste management have helped the company surpass its 10-percent-per-year reduction goal.

Since 1983, HP has cut its landfill disposal by 93 percent, reflecting a shift to more environmentally sound disposal practices. During the same period, the company doubled its recycling of hazardous waste.

Entity-based waste-reduction task forces—like ones created at the San Jose, California, and the Andover, Massachusetts, sites—use process-improvement practices and Total Quality Control to track, implement and evaluate waste reduction activity.

HP monitors wastewater quality at all U.S. manufacturing facilities (monitoring is being expanded to Europe and Intercontinental regions). So far in 1991, monthly reports show HP entities exceeded discharge standards only twice out of 3,000 analyses.

HP was one of the first Fortune 500 companies to sign up for a voluntary program sponsored by the U.S. Environmental Protection Agency to minimize chemical emissions. The EPA targeted a select number of toxic chemicals for substantial reductions, and asked business leaders to voluntarily agree to reduce emissions of those chemicals 33 percent by 1992 and 50 percent by 1995.

After pledging HP's support for the program to EPA chief William Reilly, John Young announced to HP's top man-

agers worldwide plans to establish a companywide hazardous chemical-use monitoring system that will track future reductions.

A farewell to CFCs

Companywide, HP has reduced its use of chlorofluorocarbons (CFCs) by more than 46 percent in the past 18 months.

CFCs are a family of compounds widely used in electronics manufacturing, which in recent years have been linked to a chemical breakdown of the Earth's protective ozone layer.

Created in late 1989, HP's CFC task force organized teams to coordinate CFC elimination efforts on a worldwide basis. A formal policy adopted in 1990 established a companywide goal to eliminate all uses of CFCs in manufacturing by the end of 1994.

Some results so far:

The Rohnert Park, California, Vancouver, Washington, Barcelona, Spain, and San Diego, California, sites are among those that have stopped using CFCs in all manufacturing processes.

Puerto Rico implemented a no-clean wave-soldering process that eliminates the need for CFC-based cleaners. The Microwave and Communications Group has achieved a 75 percent reduction in CFC use.

This spring, Save Our Stratosphere, a citizens group based in Corvallis, Oregon, recognized HP Corvallis for its 95 percent reduction in CFC use since December 1989.

HP's surface-mount operations—in Singapore, Vancouver and Boise, Idaho—are now using high-temperature, high-pressure water-based cleaning solutions to satisfy precision-

Hanna Panda is the official mascot of recycling programs at Fort Collins, Colorado. Employees there forego paper cups and use recycled paper products.

cleaning demands that up to now could be handled only by CFCs.

HP is modifying existing air-conditioning systems and using recaptured or reclaimed refrigerants to minimize CFC emissions to the atmosphere. All news systems will be compatible with substitute coolants that are at least 98 percent CFC-free.

Vendors for all but one HP entity supply packaging materials manufactured without CFCs.

Managing water use

In the Western U.S., water shortages impact HP's landscaping programs as well as manufacturing. In California, Palo Alto and Cupertino HP people have developed a number of ways to mini-

mize water use in landscaping while maintaining attractive sites, including using an HP 1000 computer and HP software to measure water use and control irrigation systems.

Drought-tolerant landscaping at HP's Mayfield site—designed to use minimal amounts of water—received an award from the City of Mountain View last September in recognition of thrifty water use.

The Santa Clara, California, site has cut water use by 61 percent since 1987 by reducing irrigation and by reclaiming water used in manufacturing.

Great leaps in recycling

Taking a lesson from the idea of "think globally, act locally," HP people worldwide are creating successful programs to minimize the impact they have on planet Earth.

Ceramic or plastic mugs are replacing paper cups at several sites, including the North American Distribution Operation, Corporate offices, the Pittsburgh, Pennsylvania, sales office, the Fort Collins, Colorado, site, and the Mississauga, Ontario, Canada, office.

In Colorado, Greeley and Colorado Springs cafeterias have eliminated throw-away items such as plastic utensils and paper plates and bowls. Employees in Colorado Springs collect packaging material for the Boy Scouts of America, which raises funds by recycling the material.

European sites, as well as the Cupertino, California, site, use recycled paper

in their copying machines. The Fort Collins, Colorado, site and Corporate offices have switched to bathroom tissue and paper napkins manufactured from fiber that's a minimum 50 percent post-consumer waste.

The Spokane Regional Solid Waste Disposal Project this spring recognized Spokane (Washington) Division's recycling efforts with a Recycling Leadership Award.

Other entities that are shifting from disposal to recycling include the Mississauga, Ontario, Canada, office, HP Greece, the Bloomington, Illinois, sales office, the Greeley (Colorado) Division, the Workstation Systems Division, the San Jose, California, site, HPSA's Geneva, Switzerland, headquarters, Corporate offices, and the St. Louis, Missouri, sales office.

This April, HP began printing stationery and business cards on high-quality recycled paper. This paper works with HP LaserJet and inkjet printers and costs about five percent less than the non-recycled stock.

Through its "alternate sourcing" program, based in Roseville, California, and Grenoble, France, HP's Support Materials Organization disassembles products to recover parts, integrated circuits and metals from more than 500,000 pounds of excess, scrap and obsolete products each month. Repair parts and assemblies are refurbished and other materials are recycled. This environmentally safe effort also makes economic sense: The program will save HP $17 million this year.

Transportation

Government agencies from Singapore to Los Angeles are passing transportation-related ordinances to improve air quality and reduce automobile-traffic congestion. The measures range from bans on vehicles to $25,000-per-infraction fines for companies that don't implement ridesharing programs.

While HP has provided commute-alternative assistance to employees in some areas since the 1970s, a more formalized ordinance-compliance program is being put in place. A team of HP people in the U.S. and Jerry Cashman, commute transportation programs manager, lead the company's efforts to help develop effective regulations and create useful employee services.

Bristol, England, employees are working with local officials to develop bicycling paths in the area.

Ten Neely Sales Region people in Southern California have traded in their petroleum-based Ford Taurus cars for methanol-based vehicles as part of a two-year experiment to help minimize air pollution.

Production operators (from left) Alan Yancey and Donald Huffman package HP DeskJet 500 printers in bleach-free boxes at the Vancouver (Washington) Division.

Greeley's carpooling program—started in 1985—now has about 125 participants. A similar effort has started at HP Canada's headquarters.

Tanks

Company standards call for chemical-storage tanks to be "double-contained" and monitored, so that if a leak occurs, a second container surrounding the tank captures chemicals before a leak to the environment.

A program is under way to remove or replace underground petroleum storage tanks used for fleet vehicles and emergency generators. More than 60 percent of fuel tanks have been upgraded, removed or replaced.

Meanwhile, HP continues cleanup of 16 leaks to groundwater that occurred when the chemical-storage tanks were buried underground in compliance with regulations of the time. None of HP's

leaks has contaminated public water supplies, and all projects are supervised by a local governmental agency.

In the community...

HP's grants programs continue to support environmental organizations and causes. A sampling:

HP computers donated to the University of Milan, Italy, are used in their environmental-research programs.

HP computers and printers are used by the Center for Plant Conservation to link databases throughout the U.S., and help study and preserve plants that are endangered.

HP provides computation and analytical systems and cash worth an estimated $1 million (U.S.) plus technical support as part of its involvement with the Rhine Basin Program in Europe. The program seeks to better understand the ecology of one of the continent's most vital waterways.

WaterWatch of Oregon uses an HP desktop-publishing system to enhance communication efforts directed at protecting the state's water resources.

HP Canada has made cash and equipment grants to Queens University in Kingston for wetlands research in Ontario and to the University of Waterloo for the nation's first drinking-water research laboratory.

Two HP Colorado sites were named "Partners of the Month" by Clean Air Colorado, a coalition of regulatory agencies and businesses—Colorado Springs for telecommuting, energy conservation and chemical-emissions reductions and Greeley for its comprehensive recycling program.

Ten Neely Sales Region employees traded their petroleum-based Ford Taurus cars for methanol-based vehicles. Here Tom Tarasoff fills the tank.

HP Puerto Rico won an award last summer from the Environmental Quality Board (similar to the U.S. Environmental Protection Agency) for HP's efforts in cleaning up local beaches, for a series of community meetings to discuss site chemical use, for co-sponsorship of a major environmental conference, and for sponsoring employees' involvement with disaster-recovery activities following Hurricane Hugo.

The Boise, Idaho, site is lending its expertise in environmental issues—specifically waste-reduction—to a new coalition of business, government, labor, academic and environmental groups: the Pacific Northwest Pollution Prevention Research Center. Don Curtis, Boise site operations manager, is on the center's board of directors.

Following the success of last summer's environmental education program for employees at HP Taiwan (where HP people learned about recycling and resource conservation), a similar seminar was developed for customers. More than 100 people from 96 companies attended. HP is now advising Taiwan's environmental protection agency as the government conducts a nationwide environmental education campaign.

HP people around the world are making commitments and taking action to address enviromental problems; this article just scratches the surface. While there's more work to be done, their enthusiasm, dedication and results so far are good news for planet Earth and for HP. ■

(Kevin O'Connor is HP's manager of public relations services in Corporate Communications. He last wrote for Measure *on HP and the environment in the March–April 1990 issue. Kevin is especially proud of the* Measure *crew since they committed to print the magazine on recycled paper.—Editor)*

A secret to success: Expect to excel

By Mary Danehower

When Jeanne Wiseman was a young girl in her native France, little did she dream that one day she would be honored for her role as a leading woman scientist at Hewlett-Packard.

In May, the 1991 Hewlett-Packard Technical Women's Conference recognized Jeanne (pronounced "Zhann") for her scientific contributions and community leadership. She received the Distinguished Achievement Award—one of four awards presented—for her work.

But that is just one aspect of her many accomplishments. Early in life, Jeanne pioneered a path for other women. After finishing her secondary education in Rodez in southwestern France, Jeanne spent two years studying to pass an exam that enabled her to become the first female student admitted to the ECAM French Engineering School at the University of Lyon.

"It was a challenge to be the only woman in the school," Jeanne recalls. "I had to establish my credibility very quickly by getting good grades. From then on, I was accepted as any other member of the class."

Jeanne earned a master's degree in electrical engineering and computer science at the University of California at Berkeley. She worked for National Semiconductor as an integrated-circuit designer before joining HP in 1979.

After 12 years at HP, leading the way has become second nature to Jeanne. Currently at HP Labs' Computer Peripherals Lab in Palo Alto, California, Jeanne heads a research group working on digital-image processing for HP printers and scanners. Her team has produced several patents and papers on the technology.

In addition to her technical contributions, Jeanne supports and is a mentor for other women in science inside and

HP Labs' Jeanne Wiseman—scientist, mentor, wife and mother—was honored in May at the 1991 Hewlett-Packard Technical Women's Conference.

outside HP. "When I first arrived at HP, Jeanne took me under her wing and helped me identify technological problems that were challenging to me and important to HP," says colleague Joyce Farrell, a research scientist in the Computer Peripherals Lab.

Jeanne extends herself to help other women scientists. She worked closely with new professor Eve Riskin at the University of Washington to establish new research goals in digital-imaging algorithms for printing. Jeanne recognized the importance of this research to HP and even arranged financial

support for the project.

During her time at HP, Jeanne has made many technical contributions. While part of the Cupertino Integrated Circuit Operation, she co-invented a new hierarchical hardware-description language used to exchange design data among different computer-aided-design tools. This language is still being used by several HP divisions.

Jeanne also contributed to the development of more sophisticated software tools to aid in the integrated-circuit-design process, such as a graphical schematic entry package, and a timing

Expect to excel

simulator used to predict the behavior of MOS integrated circuits.

She credits her math and science teachers with encouraging her interest in engineering and supporting her aspirations. "I could have become a math teacher," she recalls, "but I wanted to use math to create and develop new technologies."

Jeanne actively supports opportunities to increase interest in math and science in the community. Her enthusiasm for her work makes her a good advocate for science and engineering as careers. She helped develop and leads a workshop for "Expanding Your Horizons in Science, Mathematics and Engineering," a conference designed to encourage girls to pursue technical careers. More than 1,000 middle- and high-school students gave up a Saturday in February to learn, among other things, how computer displays and printers are used to generate colors.

"We must start at this educational level to find more women who might be interested in a career in math and science," Jeanne says. "The key to having more women engineers in the workplace is to create a larger pool of qualified women to draw from."

Her advice to women in science is, "Set high goals and don't dwell on the negative. Expect to excel."

A true woman of the '90s, Jeanne combines her technical career, community involvement and mentoring activities with the role of wife and mother. She and husband, James, whom she met while studying at Berkeley, have two daughters, 3 and 6.

"Now that the children are a bit older, things are a little easier to manage," she admits. The children attend the Peninsula French-American School where they receive bilingual instruction. Jeanne is active on the school's board.

One of the primary goals of the HP Technical Women's Conference is to promote the professional development and personal growth of technical women.

With her busy schedule, Jeanne says it's difficult to find time to pursue favorite activities such as skiing and traveling for pleasure. She maintains an interest in antiques and architecture, sparked by her father, who was a home builder. But nowadays Jeanne says she prefers to devote the majority of her free time to her family.

Whatever role she plays—scientist, mentor, wife and mother—Jeanne Wiseman is an inspiration to women throughout HP. ∎

(Mary Danehower is a freelance writer in Mountain View, California. Previously, she worked for HP for eight years on both the computer and instrument sides of the company.—Editor)

It's an honor

The second HP Technical Women's Conference was held on May 9 and 10 in San Jose, California, to showcase the achievements and contributions of technical women at Hewlett-Packard. One of the conference's goals is to promote the professional development and personal growth of technical women so that they can assume leadership roles.

In addition to Jeanne Wiseman, the conference recognized four other women for their contributions: Julie Fouquet, HP Labs, for technical achievement; Lisa Barowsky Stambaugh, Santa Clara Division, for leadership; and Irma Martinez and Mercedes Hernandez, Puerto Rico Manufacturing Operation, for best technical paper.

Bill's blooming hobby

It was the mid-1940s—the war years—when gasoline was scarce.

While stationed in Washington, D.C., young Bill Hewlett and his wife spent many pleasant hours walking through the District's Rock Creek Park.

"I didn't recognize the trees in that area," Bill said recently in his Palo Alto office, "and when I came back to California, I realized that I didn't know much about the trees and flowers here either."

The Hewlett-Packard co-founder read stacks of books on the subject and soon could identify many of the Northern California trees. Then he did the same with wildflowers—studying, identifying and photographing hundreds.

Today Bill's collection of more than 400 wildflower photos fills six albums. He took most of the photos near his vacation home in Soda Springs, California, not far from Lake Tahoe, and at the ranch near San Jose that he and co-founder Dave Packard own.

"Photography gives you another dimension to being outdoors," Bill says. "Some of the flowers are very complicated and take an hour to identify. But that's part of the enjoyment."

Bill has used a variety of cameras during the years, including Pentax, Hasselblad and Canon. His Canon AE1, a gift from that company's president, was the ninth camera of that model produced.

About three years ago, Bill began photographing leaves from trees indigenous to the Bohemian Grove campground area in Northern California. His album includes life-size photocopies of the leaves next to the photos so that friends can identify the foliage easily during social gatherings there.

Recently he presented Dave Packard with a set of photos of plants taken near Dave's fishing camp in the outback of British Columbia, Canada. Here Bill shares some of his favorite wildflower photos with *Measure* readers. ∎

HP co-founder Bill Hewlett's collection of 400 wildflower photogaphs fills six albums.

Minulus Douglasii
Purple Mouse Ears
Horse Valley
2,800 feet
San Felipe
3/31/73

"Some of the plants have kind of funny common names, such as **Purple Mouse Ears** and **Stork's Beak**. Stork's Beak looks like scissors. It comes from Spain and it's a good plant. Cattle really like it."

Blooming

Caenothus integerrimus
Deer Brush
Off porch at house
6,000 feet
Cedars
7/10/76

"Many HP people know Cort Van Rennselaer from Corporate Manufacturing. Well, Cort's father was an authority on *Caenothus;* in fact, he wrote a book on it."

Sarcodes sanguinea
Snow Plant
Pine forest near Cedar Creek
6,000 feet
Cedars
5/30/59

"This is one of my favorite photos because the color is so spectacular. It blooms right after a snowfall; that's why they're called snow plants."

Layia platyglossa
Tidy Tips Meadows in Horse Valley
3,000 feet
San Felipe
5/3/80

"I usually would shoot two or three frames of each flower. If the wind were blowing, I'd shoot several more frames to make sure I had at least one good shot."

Eschscholtzia californica
California Poppy
Open fields near San Felipe Creek
1,000 feet
San Felipe
3/31/59

"I guess I like wildflowers the best because they have such a tremendous beauty and they grow naturally. To me, the joy of photographing and cataloging the wildflowers is being able to recognize them whenever I see them."

Aesculus californica (flower detail)
Buckeye
Generally on ridges and in valleys
1,000 feet
San Felipe
5/5/65

"The Buckeye is the first flower to come out in the spring and is one of the first to lose its leaves in the fall."

Echinocereus Engelmanii
Hedgehog Cactus
Rocky flats, Anza-Borrego Park
750 feet
Miscellaneous
3/15/74

"Which are my favorite photos? The good ones," Bill says with a laugh.

It all adds up

By Jay Coleman

A one-time "outlaw" joins HP and becomes the father of scientific handheld calculators.
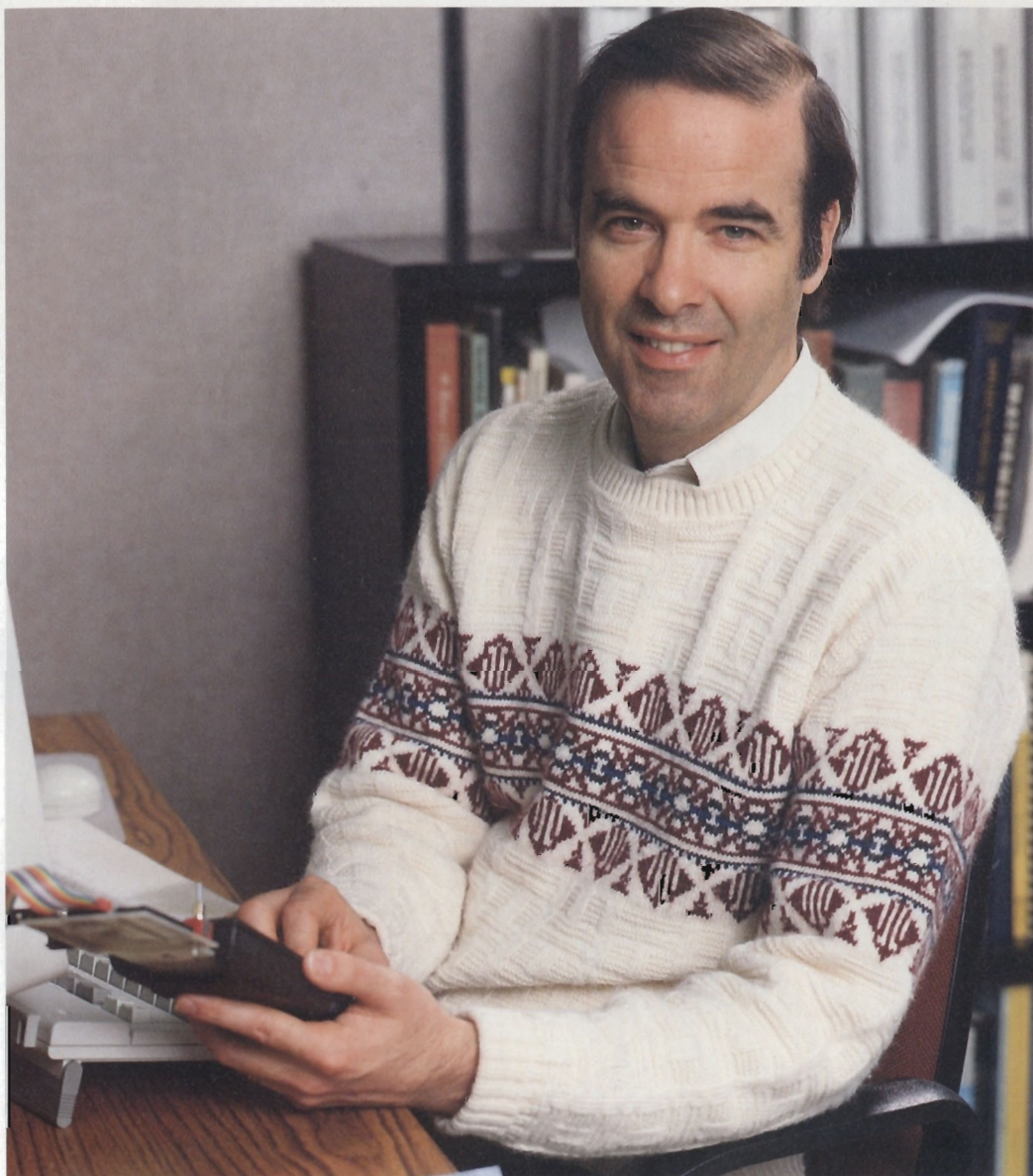
It takes a love of puzzle-solving and "a warped mind" to design HP's current crop of best-selling scientific calculators, says Corvallis (Oregon) Division's R&D project manager Bill Wickes.

CORVALLIS, Oregon—Bill Wickes vividly remembers his first Hewlett-Packard calculator: the HP 45.

"It was 1973 and I was a new physics instructor at Princeton University," Bill says. "The calculator cost $400, and those were the days when $400 was a lot of money. My wife was utterly mystified why I would spend so much.

"A couple of days later she spent about the same amount on a set of crystal and china. Neither of us understood why the other person wanted those things. Today she's quick to point out that she still has the crystal and china, but I've long since traded the HP 45 for another calculator."

In retrospect, the calculator was a fantastic deal for Bill—and HP.

If Bill Wickes isn't the father of HP's current crop of best-selling scientific calculators, at the very least the R&D project manager at the Corvallis (Oregon) Division is the favorite son.

Says one Corvallis colleague, "R&D is a collaborative effort, but I'd say that Bill's contribution to the current line of our technical products is 80 to 90 percent of what's there. He's an amazing guy."

What makes Bill so remarkable? Take your pick: He's a nationally known crusader for calculators in the classroom; a Ph.D. physicist from Princeton; "world-class" Trivial Pursuit player, according to local sources; and a brilliant software designer.

The story really begins in 1981 when Bill was a physics professor at the University of Maryland. He bought an HP 41C advanced programmable calculator capable of running more than 2,500

Inspiration comes from a variety of environments, including a stroll around the site lake. Bill Wickes' team includes Charlie Patton, Max Jones, Gabe Eisenstein and Diana Byrne.

programs. It was the most advanced handheld calculator of its era. To Bill, the HP 41C was more than a complex tool; it was a challenge.

"It was like a puzzle," Bill says. "I wanted to dissect the program code, figure out how it works and then make it do things it wasn't supposed to be able to do."

Within a few months of trial-and-error experimentation, he developed "synthetic programming" for the calculator—new instructions which directed the HP 41C to "store data in places that weren't supposed to exist, print characters the printer didn't know and greatly shorten ways of doing things that were meant to be done the long way," according to one publication.

For example, a cartoon-symbol "goose" normally moves from left to right across the calculator's display screen to let users know that the machine is working. In a humorous vein,

Bill even perfected the backward-facing goose. Before he was finished, the goose could fly backwards, flap its wings, fly in flocks and collide with self-respecting, right-facing geese.

"In a sense," Bill says, "I was an outlaw."

Three months later, Bill published his findings in a book and sold 20,000 copies of the English version, 8,000 in German and a few thousand French-language copies. A decade later, he still gets orders for the book.

Corvallis management did the only logical thing: they hired Bill to develop the HP 41C's descendants.

Bill became a project manager six months into his HP career and his software-design team set out to develop an entirely new operating system for handheld calculators.

In 1985 the team virtually locked itself

It adds up

into Bill's home recreation room for three days of pizza and brainstorming. If you could develop the perfect scientific calculator, the team theorized, how would it look, feel and operate?

The result was the HP 28C, the first handheld calculator capable of symbolic, as well as numeric, calculations. The HP 28C—and a later version, the HP 28S—quickly became the preferred calculators of U.S. college students studying engineering and mathematics. In fact, the HP 28S is a requirement for all cadets at the U.S. Military Academy.

"Calculus instruction hadn't changed much since Sir Isaac Newton invented it 300 years ago," says Clain Anderson, Corvallis Division education program manager, "and Bill and his team changed everything in a matter of months."

Not content with merely revolutionizing the handheld scientific-calculator market, the Corvallis designers developed several more products with advanced features during the next five years.

In 1990, the division introduced the HP 48SX scientific expandable calculator. It combines the calculation and

> **"To some people, learning physics is like taking a drink of water out of a fire hose."**

graphics capabilities of the HP 28S—a later version of the HP 28C—with the flexibility and expandability of the HP 41. For instance, students can enter equations into the calculator just as they are written in a textbook.

"The HP 28S was our most successful product to date and the HP 48SX surpassed that," Clain Anderson adds. "Bill's leadership helped us develop a

Bill Wickes used to teach physics and research astronomy. Today his backyard astronomy is a hobby he shares with his children, Lara and Kenneth.

range of calculators that is the best set of computation products available anywhere."

"Bill and all of the people at HP are good listeners," says John Kenelly, alumni professor in Clemson's engineering and mathematics department. "Some of us in the department suggested several improvements to the HP 28C and many of them are included in the HP 48SX. That's the calculator we recommend to all students in engineering and mathematics."

John, a national leader in calculus reform, firmly believes that calculators have an important role in the classroom. While some academicians maintain that students can't learn mathematics properly with calculators, John argues that the products enable students to concentrate on math *concepts* rather than *mechanics*. He credits Bill, a former university instructor, with aiding his campaign.

"Bill has been a constant source of help and inspiration to us," John says. "He fundamentally *knows* the educa-

tional process and what it takes to develop good scientists and engineers. He's one hell of a smart guy."

Says Dennis York, a Corvallis R&D colleague, "There's a term in our business called 'polymath,' and it's defined as encyclopedic learning, especially in mathematics. That definition fits our products—and Bill—well."

An ability to translate complex mathematics principles into bite-sized, easy-to-understand language is a gift Bill has, co-workers say. Bill, who once taught a nontechnical university course called Physics for Poets, says that it's a natural ability.

"To some people, learning physics is like taking a drink of water out of a fire hose," Bill says. "But I've always approached it as a fun puzzle to solve.

"It's just like trying to figure out how to make the 'goose' fly backwards. You have to have a certain kind of warped mind like mine to appreciate it." ∎

"It's going to be quite a ride"

By Jay Coleman

Media and industry analysts agree that there's no stopping the "bullet train of hand-held computers"—the new HP 95LX palmtop computer. All aboard!

CORVALLIS, Oregon—The April announcement of the revolutionary HP 95LX palmtop—*palmtop!*—computer had HP experts grasping for words powerful enough to capture its excitement.

"It's like we have a runaway train on our hands," says marketing manager Carmen West.

"We're definitely on the winning track," says Corvallis Division R&D manager Tim Williams.

"It's going to be quite a ride," adds G.M. Dan Terpack.

If you think the bullet-train analogy is purely marketing hyperbole, look at what media and industry analysts say:

■ "With the palmtop computer, Hewlett-Packard is once again creating a new category of personal-computer products," John R. Logan of the Aberdeen Group Inc. told *The New York Times*.

■ "Everybody is skeptical of this new market," cautions analyst Andrew Seybold in *USA Today*, "but this is a slick, slick product."

■ "It matters not what optimistic forecasts the Hewlett-Packard sales department has come up with for the new HP 95LX. They are all wrong, all
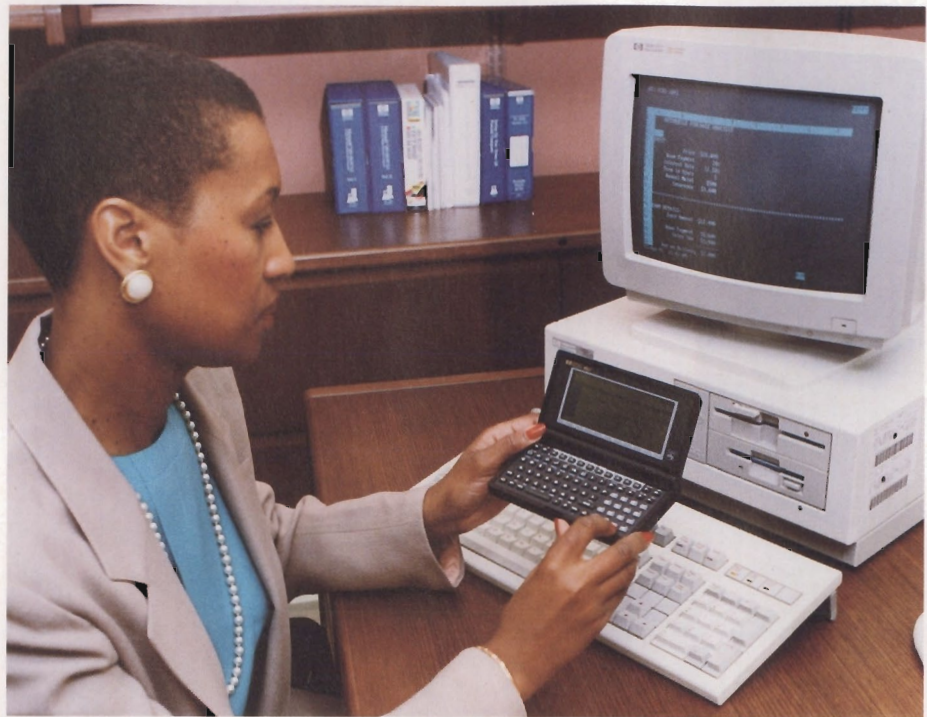
Emily Duncan, operations manager of Corporate Diversity and Affirmative Action in Palo Alto, takes the HP 95LX palmtop computer for a test drive.

hopelessly pessimistic," *The Sydney* (Australia) *Morning Herald* wrote.

What's so special about the HP 95LX? To begin with, there's never been anything like it.

Says Alan Franham in *Fortune* magazine, "It weighs just 11 ounces and takes up no more space than two checkbooks glued back-to-back. Yet it has Lotus 1-2-3 built in (and) as much memory as many desktop computers."

It's the first palmtop with Lotus 1-2-3 built in and the smallest to include Microsoft Corp.'s MS-DOS operating system.

Code-named Jaguar, the sleek HP 95LX lets users track appointments and assignments, edit letters and reports, handle complex calculations, access computer-information

services and company electronic mail, and organize phone numbers and addresses.

A built-in infrared link enables two HP 95LX's placed about a half-foot apart to transmit data to each other.

By the end of the year, workers in a central office will be able to transmit text and data to an HP 95LX via a wireless Motorola pager that's plugged into the computer.

"The HP 95LX represents a giant step in the direction of technology," says Dan, whose travels promoting the $699 palmtop (U.S. list price) took him on the road all but four days in May. "We've gone from the desktop computer to the laptop, notebook and now palmtop. And

Quite a ride

Motorola brings another 'gee-whiz' aspect to the product.

"This product represents a phenomenal growth opportunity for our division."

Market research highlighted two mind-boggling facts: there are 14 million users of Lotus 1-2-3, the world's most popular financial-analysis software program; and many of these users want a portable machine that lets them take their Lotus 1-2-3 worksheets with them easily.

"I think we'll find people using the HP 95LX in ways we never thought of," Carmen says. "For instance, real-estate agents can carry multiple listings with them and have them updated instantly and automatically. Sales reps can carry up-to-the-minute price lists, parts lists, availability ... the possibilities virtually are endless."

The joint HP-Lotus development of the HP 95LX comes at an interesting time for HP: How could the Corvallis Division pursue what Dan calls "a responsible and realistically aggressive

> ## "I think we'll find people using the HP 95LX in ways we never thought of."

production plan," while still holding the line on costs—a company imperative?

Given the overwhelming demand for it, HP's biggest challenge may be producing the HP 95LX as fast as orders pour in. The Corvallis Division is adding second and third shifts, and will increase production capacity as quickly as possible.

Dan Terpack (left), general manager of the Corvallis Division, and Jim Manzi, president of Lotus Development Corporation, enjoyed the glowing media response the HP 95LX received.

Most analysts figure that HP has about a one-year lead on its competitors.

"We think we can maintain a permanent lead because we're going to keep developing and improving the palmtop," says Corvallis Division R&D manager Tim Williams. "We get tens of calls nearly every day from third-party companies that want to develop application software for the product."

Of course, success is nothing new for the division. Long known for its innovative scientific calculators—including the HP 28C, HP 28S and HP 48SX—the Corvallis group is blazing new territory with the HP 95LX.

"I've been involved with a lot of excellent, successful products," Carmen notes, "but this is the first time that friends, neighbors—even people in the grocery store—stop me and say 'Tell me about the new palmtop computer!'"

Yes, HP appears to be on track with the HP 95LX palmtop PC. And it's not easy to stop a speeding locomotive.

"We got everybody's attention," Dan says, "and now we're picking up more steam." ∎

Lotus and 1-2-3 are U.S. registered trademarks of Lotus Development Corp.

MS-DOS is a U.S. registered trademark of Microsoft Corp.

A different world

I'm on a leave of absence from the Network Measurements Division, working as a Peace Corps volunteer in the south of Honduras. One of the small communities I work in is called Tierra Blanca. It's a 1½-hour walk from my home on a path that is steep and rocky. (My friends there always send me a burro to ride.)

There is no electricity and the houses are made of adobe. The view to the south of the Gulf of Tonseca is spectacular.

Recently, after meeting with the women's group there (they are looking for an income-generating project), I taught them to make paper butterflies. Enclosed is the example I made there.

In this country—where people still travel on horseback and work with oxen and wooden-wheeled carts—the glossy pictures and technical information found in *Measure* are from a different world.

I enjoy receiving my issues to keep in touch with that world and, afterwards, to share the pages in a simpler technology: the making of butterflies.

BRENDA SIMS
Pespira, Choluteca
Honduras

Home at last

I would just like to let *Measure* readers know that we finally were successful in our adoption in Romania ("Hope behind Romania's doors," May–June 1991).

We arrived home on April 15 with our new daughter, Katherine Teresa, after six weeks in the country. She's doing just fine, and is healthy, happy and even putting up with her somewhat rough brother. She was nine moths old at the end of June.

Thanks to Jean Burke Hoppe for an outstanding article.

DAVE & STACEY CLARK
Waltham, Massachusetts

The ultimate stretch objective

Regarding the Bottom Line section of the May–June 1991 *Measure*, which states, "Net earnings totaled $3.4 billion or 83 cents per share…"

In these difficult times of economic uncertainty it is only the extremely well-managed companies that can keep net earnings at 100 percent of gross revenues.

SAM BOLES
Cupertino, California

You caught us, Sam. The sentence should have said "Net revenue was $3.4 billion; net earnings were $205 million…" Net earnings that are 100 percent of gross revenue is the ultimate "stretch objective."—Editor.

A good move

You don't print many letters from way down South, but we wanted to congratulate you on your move to recycled paper. It's good to know that HP cares about the environment and does something about it.

With the changes going on in the company now, what about the prospect of an 800 number that employees could call, give their employee number and get up-to-date information about new developments within HP? It would maybe help to squelch a lot of the rumors that circulate when less information is available.

Keep up the good work, *Measure*.

CATHERINE CARNEY
Huntsville, Alabama

Please send mail

Do you have comments about something you've read in *Measure?* Send us your thoughts. If your letter is published, you'll receive a free *Measure* T-shirt (one size fits all).

Address HP Desk letters to Jay Coleman; by company mail to *Measure* editor, Corporate Communications, Building 20/BR, Palo Alto. Via regular postal service the address is *Measure*, P.O. Box 10301, Palo Alto, CA 94303-0890 USA. Try to limit your letter to 150 words. We reserve the right to edit letters. Please sign your name and give your location.

Planting the HP flag

STEVE CASTILLO

During his long HP career, Dick Alberding helped plant the HP flag in Latin America, Japan and Europe, and championed the development of worldwide field and marketing operations.

By Betty Gerard

Dick Alberding retired in May, leaving a far more cosmopolitan company than the one he joined in 1958. He helped put "global" in the HP lexicon.

The timing was superb. When Dick Alberding joined Hewlett-Packard in 1958, the small California company's window on the world was about to be flung wide open.

"I was fortunate to be in the right place at the right time," Dick says.

His resumé had a few unusual entries. A college baseball star while an engineering/business student at Augustana College in Illinois, he played professional baseball for a minor-league team for several years. He then was posted in Germany for two years, working for a U.S. government intelligence agency. His German was to prove useful to his new company, about to pioneer its first ventures in Europe.

This May 31, Executive Vice President Dick Alberding retired from his position as head of the Marketing and International Sector, one of HP's principal corporate units since 1984.

During his career, he personally helped plant the HP flag in Latin America, Japan and Europe, and, as sector head, has been the energetic champion for systematic development of worldwide field and marketing operations. He knows firsthand the beginnings and evolution of HP as a global company.

The term "global," he explains, has replaced the more limited word "international" in the HP lexicon. International implies a we/they point of view, while global connotes that your business strategy is built on a global perspective—avoiding what he calls "the ever-dangerous myopia of a corporate headquarters."

"HP has taken some significant steps in the direction of becoming global and is poised to take more," Dick says. "The primary driver is the fact that the fastest-growing marketplace is outside the U.S. By the time we hit the year 2000, that's where 70 to 75 percent of our business will be."

He applauds the inclusion in the company's planning and decision-making process of managers trained in Europe and elsewhere, mentioning Franz Nawratil, Wim Roelandts, Dieter Hoehn, Jacques Clay and Manuel Diaz as examples. "We need to bring this voice, this objectivity, this understanding into play on behalf of the entire company," he emphasizes.

"The global perspective that HP reflects today is really what will enable the company to win in the future."

HP is deeply indebted to Bill Hewlett for its present positioning as a global

company, Dick believes. "Hewlett is a student of the world in every dimension," he says. "As a businessman, he had a vision far ahead of his time in tracking market opportunities in the

During HP's 50th Anniversary celebration, Dick helped host the 109 ambassadors, including (from left) Janet Dobbs, Linda Paszkiewicz, Larry Ford and Debbie Black.

1950s and translating them into direction for HP. He led the way in Europe, Latin America, Japan and China."

The co-founders' philosophy reflected in the HP way "was a wonderful accelerator for the company's international adventures," in Dick's view. "The respect for people and the other practices it engenders work anywhere. In turn, it has made it possible to acquire and motivate outstanding people around the world—adding the creativity needed to propel us into the global framework we have today."

Dick's first assignment representing HP outside the U.S. came in 1963, when he was named international manufacturing manager. He laughs that he "carried suitcases and took notes" for Bill Hewlett and Bill Doolittle, longtime head of international, in discussions with Yokogawa Electric Works about forming a joint venture in Japan. He then helped start up Yokogawa-Hewlett-Packard, spending most of the next 18 months in Japan and developing a great fondness for that country and its people.

Shozo Yokogawa, the first president of YHP, had some friendly advice for the intense young American. "If possible, you'd better talk with a smile when you work in Japan," he told Dick. It was a

lesson that he learned well.

Other assignments were helping locate HP's first plant sites in England and Scotland.

In 1966, Dick was named general manager of HP Inter-Americas, created to promote sales in Canada and Latin America. With HP Canada already in operation, the focus was on breaking new ground in Latin America. The pattern used in Europe in the '50s was replicated: buying out representatives in Mexico, Brazil, Argentina and Venezuela and setting up the company's own sales/support subsidiaries. Instead of a demonstration bus, a ship was outfitted to call on ports throughout Latin America.

Two years later Dick became director of European Operations, based in Geneva, Switzerland: "a super, super job."

During his 10 years at the helm in Europe, he helped establish manufacturing sites in Grenoble and Isle D'Abeau, France, and Waldbronn, Germany. He also initiated sales activity in the Middle East, East Central Europe and the U.S.S.R.

While his period in Europe was exciting, Dick regards the next five years he spent as general manager of the Medical Products Group as the highlight of his time with HP.

"Medical is such a special marketplace and such a special group of people. It was the pinnacle of challenge; what a sense of accomplishment to be part of it!" he says.

He refuses to take credit for the strong growth in Medical during that period. "I played out the business strategy of Dean Morton, who preceded me," Dick says. "All we did was keep the car from bumping into the walls."

When Bill Doolittle retired in 1983, Dick returned to California to replace him. The next year the Marketing and International Sector was created in a

major reorganization. It comprised all field operations worldwide, a combined sales force for computers and instruments (SF 16), and worldwide customer support. Dick added a quality function focused on the customer interface, and expanded corporate marketing services

Dick

to include a broad range of activities, including marketing research.

Combining the two major sales forces into a single unit was critical at the time, in Dick's judgment. There was a 90 percent overlap in customers, which had created internal competition and customer confusion. HP needed to handle major accounts more coherently. And the test and measurement program was moving toward more integrated solutions.

Last October, changes in the competitive world dictated another change in the HP organization. Along with other moves, the combined sales force was split out and assigned to the marketing arms of the computer and T&M organizations for tighter sales/marketing linkage. It allowed the flexibility to adjust to a shift toward dealer and third-party selling that had now become obvious—a trend Dick frankly regrets that he missed tracking earlier.

"An organization is like an individual growing up—you're different as a teenager than you are at 20 or 40. Each

> ***"...global understanding and global positioning must be part of everyone's thinking."***

reorganization was right for its time."

He appreciates the striking growth in maturity of two sector activities he'd known much earlier:

■ Customer service, a backwater activity when he headed it in 1960, is now best in class and a solid contributor to HP's profits. "And as we approach the year 2000, there's a good likelihood that our main differentiator as a supplier of solutions will be the family of soft products and services that we provide before, during and after the sale."

Throughout his career, Dick spent a lot of time in Japan. He's shown here with YHP Director Toshiteru Suwa, taking in a Tokyo Giants baseball game. Dick played pro baseball.

■ YHP had more than its share of startup problems, yet today it has become No. 1 in the company in quality and one of the top sales regions in the world. (It has been the model for Dick's own campaign to push the field toward process improvements that will lead to increased customer satisfaction.)

"What a thrill to be a coach on the sidelines and see such success stories as customer support and YHP written over the last 30 years," Dick says.

His energy also has been directed toward making sure that HP continues to be successful in recruiting women and minorities, and providing for their professional development—such as his work with the Bay Area Black Managers Forum.

Now it's time for Dick to shift gears, with more time for such pursuits as golf, flying radio-controlled airplanes and enjoying his model-train layout with his six grandchildren.

And there are other new projects. He'll become more fluent in French for leisurely visits with his wife Marilyn to

France, where one married daughter lives today and another will be located next year. This fall the Alberdings will spend several months in Czechoslovakia—the first of occasional assignments that Dick plans for two different volunteer-executive programs. He also wants to improve his organ-playing and, who knows, perhaps even write a book.

He is leaving a company that has become increasingly more cosmopolitan. M/I sector activities are being reassigned to other parts of HP, with worldwide field operations reporting directly to the Chief Executive Office.

"I can remember when it was written that I was HP's only senior executive with hands-on international experience," Dick says. "That's no longer true. And very frankly, if it were true, we'd have a serious problem on our hands.

"In the past, it worked quite well to have a spokesperson for international. But today, global understanding and global positioning must be part of everyone's thinking." ■

HP's president re-examines the company's people-management practices.

The last two *Measure* messages have featured two different aspects of the renewal process that's under way at HP—first, our efforts to shorten product-development cycles and improve our software generation, and second, our progress toward making TQC the way we manage our activities. In this issue, I'd like to focus on another area that aims straight at the heart of the HP way, and that's our people-management practices.

When Pete Peterson became director of Personnel last year, he and his colleagues began a period of soul-searching. Pete likes to say that he was willing to take a fresh look at the role of the Personnel function because he was new to the position of director. But I'd like to disagree with Pete and say I suspect he'd have done the re-evaluation even if he'd headed the function for years.

I make this minor quibble with Pete because I want to stress that this isn't "business as usual" time at HP. In some cases, our self-renewal process is leading us to change how we organize and manage ourselves. In other instances, the same process is spurring us to rediscover and reaffirm things we already know.

This latter case best describes what happened for the Personnel function. In thinking about the mission of Personnel, Pete and his people started by re-

While in Texas to visit an HP customer, John took time out to visit with employees at the Richardson, Texas, sales office.

emphasizing a long-term management fundamental: Managers are responsible for managing people. Said differently, people-related issues are NOT the exclusive purview of the Personnel function; they're the daily responsibility of all managers.

There's evidence that we've sometimes lost sight of this HP fundamental.

Use the open-door policy before talking to Personnel.

When we've implemented new pay systems or redeployment programs, for example—even though they were developed by the operating management—they have been introduced by Personnel professionals, with management much on the sideline. As a result, the programs have been viewed as "Personnel's programs"—even though

they directly relate to business needs.

With the misconception that Personnel "owns" people issues, some employees have gone straight to their Personnel representative before talking an issue over with their manager. Some questions—benefits come easily to mind—may best be answered by Personnel. But issues such as performance, pay and personal development are more appropriately discussed with one's manager. Personnel is available if this process breaks down, but only to ensure that an appropriate discussion takes place.

Some managers, similarly confused about the role of Personnel, have been all too happy to "let Personnel handle it." Equally tempting, I might add, is the notion that management-by-wandering-around (MBWA) and the "open-door" policy are luxuries reserved for days when things aren't too busy. HP managers work very hard, so these attitudes

are certainly understandable; but they don't get the job done. The truly successful HP managers will continue to be those who don't lose sight of what Bill Hewlett once called "the human side" of management.

We're reaffirming the belief that managers are responsible for managing people in a variety of ways.

Personnel representatives are encouraging employees to use the open-door policy before talking to Personnel. The message here is that Personnel can facilitate the dialogue between employee and supervisor, but Personnel must not substitute for it.

Similarly, managers are being encouraged to take the lead on people-related issues. Innovations such as flexible work hours came from operating people, not Personnel, reminds Pete. New ways of organizing, managing and evaluating people must also stem from real business needs and be championed from operations.

We are increasing the ratio of employees per Personnel professional. Our goal is to move from a current ratio of 53:1 to 75:1 by 1993. Part of

There's evidence that we've somehow lost sight of (an) HP fundamental.

this change stems from our overall efforts to reduce operating expenses. However, the increased ratios encourage the return of some people-related

responsibilities to managers, a move which we're convinced will improve the management process.

Let me emphasize that we're confident that the higher ratio of employees to Personnel representatives won't lead to poorer personnel practices and

Managers should take the lead on personnel-related issues.

employee morale. In fact, survey data of HP entities suggests the opposite: Entities with "lean" Personnel functions actually scored higher in terms of overall employee satisfaction. Many other companies—even those renowned for the quality of their people practices—have even higher ratios of employees per Personnel staff than our 1993 goal. In addition, we've yet to scratch the surface of the productivity gains achievable through consolidated Personnel services and better use of information systems.

The "mini" open-line surveys are now no longer optional. As you may know, the "mini" Open Line is a shorter version of the companywide survey we used to do every five years and was developed so that general managers who choose to can do local evaluations more frequently. Now, general managers are asked to have their entities surveyed once every two years and to develop action plans to address the concerns raised in the survey. Progress on these action plans is being monitored by group and sector management.

We're emphasizing people-related skills in our management training and evaluation. The Process of Management course stresses the importance of shared values, trust, honest

feedback and a balanced emphasis on both task and people. The Managing Diversity class aims at giving managers increased sensitivity and skill in their interactions with people of varying cultures or with different lifestyles. And our revised performance-evaluation form for general managers calls for specific ratings on communication, people development and other skills that are central to managing people.

While there are a lot of things happening to reaffirm the central role of people management as part of HP's recipe for greatness, the most important activities won't get reported in an issue of *Measure*. That's because they will be thousands of personal interactions between managers and employees—in which both parties take the time to listen carefully, communicate clearly and give real-life meaning to the words integrity, respect and trust. These are the essence of the HP way, and it's alive and well only if we model it in our daily lives. I ask for your support in making sure that happens.

John

News from around the HP world

Olga Havel, Czechoslovakia's first lady, is greeted at the HP event in Prague by Vera Palanova, marketing specialist.

Ezekiel Jones (left) and Doug Bui land a big one at the 18th annual Friends Outside Outing in May.

Catch of the day

Kids and volunteers alike had a special day of food, fishing and fun in May during the 18th annual Friends Outside Outing, sponsored by the HP Sportsfishers Club.

Nineteen volunteers took 16 kids from Friends Outside—a United Way agency that serves children of imprisoned parents—for a day of fishing at Del Valle Lake Reservoir near Livermore, California.

Each of the 8- to 12-year-old youngsters received a new fishing pole, tackle box, hat, barbecue lunch and ice cream treats.

"Many of the kids had never fished before, but almost all of them caught a fish," says co-chairman David Lee, Stanford Park Division. "And they all definitely knew how to handle an ice-cream sundae!"

A Czech-ered ceremony

More than 300 people, including Olga Havel, wife of the president of Czechoslovakia, attended opening ceremonies at HP's new subsidiary company in Prague in April.

Company officials presented her with an HP electrocardiograph for the Foundation of Goodwill, a group of hospitals that primarily serve children and adults with disabilities. Several government ministers, other officials, customers and future employees attended the ceremony in recently reopened Valdstejn Palace—the first such event held by a company in the palace.

Hewlett-Packard Ceskoslovensko spol. s.r.o. opened offices in Prague and Bratislava in May.

Spain, China laud HP

HP continues to reap awards as one of the world's most-honored companies, including recent honors from Spain and the People's Republic of China.

In May, *Actualidad Economica*, the *Fortune* magazine of Spain, named HP the fifth-most-admired company in that country and No. 1 in the computer industry. More than 2,000 directors of Spain's largest companies participated in the study.

HP was chosen ahead of IBM, Rank Xerox, Bull and Fujitsu. The directors voted HP No. 1 in seven out of eight categories. Only two multinational companies— HP and Nestlé—were among the top 10 most-admired companies.

For the fourth straight year, China Hewlett-Packard has been selected as one of the top 10 (No. 4) best-managed joint ventures among the country's 50,000 joint ventures.

The annual event is sponsored by the *Economic Daily* and *Business Times* with strong support from the government and industry opinion leaders.

Sales rep Darren Jack with musicians (from left) Stephanie Blackmore and Charlene Falkiner.

A gift of sight through computers

HP Canada's grant of an advanced computing lab to the W. Ross Macdonald School for blind children has a personal meaning for a number of employees—especially London, Ontario, sales rep Darren Jack.

Located in Brantford, Ontario, the school has more than 200 students ages 6 to 21—35 percent of whom are totally blind and the rest are partially sighted. Many are now college-bound. Darren has been "inspired and excited" by their positive attitude and activities since his first visit several years ago.

He was instrumental in HP's equipment grant of eight HP Vectra PCs (with four more to come), scanners, CD-ROM drives, printers and other special-access peripherals, along with comfortable furniture. Where it once took hours to look up a word in a Braille dictionary, a CD-ROM now makes an entire encyclopedia accessi-

ble on a disk within seconds. Any hard-copy document can be scanned into the computer, then played back as audio.

Students have visited HP Canada's headquarters in Mississauga and 14 HP people were hosted at the school April 14 for "HP Appreciation Day."

Like the others, Nick Bassel, medical sales rep from the London office, found the whole project "a very uplifting experience." He marveled at the spirit of the students and their interest and skill in computer technology. The most touching moment? "The young cheerleaders, exuberantly leading a cheer for HP."

Student council president Sarah Blackmore summed up the students' appreciation more formally: "HP, through your donation of equipment, you have literally given us sight."

BOTTOM LINE

Hewlett-Packard Company reported a 13 percent increase in net revenue and a 25 percent increase in net earnings for the second quarter of its 1991 fiscal year, ended April 30. Earnings from operation grew by 25 percent, and orders rose by 9 percent over the year-ago quarter.

Results for the FY91 Q2 (year-to-year comparisons for FY90 in parentheses): Net revenue totaled $3.7 billion ($3.3); net earnings were $233 million or 93 cents per share on some 250 million shares of common stock outstanding ($186 million or 78 cents per share); earnings from operations were $367 million ($294 million); orders were $3.8 billion ($3.5 billion).

(Note: Results reported here for FY91 Q1 contained an error. Net revenue for the first quarter was $3.4 billion; net earnings for the same period were $205 million or 83 cents per share on some 247 million shares of common stock outstanding.)

M/I SECTOR REASSIGNED

With the retirement of Executive V.P. **Dick Alberding** May 31 (see page 24), all activities in the Marketing and Interna-

tional Sector have been reassigned:

■ The three field operations (Europe, Intercontinental, U.S.) now report to the Chief Executive Office with a day-to-day reporting relationship to Chief Operating Officer **Dean Morton.** Also reporting to Morton is the Finance and Remarketing Division.

■ Worldwide Customer Support Operations now reports to E.V.P. **Lew Platt** of the Computer Systems Organization (CSO).

■ Corporate Marketing Services activities have being variously reassigned to Corporate departments, CSO or U.S. Field Operations.

NEW HATS

George Glenday to G.M., U.S. Field Operations....
Dan Branda to G.M., Neely Sales Region.

Rick Robinson to head a newly formed Lyon (France) Instrument Operation in the Electronic Instruments Group....
Ruman Stoyanov to G.M., HP Hungary,
Adam Kowalski to G.M., HP Poland.

Airton Gimenes to country operations manager for the joint venture Edisa Informatica in Brazil....**Salvador Quirarte** succeeds him as G.M. for HP Venezuela.

Students Laura Billingham and Ed Stamm Jr. explain their chemical-analysis unit to HP's Mike Glaser and instructor Gilbert Born.

Students have designs on lab

The HP Analytical Products Group sponsored a cooperative-study program this spring with the University of Cincinnati Design School to get a fresh perspective on the chromatography lab of the future—through the eyes of budding industrial designers. APG Avondale supplied a kick-off lecture, information packets and a problem statement to the students, who worked in teams to develop visions of future chromatography labs. The final lab prototypes included human factors,

field collection/sample prep, portable/mobile and bench designs.

Students presented full-scale, three-dimensional, walk-through models to APG representatives, along with a notebook of the design process. The lab prototypes are touring APG sites this summer.

Mike Glaser and Raoul Dinter, APG Avondale and Waldbronn, Germany, industrial designers, planned the project.

THREE-WAY DMK SPLIT

Within the Computer Products Organization's new worldwide distribution and logistics organization under **Don Schmickrath:**

A new North American Distribution Organization under **Bob Olson** merges the former Personal Computer Distribution Operation and part (logistics, supplies' telemarketing and credit/collections) of the former Direct Marketing Division (DMK).

A newly formed Complementary Products Sunnyvale takes over DMK's worldwide product line (PL68). (DMK's direct-marketing channels in the U.S. have become part of USFO's new Direct Marketing Organization.)

CSO CHANGES

V.P. **Mike Leavell** has joined the Networked Systems Group as head of a newly created Cooperative Computing Business Unit. He has groupwide responsibility for its software business and the New Wave Computing Environment. Also reporting to him are five divisions.

Within CSO Worldwide Sales and Marketing, a newly formed Asia Pacific CSO Product Operations under **Dominic Orr,** based

in Kobe, Japan, combines a number of field and factory activities, including the Singapore Networks Operation and a new Kobe Systems Operation.

GETTING TOGETHER

HP and HCL Ltd. have agreed to form a joint venture in India for computer manufacturing and sales.

HP, Texas Instruments, Canon and the Singapore Economic Development Board will establish a J.V. in Singapore to make DRAM memory chips.... The Medical Products Group is forming a J.V. in Qingdao, China, to make medical products....A J.V. for open-system integration solutions has been formed in Taiwan.

HP GmbH has formed two J.V.s in Berlin East in Germany—one for computer application solutions and the other for technical training. It will also acquire two ABB Corp. subsidiaries (in Germany and Switzerland) that make computer-aided software for electrical design.

LARRY LEE

Curiosity shaved the cat

In January, the Fullerton (California) Service Center received a call from a panicked customer wanting to know how to dismantle her HP LaserJet IIP printer.

Susan Luzar of nearby Yorba Linda frantically explained that her long-haired Persian cat, Abby, had gotten his tail stuck in the rollers in the printer's output tray.

The fire department "just laughed when I asked them if I could bring the cat and the printer to the station," Susan says.

Susan's veterinarian tried unsuccessfully to free Abby. Susan unscrewed several screws, but no luck.

Meanwhile, Abby kept jumping off the printer, only to hang by his tail from the rollers, scratching and clawing anyone who tried to help.

Back at the Fullerton Service Center, customer engineer John Johnson listened to Susan's tale of the tail. Susan didn't have a service contract with HP, but, for humanitarian reasons, John

Abby, Susan Luzar's Persian cat, has a new respect for the **HP LaserJet IIP** printer.

made the 10-mile drive.

By the time John arrived, the vet had sedated Abby and pulled his tail from the rollers. John removed wads of cat hair and jammed paper from the printer and put all the screws back—
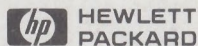
and didn't charge a cent.

The story, like Abby, has a happy ending. His tail was mangled, but not broken. Today Abby keeps a safe distance from the printer.
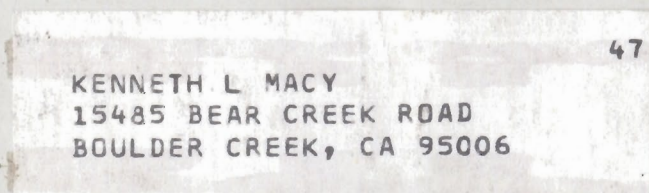
"Occasionally," Susan adds, "the printer spits out

a page with a couple of cat hairs on it."—*Steven Cavallero*

(*Steven Cavallero is HP's communicator for the Neely Sales Region.—Editor*)